nmisa

National Metrology Institute of South Africa

Annual Performance Plan 2026/27–2028/29

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Abbreviations and Acronyms

AfCFTA	African Continental Free Trade Area
AFRIMETS	Intra-African Metrology System
APMP	Asia Pacific Metrology Programme
APP	Annual Performance Plan
ARI	African Reference Institute
AVE	Advertising Value Equivalent
BIPM	International Bureau of Weights and Measures
CAGR	Compound Annual Growth Rate
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
DMPR	Department of Mineral and Petroleum Resources
HCD	Human Capital Development
HR	Human Resources
ILC	Interlaboratory Comparison
IPP	Independent Power Producers
ISO	International Organization for Standardisation
JET IP	Just Energy Transition Investment Plan
KCDB	Key Comparison Database
KPI	Key Performance Indicator
LED	Light Emitting Diode
LPG	Liquefied Petroleum Gas
merSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority
MSME	Micro, Small and Medium Enterprise
MTDP	Medium-Term Development Plan
MTEF	Medium-Term Expenditure Framework
NDP	National Development Plan
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
PTS	Proficiency Testing Schemes
SADC	Southern African Development Community
SADCMET	SADC Cooperation in Measurement Traceability
SANAS	South African National Accreditation System
SANS	South African National Standards
SBG	Strategy, Business Development and Governance
SEZ	Special Economic Zones
SHEQ	Safety, Health, Environment and Quality
SI	International System of Units
SKA	Square Kilometre Array
SOE	State-Owned Enterprises
STEM	Science, Technology, Engineering, Mathematics
the dtic	Department of Trade, Industry and Competition
TI	Technical Infrastructure

> *South Africa's economic competitiveness depends on trusted measurement systems that enable industry, trade, and innovation.*

Foreword by the Minister

The National Metrology Institute of South Africa (NMISA) has prepared its Revised Strategic Plan 2025/26–2029/30, which I hereby submit to Parliament in accordance with the requirements of the enabling legislation. This Strategic Plan reflects government's continued commitment to advancing South Africa's industrial capability, enhancing trade competitiveness, and positioning the country for sustainable and inclusive growth.

Decarbonisation remains a central priority as South Africa advances its transition to a low-carbon economy. This transition is closely linked to the beneficiation of critical minerals such as platinum, manganese, vanadium, and lithium, which are key inputs into clean energy technologies, including electric vehicles and renewable energy systems. Accurate measurement and advanced analytical capability ensure that these resources meet international quality, environmental, and performance requirements, reinforcing their competitiveness in global markets.

Metrology plays a role in verifying quality, consistency, and sustainability across these value chains. Through high-accuracy analytical techniques and primary methods traceable to national measurement standards, NMISA facilitates the local characterisation of critical minerals and South Africa's participation in global green value chains.

Diversification remains important in reducing economic concentration and building resilience. Reliable and internationally comparable measurement systems enable the development of new industries, improve manufacturing performance, and ensure that South African products meet the requirements of both domestic and international markets.

Digitalisation continues to reshape industries and economic systems. NMISA's ongoing efforts to modernise measurement systems and expand digital capabilities, improve efficiency, accessibility, and service delivery, in line with evolving industry needs.

Through continued alignment with national priorities, NMISA contributes to a resilient, diversified, and competitive economy that is responsive to both domestic imperatives and global developments.

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

31 March 2026

> *Metrology contributes to green industrialisation and the transition towards a sustainable economy.*

Foreword by the Deputy Minister

As South Africa works to rebuild economic growth, restore investor confidence, and expand opportunity, the role of the National Metrology Institute of South Africa (NMISA) is both foundational and strategic. At its core, metrology is about certainty. Ensuring that what we measure is accurate, trusted, and globally recognised. Without this certainty, markets cannot function efficiently, industries cannot compete, and trade cannot expand.

A capable state is one that gets the basics right. Reliable measurement systems are one of those fundamentals. They underpin fair trade, protect consumers, and enable South African businesses to compete confidently in global markets. NMISA's work ensures that our industries are not held back by uncertainty, inefficiency, or misalignment with international standards.

This Annual Performance Plan reflects a clear commitment to strengthening South Africa's industrial competitiveness through practical, outcomes-based interventions. NMISA's focus on supporting key sectors such as minerals, steel, and aluminium is critical in a country where industrialisation must translate into real jobs and sustainable growth. Ensuring alignment with global quality standards is not optional, it is essential if we are to unlock export markets and attract investment.

The alignment of NMISA's work with the priorities of decarbonisation, diversification, and digitalisation is both necessary and timely. However, these priorities must be pursued with a strong emphasis on implementation and measurable impact. Supporting the transition to a lower-carbon economy must go hand-in-hand with ensuring that South African businesses remain competitive and are not overburdened by regulatory inefficiencies or uncertainty.

Regional integration, particularly through the African Continental Free Trade Area (AfCFTA), presents a significant opportunity. The harmonisation of measurement systems is a practical step towards reducing non-tariff barriers and enabling increased intra-African trade. This is the kind of focused, technical work that can unlock real economic value across the continent.

Equally important is the diversification of metrology services into emerging sectors such as essential oils, cannabis, and hemp. These industries hold real potential for growth and job creation, particularly for MSMEs by opening markets, lowering barriers to entry, and ensuring that entrepreneurs, have access to the tools and standards they need to succeed.

Skills development remains central to building a capable state and a competitive economy. Investment in training and internships within NMISA is not just about technical expertise, it is about creating pathways for young South Africans into high-value, future-oriented fields.

Digitalisation is another critical lever for reform. By improving the efficiency, accessibility, and reliability of its services, NMISA can reduce red tape, lower costs for business, and contribute to a more modern, responsive state. Strengthening support to sectors such as telecommunications further reinforces the importance of precision and reliability in a digital economy.

The Department of Trade, Industry and Competition remains committed to supporting NMISA in delivering on its mandate. This Annual Performance Plan demonstrates a renewed focus on building a competitive, rules-based economy. One where standards are trusted, markets are open, and opportunity is expanded. NMISA has a vital role to play in this mission and with disciplined execution, it will continue to contribute meaningfully to economic growth, industrial development, and a more inclusive and resilient South Africa.

Ms Alexandra Lilian Amelia Abrahams
Deputy Minister of Trade, Industry and Competition

31 March 2026

> *The strength of a nation's measurement system underpins confidence in its economy, its institutions, and its trade.*

Foreword by the Chairperson

NMISA was established to serve as South Africa's link to the international measurement system. Metrology, the science of measurement, underpins confidence in measurement results across key areas including trade, health, safety, environmental monitoring, manufacturing, and research. It provides the assurance required for regulatory effectiveness, consumer protection, and participation in regional and global markets.

The strength of a nation's measurement system underpins confidence in its economy, its institutions, and its trade.

A new Board was appointed in October 2023 and, together with management, undertook a review of the organisation's strategic direction. This process has strengthened alignment with national priorities and clarified NMISA's role in supporting economic development. This Strategy is anchored on key objectives to ensure international comparability of South Africa's measurement infrastructure, strengthen financial sustainability, maintain efficient service delivery, build and retain critical skills, and enhance stakeholder collaboration.

The Revised Strategic Plan aligns with **the dtic's** priorities to advance industrialisation, localisation, and export growth. A credible and internationally recognised measurement system supports manufacturing capability, regulatory compliance, and market access. Measurement traceability to national measurement standards underpins both production processes and quality assurance, enabling products to meet required specifications, including those for export markets.

As technologies evolve and industries become more advanced, the demand for higher accuracy and specialised measurement capability continues to grow. NMISA's role in maintaining and advancing national measurement standards remains essential to supporting innovation and ensuring that South Africa retains a strong and credible technical foundation.

Trade with the rest of Africa presents significant opportunities for economic growth. NMISA continues to contribute to the development and harmonisation of measurement systems across the continent, including demonstrating the equivalence of national measurement standards. This is crucial in enabling trade under the AfCFTA and supporting regional integration.

The Board will continue to provide strategic oversight to a capable and dedicated organisation, working with management and stakeholders to strengthen the competitiveness of South African enterprises, including micro, small and medium enterprises (MSMEs), and to contribute to sustainable economic growth.

Dr Precious Motshwene
Accounting Authority

31 March 2026

> *Metrology is a strategic enabler of industrial growth, trade, and competitiveness – providing the trusted measurement foundation for South Africa's economic progress.*

Executive Summary by the CEO

South Africa is navigating a complex economic environment while advancing a focused reform agenda to unlock growth and competitiveness. Through the Government of National Unity, **the dtic** and its entities are driving targeted interventions centred on re-industrialisation, localisation, export growth, infrastructure improvement, and the advancement of innovation and emerging industries as part of a broader growth and inclusion strategy. These priorities position the country to strengthen domestic capability, drive job creation, enhance resilience, and expand participation in regional and global markets.

For South Africa and the African continent to realise their economic potential, strengthen industrial capacity, and deepen participation in regional and global trade, a robust, credible, and internationally recognised measurement system is essential. Reliable and traceable measurement underpins industrial capability, regulatory effectiveness, and fair trade – both within Africa and with global partners – while reducing technical barriers and improving the cost and ease of doing business.

Metrology is often underestimated, yet it is foundational to modern economies and societies. From advanced manufacturing and health technologies to energy systems, environmental management, and infrastructure development, accurate and trusted measurement enables quality, safety, efficiency, and innovation at scale. It is a key enabler of competitiveness, ensuring that South African products and services meet international standards and compete effectively in global markets.

Metrology is a strategic enabler of industrial growth, trade, and competitiveness – providing the trusted measurement foundation for South Africa's economic progress.

This imperative is reinforced by South Africa's role in advancing the African Continental Free Trade Area (AfCFTA), which seeks to establish an integrated continental market for goods, services, and investment. Harmonised and internationally equivalent measurement systems are essential to enabling seamless trade, supporting regional value chains, and positioning Africa as a credible global trading partner.

Metrology ensures that South African and African products are measured against globally accepted standards, strengthening export readiness, supporting industrial development, and reinforcing regulatory frameworks that protect health, safety, and the environment. In this context, NMISA's mandate is directly aligned with national priorities to drive economic growth, enable industrialisation, advance digitalisation, support MSME development, and contribute to a more resilient, inclusive, and competitive economy.

Following a strategic review, NMISA has sharpened its focus on these core areas: supporting industry and exports through targeted measurement services; sustaining scientific excellence and building capability in emerging and future industries; and strengthening institutional sustainability through financial resilience, operational efficiency, and critical skills retention. This positioning ensures continued relevance and value, while contributing to reducing cost-of-doing-business pressures and supporting export competitiveness and sector growth through trusted measurement infrastructure.

NMISA will continue to position metrology as a strategic enabler of national development – supporting industry, facilitating trade, and strengthening South Africa's standing within the global quality infrastructure. In doing so, we reaffirm our role as a trusted national institution, providing the measurement foundation for sustained economic progress.

Dr Mbulelo Nokwequ
Accounting Officer

31 March 2026

Official Sign-off

It is hereby certified that this Annual Performance Plan:

- Was developed by the management of NMISA under the guidance of the Board and the Board Chair;
- 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 2026/27 to 2028/29.

Dr Jayne de Vos
Director: Applied Metrology Division
Director: Physical and Electrical Metrology (acting)

Dr Mbulelo Nokwequ
Accounting Officer

Dr Jeseelan Pillay
Director: Chemical, Materials and Medical Metrology

Dr Precious Motshwene
Accounting Authority

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

Approved by:

Mr Parks Tau, MP
Executive Authority

Ms Ndumiso Rahulani
Chief Financial Officer (acting)

Part A NMISA Mandate

A1 Mandate

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

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

A2 Vision

To be a regional and global leader in providing internationally accepted measurement systems that enable market access for our clients and enhance the quality of life for all South Africans.

A3 Mission

To consistently deliver 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 through:

- development and implementation of cutting-edge metrology and measurement technologies;
- harnessing regional and international partnerships and collaborations;
- providing environmentally sustainable solutions to its clients; and
- building a resilient and transformative organisation that prioritises human capital development.

A4 Values

Forward thinking
Evolving and adapting with new technologies to deliver innovative measurement solutions for niche markets.

Trustworthy
Inspiring confidence in stakeholders that our commitments are consistently met and that their satisfaction is our priority.

Knowledge Sharing
Achieving more through networking, collaboration and partnerships to build a better future together.

Accountability
Acting ethically and responsibly in all aspects of work and taking ownership of our actions and their outcomes.

Respect
Embracing diversity and different perspectives, with consideration for our social and physical environment.

A5 Updates to the Relevant Legislative and Policy Mandates

A5.1 Constitutional mandate

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

A5.2 Applicable Acts

Act	Purpose
Measurement Units and Measurement Standards Act (Act No. 18 of 2006)	• To provide for the use of measurement units of the SI and certain other measurement units; • To provide for the designation of national measurement units and standards; • To provide for the keeping and maintenance of NMS and units; • To provide for the establishment and functions of the National Metrology Institute (NMI); • To provide for the repeal of certain laws; and • To provide for matters connected therewith.
Legal Metrology Act (Act No. 9 of 2014)	The Legal Metrology Act provides for the administration and maintenance of legal metrology technical regulations to promote fair trade, for public health and safety, the protection of the environment and to provide for matters connected therewith. NMISA has extensive metrology laboratories, standards, and equipment, together with a solid base of scientific metrology skills, knowledge, and capacity to support legal metrology in health, safety, and environment measurements.
Public Finance Management Act (PFMA) (Act No.1 of 1999 as amended)	To regulate financial management in the national government and provincial governments; to ensure that all revenue, expenditure, assets and liabilities of those governments are managed efficiently and effectively; to provide for the responsibilities of persons entrusted with financial management in those governments; and to provide for matters connected therewith. NMISA is an extension to government and therefore prescribes to the PFMA.
Hazardous substances Act (Act No. 15 of 1973), Regulation No. R. 247, 26 February 1993	NMISA provides measurement traceability and calibration of equipment used for monitoring of ionising radiation.
The Civil Aviation Act (Act No. 13 of 2009)	NMISA provides measurement traceability to the civil aviation industry as well as measurement training courses for aviation technicians. NMISA supplies traceability for their measurements as used in the aircraft, barometers, pressure, torque and dimensional.
The Foodstuffs, Cosmetics and Disinfectant Act (Act No. 54 of 1972 as amended)	NMISA value assigns elements in food matrices and provides 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)	The Act is supported through calibration of noise, illuminance, and air monitoring devices.

A5.3 Legislative framework

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

Framework	Purpose
King Code™ (Non-statutory, with indirect legal effect)	Provides a benchmark of best practice and accountability standards for organisations.
Frameworks for Managing Programme Performance Information	Sets out the planning processes as mandated in Section 215 and 216 of the Constitution of South Africa; strategic plans and annual performance plans.
National Treasury Regulations	Provide guidance to NMISA on matters of compliance and good governance in an evolving economy.
ISO 45001: 2018	Requires calibration of measurement and monitoring equipment used by accredited approved inspection authorities to evaluate organisational health and safety performance in the workplaces.
ISO 14001: 2015	The use of calibrated measuring equipment for measuring key characteristics of operations that can have significant environmental impact.

A5.4 Updates to the relevant court rulings

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

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

A5.5 Updates to institutional policies and strategies

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

Part B

NMISA Strategic Focus

B1 Updated Situational Analysis

The TI entities collectively play a vital role in quality assurance and in ensuring international acceptance of locally produced products. Metrology specifically plays a key role in enabling effective functioning of laws and regulations. It provides the scientific foundation for measurement methods and traceable results, as applied, for example, in traffic law enforcement through 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 these regulations as outlined below.

Strategic Objectives	Outcome
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.**	1. Enable inclusive economic growth through industrialisation, localisation and export competitiveness through trusted measurement infrastructure.
2. **Improve financial stability and ensure sustainable growth.**	2. Build a financially sustainable, digitally enabled and future-ready national measurement institute.
3. **Maintain fast and efficient service delivery to clients.**	3. Strengthen regulatory effectiveness, reduce cost of doing business drivers and improve ease of doing business through responsive metrology services.
4. **Develop and retain a capable workforce that is able to utilise world-class infrastructure to deliver specialised and innovative measurement solutions.**	4. Develop human capital skills development pipeline through partnerships to enable transformation and economic development.
5. **Effectively engage and collaborate with stakeholders to develop and strengthen mutually beneficial relationships in fulfilment of NMISA's mandate.**	5. Enhance stakeholder engagement to drive innovation, diversification, and sector growth through metrology.

B2 Performance Delivery Environment (External)

B2.1 South Africa as signatory of the metre convention treaty

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

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

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

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

Since then, NMISA (including its predecessors under the CSIR before 2006) has been ensuring that South Africa meets its obligations under this treaty. NMISA is mandated by the Measurement Units and Measurement Standards Act, Act No. 18 of 2006, to realise and maintain the NMS for South Africa. The Institute ensures that South Africa's NMS are demonstrated to be equivalent to those realised by other NMIs and are internationally accepted.

> *"Measured once, accepted everywhere."*

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

B2.2 Harmonisation of African measurement systems for inter-continental and international trade

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

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

> *"Accurate measurements are the foundation of fair trade and economic growth. They ensure transparent, equitable transactions and foster trust and cooperation in the global marketplace."*

B2.3 International cutting-edge metrological research: Shaping the future of measurement

> *"Every great scientific breakthrough begins with accurate measurement."*

Towards Global Digital Transformation for Metrology and the International Quality Infrastructure

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

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

Enhancing Timekeeping: Progress Towards the New Definition of the Second

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

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

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

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

The research and development of a primary standard Kibble Balance was decisive in redefining the kilogram in 2019. Previously, the kilogram was defined by a physical object, the International Prototype of the Kilogram (IPK). The kilogram is now defined by the Planck constant, making the definition more stable and universally accessible. The Kibble Balance enables countries to determine mass using fundamental constants, ensuring global consistency and comparability in mass measurements. This global standardisation is essential for international trade, scientific research, and technological development.

NMISA collaborates with the National Physical Laboratory (NPL) in the United Kingdom (UK) to develop and construct a desktop Kibble Balance, which is expected to be delivered in 2029. By participating in this project, NMISA contributes to global scientific advancement. As the future primary standard for mass, the Kibble Balance will enhance measurement accuracy across various local sectors, including manufacturing, health, and environmental monitoring. In addition, the project offers valuable opportunities for African scientists, engineers, and technicians to acquire expertise in precision measurement techniques, metrology, and state-of-the-art technology, thereby strengthening local scientific capabilities.

B2.4 Aspects of the local calibration services market

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

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

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

A persistent global challenge in metrology is that many companies underestimate the importance of calibration, resulting in underutilisation of this critical service. Organisations often hesitate to invest in services they don't fully comprehend, resulting in reduced demand for calibration services even when they are necessary.

B2.5 Contribution to national priorities

To support long-term socio-economic progress in South Africa, the National Development Plan (NDP) outlines priorities focused on reducing poverty, unemployment and inequality. The NDP informs the Medium-Term Development Plan (MTDP), which guides government policies and actions. **the dtic** has defined its priorities to stimulate inclusive economic growth through specific output targets to which its entities contribute.

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

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

B2.6 Economic Integrity and the Role of Measurement Infrastructure in South Africa

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

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

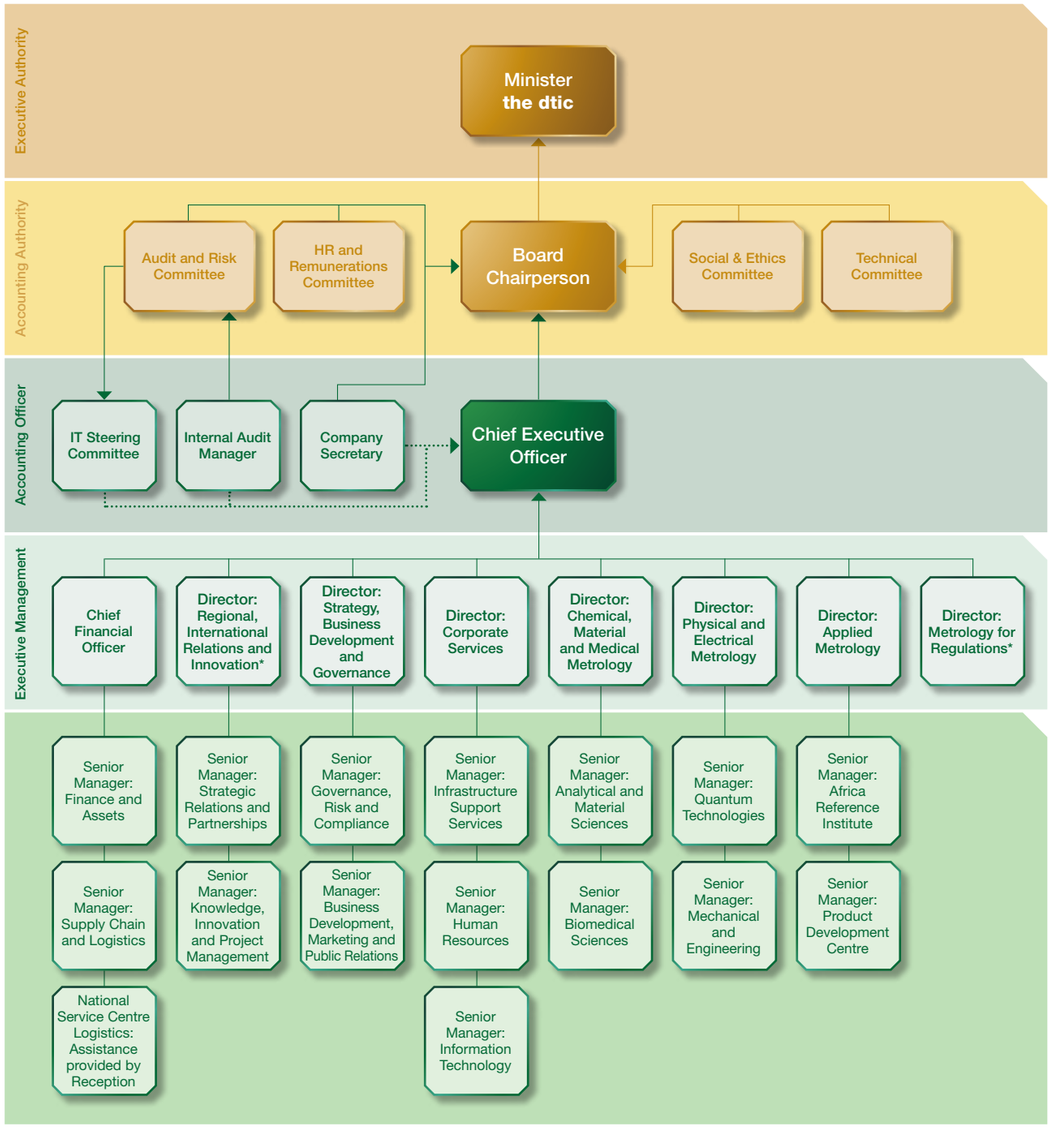
B3 Organisational Delivery Environment (Internal)

B3.1 Skills development in STEM fields related to measurement science

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

B3.2 Organisational structure

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



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

B3.3 Quality management

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

A total of 23 laboratories are accredited by the SANAS to ISO/IEC 17025:2017. In addition, two laboratories are accredited to ISO 17034 to produce certified reference materials, while accreditation to ISO/IEC 17043 has been attained for laboratories providing PTS.

As at October 2025, NMISA maintains 523 Calibration and Measurement Capabilities (CMCs) published in the international Key Comparison Database (KCDB–BIPM Appendix C). The CMCs have been accepted internationally through a peer-review process, which includes SANAS accreditation of those parameters as a prerequisite. Approximately 91 % of NMISA's services are linked to CMCs, and thus are internationally accepted. The KCDB is accessible at: www.bipm.org/kcdb/. All accredited NMISA services with published CMCs undergo international peer review every five years by the AFRIMETS Technical Committee for Quality (TC-QS) and international technical experts.

NMISA has also attained certification for both its Occupational Health and Safety (OH&S) Management System and its Environmental Management System (EMS), guided by ISO 14001 and ISO 45001, respectively.

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

B4 Stakeholder Analysis

As one of **the dtic's** TI entities, NMISA is the link between the international measurement system and the South African measurement system. This vertical integration ensures a credible national measurement system that supports trade, commerce, manufacturing, services, consumer, and environmental protection. The measurement activities of NMISA are, therefore, essential in ensuring the success of 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.

B4.1 Summary of NMISA shareholder and stakeholder interactions

Stakeholders	Attributes	Influence	Interest	Linkages with other stakeholders
National Government	• Executive authority responsible for national policy direction and implementation of the National Development Plan (NDP) • Negotiates and concludes international trade agreements (including AfCFTA) • Develops and oversees national regulatory and legislative frameworks • Accountable to Parliament	High	High	• Directs and funds national departments and entities • Coordinates across spheres of government • Engages international institutions and trade blocs • Consults industry and civil society on policy and regulation
the dtic	Shareholder	High	High	Providing internationally traceable measurement infrastructure that underpins trade, industrial development, and regulatory compliance in South Africa
NMISA Board of Directors	Independent control oversight body	High	High	Control and oversight
Consultative Forum	Independent advisory body	High	High	Consultative advisory body
The BIPM	Acts in matters of world metrology	High	High	Concerned with measurement standards and the demonstration of equivalence between NMS
Experts (local and international)	Provide expertise in the field of metrology	High	High	Metrology matter experts
Academia	Key producers of knowledge, research, new skills, and capabilities	Low	High	Collaborations for generation of knowledge and dissemination of the curriculum on the revised SI
Auditor-General of South Africa/ external auditors	Tasked with responsibility of oversight accountability and governance	High	High	Audit for compliance with legislation
Clients	Inform NMISA of the development and maintenance of the NMS for purposes of trade; contributes to the sustainability of NMISA	High	High	Quality infrastructure through the provision of measurement traceability to support trade (imports and exports)
Suppliers	Obtain measurement services from NMISA to enhance their ability to compete in local and export markets	High	High	Provision of services and equipment required for development of measurement standards, reference materials and methods
Technical Infrastructure (TI) Entities (SABS, NRCS, SANAS)	Metrology, standardisation, conformity assessment and accreditation are key elements of quality assurance of products	High	High	The TI entities support **the dtic** in ensuring fair trade and reducing technical barriers to trade both internationally and locally

Part C Measuring Our Performance

C1 NMISA Performance Indicators

South Africa's MTDP provides the overarching framework for accelerating inclusive economic growth, strengthening state capability and enabling structural transformation of the economy. It places particular emphasis on industrialisation, localisation, job creation, green economic transition, innovation, skills development and regional integration as critical drivers of long-term competitiveness and social development.

In this regard, **the dtic** commits to drive inclusive and sustainable economic growth by fostering a competitive, diversified industrial base, creating quality jobs and ensuring equitable economic transformation. **The dtic** economic strategy focuses on targeted interventions in industrialisation, job creation, decarbonisation, digitalisation and diversification. Through these interventions, **the dtic** aims to reduce poverty, address the high cost of living and empower marginalised communities, fostering a more resilient, globally competitive and sustainable economy for South Africa.

Within this context, the Growth Path reinforces the need to reduce structural constraints to industrial expansion, lower the cost of doing business, promote beneficiation of critical minerals, accelerate the transition to a low carbon economy, deepen regional trade integration and expand opportunities for youth, women and small enterprises. The Growth Path further recognises that economic transformation is dependent on enabling infrastructure that strengthens productivity, supports regulatory certainty and enhances market confidence.

The Gains approach, which aims to achieve annual growth of about 3,5 % by 2029, provides the operational lens through which these priorities are translated into measurable developmental outcomes, with particular emphasis under Pillar 3 on strengthening state capability, improving regulatory efficiency and enhancing institutional performance. It reinforces the importance of a capable, responsive and coordinated state that can reduce administrative burdens, improve the ease of doing business and ensure predictable, transparent regulatory processes. This includes advancing digitalisation of services, streamlining compliance systems and improving turnaround times for approvals. Through these measures, the Gains approach supports tangible improvements in industrial competitiveness, innovation capability, localisation outcomes, employment creation through industrialisation, and the strengthening of economic institutions that underpin market confidence and investor certainty.

Within this policy environment, the national measurement system represents a foundational element of economic infrastructure that directly supports the objectives of Gains Pillar 3. Accurate, internationally accepted and accessible measurement capability strengthens regulatory effectiveness, enables efficient enforcement and improves the quality and credibility of compliance systems. It enhances the state's ability to provide reliable, standardised services to industry, reduces technical barriers to trade and supports innovation and productivity improvements. By reinforcing institutional capability and regulatory certainty, trusted measurement infrastructure underpins localisation efforts, export expansion, industrial upgrading and overall economic efficiency, ensuring that firms can compete effectively in both domestic and global markets.

NMISA's strategy is therefore positioned as an enabling response to the MTDP, Growth Path and Gains approach priorities as encapsulated in **the dtic's** economic strategy. The Institute's mandate to establish, maintain and disseminate measurement standards is translated into developmental outcomes that directly support industrial competitiveness, innovation, regulatory certainty and skills development across priority sectors of the economy.

NMISA contributes to inclusive industrialisation and localisation by providing measurement capability that enable manufacturers and producers to demonstrate product quality, meet regulatory requirements and access regional and global markets. Through the development of reference materials, advanced measurement techniques and sector specific measurement solutions, the Institute supports beneficiation of critical minerals, advanced manufacturing, food safety, energy transition technologies and emerging industrial sectors identified in the Growth Path.

In support of innovation and the green industrial transition, NMISA's advanced measurement science capabilities enable the characterisation of new materials, verification of clean energy technologies, monitoring of environmental parameters and development of measurement solutions required for decarbonisation and circular economy initiatives. These capabilities reduce technological risk, support industrial upgrading and strengthen South Africa's ability to participate in global value chains associated with green technologies.

NMISA also plays a critical role in strengthening regulatory effectiveness and reducing the cost of doing business. Traceable and reliable measurements enable regulators, conformity assessment bodies and industry to operate with confidence, reducing disputes, improving compliance and lowering transaction costs associated with re-testing, product rejection and regulatory uncertainty. Ongoing digitalisation initiatives and targeted process optimisation are contributing to measurable reductions in service turnaround times, supporting national red tape reduction objectives and improving regulatory responsiveness and industry productivity.

Financial sustainability and digital transformation of the measurement system are essential to maintaining national competitiveness. NMISA's strategy therefore prioritises infrastructure modernisation, diversification of revenue streams and the implementation of digitally enabled measurement services that enhance accessibility, efficiency and integration with industry systems. The Institute is also strengthening its market positioning within priority industrial sectors through partnerships and digital service delivery that expand demand for measurement services and contribute to long-term institutional sustainability. These efforts support the development of a capable and future-ready economic institution aligned with the MTDP objective of a developmental and responsive state.

Human Capital Development (HCD), workforce transformation and regional leadership are a further pillar of NMISA's contribution. Through specialised training, internship programmes and collaborative research partnerships, NMISA strengthens scarce technical skills pipelines, supports youth employment and enhances Africa's measurement capability in support of regional trade integration and the AfCFTA. The Institute's human capital strategy further prioritises retention of critical scientific skills and inclusive workforce development, including targeted initiatives supporting disability inclusion and gender equity across workforce and programme participation. Through training, technical services and collaborative comparisons, NMISA contributes to measurable improvements in African measurement capabilities, and supports regulatory harmonisation, trade facilitation and confidence in regional value chains.

The five NMISA strategic outcomes collectively demonstrate a coherent response to national priorities by positioning measurement infrastructure as an enabler of industrialisation, innovation, regulatory certainty, economic transformation and skills development. This alignment ensures that NMISA's scientific mandate translates into measurable developmental gains, strengthens South Africa's competitiveness, and contributes to an improved quality of life for all citizens.

C1.1 PESTEL Analysis

Political	**E**conomic
1. 2023: Year of acceleration of AfCFTA implementation. 2. South Africa's eligibility in line with the US Africa Growth and Opportunity Act vital ($2,7m contribution to economy). 3. South Africa's exclusion from the 2026-27 G20 sessions. 4. Technical barriers to trade – export restrictions for South African goods exports to US markets through increased tariffs. 5. Above inflation age increase decisions. 6. Poor service delivery at local government as a deterrent to investments. 7. Absence of regulations in specific market sectors (traceable calibrations for medical equipment).	1. State spending cuts to reduce budget deficit – NMISA grant allocation cuts (R170 million over three years). 2. Slow economic growth and high cost of doing business (clients extend re-calibration intervals, companies downsizing operations). 3. International supply chains still recovering from COVID-19 lock downs and currently affected by geopolitical upheavals in the Middle East and Russia/Ukraine – delays in delivery of sources materials (e.g. pure gasses for certified gas mixtures).
Social	**T**echnological
1. Social media shapes public opinion and consumer experiences – implications for brand management, consumer knowledge and information. 2. Increased risks of social unrest due to high levels of unemployment. 3. Increased demands for MSME support. 4. The NMISA HCD programme provides opportunities for young graduates in STEM fields to gain work experience and become market ready.	1. Digital metrology (standards and tools for analysis of complex data sets to ensure reliability of information). 2. Advanced materials. 3. Advanced manufacturing. 4. Re-definition of the SI. 5. Cybersecurity. 6. Automation of measurement systems improves efficiency and shorter turn-around times for client services.
Legal	**E**nvironmental
1. Collaboration between technical infrastructure (TI) entities in accordance with their respective acts for quality assurance of imported/exported products. 2. Certified measurement results underpinned by appropriate governance processes to enable prosecution of offenders by law enforcement agencies. 3. Consumer protection laws – regulated by the NRCS, measurement traceability provided by NMISA. 4. Occupational Health and Safety Act. 5. Protection of Personal Information Act.	1. Environmental laws for pollution control (micro-plastics), waste management, and resource conservation (air quality monitoring). 2. Energy transition to renewable resources (energy efficiency, green hydrogen).

C1.2 Key Performance Indicators and Targets

Outcomes	Outputs	KPI #	Output Indicators		Annual Targets – MTEF Period 2025/26 (Baseline)	2026/27	2027/28	2028/29	2029/30	5-Year Target
Enable inclusive economic growth through industrialisation, localisation and export competitiveness through trusted measurement infrastructure.	Sustain and modernise nationally relevant measurement capabilities aligned to priority industrial sectors to ensure international recognition, support localisation, enable export competitiveness and strengthen regulatory confidence.	1	Number of foundational National Measurement Standards (NMS) maintained at international equivalence annually.[1]		5 NMS maintained	5 NMS maintained	5 NMS maintained	5 NMS maintained	5 NMS maintained	**5 per annum NMS maintained**
	Demonstrate and expand internationally equivalent national measurement capabilities that provide investor assurance, enable compliant local manufacturing, and strengthen export readiness across priority value chains.	2	Percentage of nationally relevant measurement services covered by internationally recognised Calibration and Measurement Capabilities (CMC).		91 % measurement services covered by internationally recognised CMC	91 % measurement services covered by internationally recognised CMC	95 % measurement services covered by internationally recognised CMC	95 % measurement services covered by internationally recognised CMC	95 % measurement services covered by internationally recognised CMC	**95 %** measurement services covered by internationally recognised CMC
	Develop and enhance nationally relevant measurement standards, reference materials and reference methods that strengthen priority industrial value chains and reduce technical barriers to trade.	3	Number of enhanced National Measurement Standards (NMS) developed in support of priority industrial sectors.[2]		2 enhanced NMS developed	2 enhanced NMS developed	3 enhanced NMS developed	5 enhanced NMS developed	7 enhanced NMS developed	**19** enhanced NMS developed
	Sustain internationally benchmarked NMS that demonstrate technical equivalence with leading National Metrology Institutes (NMIs) and strengthen confidence in South Africa's measurement system.	4	Number of scheduled international measurement comparisons completed with satisfactory performance, confirming equivalence of South Africa's NMS.		New KPI	5 international measurement comparisons completed with satisfactory performance	7 international measurement comparisons completed with satisfactory performance	11 international measurement comparisons completed with satisfactory performance	15 international measurement comparisons completed with satisfactory performance	**38** international measurement comparisons completed with satisfactory performance
	Strengthen the competitiveness and regulatory compliance of enterprises located within SEZs, industrial parks and priority districts through targeted NMISA measurement and training services	5	Number of companies within industrial zones in priority districts given access to NMISA technical measurement services.		5 companies within industrial zones in priority districts given access to NMISA technical measurement services	9 companies within industrial zones in priority districts given access to NMISA technical measurement services	11 companies within industrial zones in priority districts given access to NMISA technical measurement services	15 companies within industrial zones in priority districts given access to NMISA technical measurement services	20 companies within industrial zones in priority districts given access to NMISA technical measurement services	**60** companies within industrial zones in priority districts given access to NMISA technical measurement services

1 Of the seven base units in the SI, NMISA applies the definition of one (the mole) and seeks to realise and maintain the remaining six. Measurement traceability for one unit (the candela) is currently sourced from international metrology institutes.

2 The details of these developments are provided in Section C2: NMISA Programmes, notably sections C2.2.4 and C2.2.8.

Outcomes	Outputs	KPI #	Output Indicators		Annual Targets – MTEF Period 2025/26 (Baseline)	2026/27	2027/28	2028/29	2029/30	5-Year Target
Enhance stakeholder engagement to drive innovation, diversification, and sector growth through metrology.	Develop and deploy advanced internationally benchmarked measurement capabilities that enable green industrialisation, climate compliance, energy efficiency and strategic sector innovation, including support to the Just Energy Transition.	6	Number of enhanced measurement capabilities developed to support green industrial sector.[3]		1 enhanced measurement capability developed to support green industrial sector	1 enhanced measurement capability developed to support green industrial sector	1 enhanced measurement capability developed to support green industrial sector	3 enhanced measurement capabilities developed to support green industrial sector	3 enhanced measurement capabilities developed to support green industrial sector	**9** enhanced measurement capabilities developed to support green industrial sector
	Strengthen regional trade integration and industrial cooperation under AfCFTA through provision of NMISA metrology services, products and technical collaboration that support harmonisation of measurement systems across Africa.	7	Number of African countries contracting NMISA's metrology offerings annually.		15 African countries contracting NMISA's metrology offerings per annum	15 African countries contracting NMISA's metrology offerings per annum	17 African countries contracting NMISA's metrology offerings per annum	17 African countries contracting NMISA's metrology offerings per annum	20 African countries contracting NMISA's metrology offerings per annum	**20** African countries contracting NMISA's metrology offerings per annum
		8	Number of regional measurement comparisons coordinated with African metrology institutes.		4 regional measurement comparisons coordinated with African metrology institutes	5 regional measurement comparisons coordinated with African metrology institutes	5 regional measurement comparisons coordinated with African metrology institutes	7 regional measurement comparisons coordinated with African metrology institutes	10 regional measurement comparisons coordinated with African metrology institutes	**31** regional measurement comparisons coordinated with African metrology institutes
	Establish and sustain strategic collaboration agreements in priority sectors that generate recurring value and contribute to long-term institutional and economic sustainability.	9	Percentage of collaboration agreements in priority sectors demonstrating measurable recurring results annually		≥ 70 % collaboration agreements in priority sectors demonstrating measurable recurring results	≥ 70 % collaboration agreements in priority sectors demonstrating measurable recurring results	≥ 75 % collaboration agreements in priority sectors demonstrating measurable recurring results	≥ 80 % collaboration agreements in priority sectors demonstrating measurable recurring results	≥ 80 % collaboration agreements in priority sectors demonstrating measurable recurring results	**≥ 80 %** collaboration agreements in priority sectors demonstrating measurable recurring results
Strengthen regulatory effectiveness, reduce cost of doing business drivers and improve ease of doing business through responsive metrology services.	Deliver responsive, reliable and industry aligned metrology services that strengthen regulatory compliance, reduce administrative burden and improve business operating efficiency.	10	Percentage of clients reporting satisfaction with the responsiveness and reliability of NMISA metrology services.		80 % clients reporting satisfaction with the responsiveness of NMISA metrology services	≥ 80 % clients reporting satisfaction with the responsiveness of NMISA metrology services	≥ 85 % clients reporting satisfaction with the responsiveness of NMISA metrology services	≥ 90 % clients reporting satisfaction with the responsiveness of NMISA metrology services	≥ 90 % clients reporting satisfaction with the responsiveness of NMISA metrology services	**≥ 90 %** clients reporting satisfaction with the responsiveness of NMISA metrology services
	Provide targeted metrology and technical support services to MSMEs to strengthen regulatory compliance, improve product quality and accelerate market access.	11	Number of MSMEs receiving NMISA measurement support services to enhance market readiness.		44 MSMEs receiving NMISA measurement support services	50 MSMEs receiving NMISA measurement support services	55 MSMEs receiving NMISA measurement support services	60 MSMEs receiving NMISA measurement support services	65 MSMEs receiving NMISA measurement support services	**274** MSMEs receiving NMISA measurement support services
	Strengthen African regional metrology capacity to improve regulatory effectiveness, trade facilitation and ease of doing business across the continent.	12	Number of African institutions that implemented improved metrology procedures within 24 months following NMISA training.		New KPI	3 African institutions that implemented improved metrology procedures within 24 months following NMISA training	4 African institutions that implemented improved metrology procedures within 24 months following NMISA training	5 African institutions that implemented improved metrology procedures within 24 months following NMISA training	5 African institutions that implemented improved metrology procedures within 24 months following NMISA training	**17** African institutions that implemented improved metrology procedures within 24 months following NMISA training
	Process optimised and industry responsive metrology services that reduce red tape and improve regulatory responsiveness.	13	Percentage reduction in turnaround times in the selected public-facing services.		New KPI	30 % reduction in turnaround times in the selected public-facing services	30 % reduction in turnaround times in the selected public-facing services	30 % reduction in turnaround times in the selected public-facing services	30 % reduction in turnaround times in the selected public-facing services	**30 % per annum** reduction in turnaround times in the selected public-facing services

3 The details of these developments are provided in Section C2: NMISA Programmes, including the strategic focus areas for critical

Outcomes	Outputs	KPI #	Output Indicators		Annual Targets MTEF Period 2025/26 (Baseline)	2026/27	2027/28	2028/29	2029/30	5-Year Target
Build a financially sustainable, digitally enabled and future-ready national measurement institute.	Implement digitally enabled, efficient and customer-centred business processes that improve operational efficiency and reduce administrative burden.	14	Number of operational business processes digitalised.		1 operational business process digitalised	1 operational business process digitalised	1 operational business process digitalised	2 operational business processes digitalised	2 operational business processes digitalised	**7** operational business processes digitalised
	Strengthen revenue diversification, financial resilience and digital service delivery to ensure long-term institutional sustainability and reduced reliance on baseline funding.	15	Percentage of approved annual sales revenue budget achieved.		R27 148 000 (Revised KPI)	90 % approved annual sales revenue budget achieved	90 % approved annual sales revenue budget achieved	95 % approved annual sales revenue budget achieved	95 % |approved annual sales revenue budget achieved	**95 %** approved annual sales revenue budget achieved
Develop human capital skills development pipeline through partnerships to enable transformation and economic development.	Placement of qualified but unemployed graduates in the NMISA Human Capital Development (HCD) programme in collaboration with sector partners such as SETAs, universities, and industry.	16	Number of new qualified unemployed graduates placed in the NMISA Human Capital Development programme annually.		7 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	13 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	15 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	18 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	20 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	**73** new qualified unemployed graduates placed in the NMISA Human Capital Development programme
	Deliver structured HCD programmes that produce job-ready graduates equipped with industry-relevant scientific and technical competencies.	17	Number of job-ready graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement.		New KPI	4 graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement	5 graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement	5 graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement	6 graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement	**20** graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement
	Strengthen the retention and development of critical scientific and technical skills to sustain institutional capability and support a transformed measurement workforce.	18	Annual voluntary staff turnover rate maintained at 6 % or lower.		7 % (Revised KPI)	≤ 6 % annual voluntary staff turnover rate maintained	≤ 6 % annual voluntary staff turnover rate maintained	≤ 6 % annual voluntary staff turnover rate maintained	≤ 6 % annual voluntary staff turnover rate maintained	**≤ 6 %** annual voluntary staff turnover rate maintained
	Strengthen disability inclusion within NMISA's workforce.	19	Percentage of workforce represented by persons with disabilities.		2 %	5 % workforce represented by persons with disabilities	5 % workforce represented by persons with disabilities	5 % workforce represented by persons with disabilities	5 % workforce represented by persons with disabilities	**5 %** workforce represented by persons with disabilities
	Strengthen the postgraduate research and innovation pipeline through strategic partnerships that advance technical capability, transformation and economic development.	20	Number of innovative postgraduate research initiatives supported through NMISA-led collaborative partnerships annually.		New KPI	1 innovative postgraduate research initiative supported	2 innovative postgraduate research initiatives supported	2 innovative postgraduate research initiatives supported	3 innovative postgraduate research initiatives supported	**8** innovative postgraduate research initiatives supported
		21	Number of fellowships in metrology contracted.		New KPI	1 fellowship in metrology contracted	0 fellowship in metrology contracted	1 fellowship in metrology contracted	0 fellowships in metrology contracted	**2** fellowships in metrology contracted
	Contribution to national transformation and inclusive industrial development objectives through measurable improvement in B-BBEE performance.	22	Achieve the target B-BBEE Status Level		New KPI	New KPI	3	2	1	**Level 1**

C2 NMISA Programmes

The development, maintenance and dissemination of the NMS are coordinated through a dedicated programme at NMISA. This programme supports government priorities and national outcomes and, NMISA has aligned its key activities to the NDP. Its activities have been grouped into two main programmes:

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

The following sections describe these programmes in more detail. The initiatives within each programme have been tabulated to highlight their focus areas and purpose, demonstrating how the NMS translates into commercial service offerings which impact the local economy.

C2.1 Administration Programme

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

Sub-initiatives:

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

Purpose:

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

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

Explanation of Planned Performance:

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

C2.2 Dissemination of Measurement Services and Products (Applied Metrology)

To achieve the objectives of its 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:

By providing direct traceability to the NMS, NMISA supports accredited calibration and testing laboratories through high-accuracy calibration with the smallest possible uncertainties. Calibration services are also offered directly to industry where such services are not available commercially, where higher accuracy is required, or where new or niche services are needed.

Reference measurement and certification of reference materials:

NMISA provides reference measurement and analysis aligned to its calibration range and services. In addition, NMISA has established the capability to value assign chemical samples and gas mixtures for customers, including purity assignment. This enables NMISA to produce certified (pure) reference materials (CRMs) for use 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, including method development to support problem-solving, analytical services for research projects, specialised testing services, and the development of specific measurement solutions for clients under contract.

Training and consultancy:

NMISA provides measurement science expertise through training and consultancy, supporting the quality infrastructure both locally and across the continent. These expertise contribute to national priorities such as building a capable state and enhancing economic transformation.

To support economic growth and the AfCFTA, reducing technical barriers to trade remains essential. Mutual acceptance of measurement results is a key enabler for participation in both local and global markets. Knowledge transfer in metrology and quality assurance is therefore a critical skills-development area, especially for MSMEs.

To address these needs, the NMISA Training Centre offers a suite of training courses delivered through physical lectures (often including practical training in NMISA laboratories), online platforms and onsite training at the client's premises. This training has been successfully delivered to several countries in Asia, Eastern Europe, and Africa.

Initiatives under the programmes were tabulated to highlight the focus areas and purpose. Product and service offerings reference specific NMS areas, and where applicable, related research and development projects. This demonstrates how the NMS translates into commercial service offerings that impact the local economy. NMISA's activities support and contribute to key social, economic and environmental needs. The market sectors served by the programmes are:

C2.2.1 Africa Reference Institute

Conformity assessment support, training and knowledge services

Purpose:

To function as an African resource centre with authoritative expertise, the Reference Institute provides thought leadership on measurement technologies across the continent, strengthening trusted measurement infrastructure to enable inclusive economic growth, industrialisation and export competitiveness.

It provides access to advanced measurement technologies and reliable application information in fields important to innovation, regulatory effectiveness, sustainable development and social progress. Its services include reference measurements and analysis, consultation and specialist advice, and education and training to build human capital and technical capabilities across Africa.

The Reference Institute plays a key role in maintaining and enhancing a reliable African measurement framework, linked to the international measurement system, thereby supporting sustainable industrial development and economic transformation on the continent.

Strategic Focus:	
1	**Training, and Knowledge Services** Providing training courses, programmes, and consultancy services aimed at improving the standards and performance of calibration and testing laboratories locally and in Africa by providing relevant training in chemical metrology, physical metrology, and engineering related to metrology. Capacity building and hands-on training will be provided with specific focus on the training requirements of MSMEs. NMISA is taking proactive steps to strengthen its training and development initiatives by arranging an internal capacity-building course for employees, formalising the registration of the NMISA Training Centre with merSETA, and expanding participation across all training courses. These efforts aim to support professional growth, ensure national recognition of the Training Centre, and broaden the reach and impact of NMISA's development offerings.
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 needs and ensuring accurate measurement for sectors requiring traceability for conformity assessment, especially MSMEs and the SADC region. These services 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. During 2026/27, a method for dioxin analysis in food and feed matrices will be developed.
3	**Support and Systems Development Centre** To provide maintenance and improvement of the NMS, current research projects and applied metrology calibration services toward new measurement standards and solutions for identified industry sectors. 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.
4	**Regional Integration** During 2026/27, NMISA will represent both NMISA and SADCMET in SADC Technical Barriers to Trade (TBT) forums, as well as in AFRIMETS and APMP activities, while implementing the SADCMET Five-Year Strategic Plan. Planned deliverables include conducting and coordinating the SADCMET Water PT scheme, organising metrology attachments and training for regional metrologists and MSMEs, and participating in MSME expos to provide training on the Metrology Toolkit. NMISA will also undertake consultancy services to generate external income, support the implementation of the AFRIMETS sustainability plan, and, if required, host the AFRIMETS General Assembly in July 2026 should the Ethiopian Metrology Institute not be in a position to do so.

Explanation of Planned Performance:

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

C2.2.2 Law Enforcement

Forensic metrology, road safety, consumer protection

Purpose:

Law enforcement agencies require reliable and defensible measurement results to determine whether legislation has been transgressed. This includes, for example, accurate measurement of a vehicle's speed to assess compliance with speed limits, or blood alcohol analysis to determine whether a driver's alcohol level falls within legal limits.

These agencies depend on accurate, independently verified measurement results provided by NMISA to withstand legal scrutiny in court and to strengthen regulatory effectiveness and public confidence in the justice system.

Similarly, consumer protection regulators such as the NRCS rely on measurement results traceable to the national measurement system maintained by NMISA to verify whether consumer goods comply with compulsory specifications. Through this work, NMISA supports fair trade, consumer protection and a predictable regulatory environment that reduces compliance uncertainty for industry.

Strategic Focus:

1	Provide illicit drug, pesticide and other environmental reference materials and solutions for local testing laboratories; forensic support (UV illumination for biological and chemical evidence, ballistics, arson, counterfeit detection).
2	Deliver calibration and measurement services for radar (laser) and lidar speed trapping equipment, speed guns for traffic departments; and alternative methods for evidential breath alcohol testing.
3	NMISA has the capability to produce certified reference materials for food fraud and food and drug authenticity testing; support is provided on an ad hoc basis.
4	Support occupational regulation compliance (gas detection monitors; noise, radiation, and radiation meters; heat stress monitors, light meters) for local manufacturers. A new NMS for illuminance responsivity (CIE Standard Source A) will be developed in 2026/27.
5	Advance nuclear forensics, including the examination of nuclear and other radioactive materials to determine their origin and history in the context of law enforcement investigations or 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. Certified reference materials provide forensic laboratories with a means to verify and demonstrate their capability to perform blood alcohol testing services.
2. Measurement and calibration services for evidential breathalyser alcohol testing and speed measurement devices support reliable law enforcement, improving road safety.
3. The lack of comparable measurement results between food testing laboratories raises doubts about the food label accuracy, affecting consumers and health practitioners.
4. Accurate measurement of occupational conditions enables compliance to OH&S regulations and enables enforcement against non-compliant producers.
5. Nuclear forensics requires the highest accuracy and traceability, as results may be used in criminal prosecutions. Radionuclide metrology provides the infrastructure to give confidence in measurements of the radionuclides of interest, including alphaparticle emitting isotopes in order to derive as much information as possible about suspect items in transport containers.

C2.2.3 Health and Safety

Medical instruments and nuclear technology devices, healthcare, radiation safety, and accredited laboratories

Purpose:

The programme supports medical manufacturers, 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 accuracy in the health sector measurement capabilities, which is critical for 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, traceability and facilities. It consolidates medical and nuclear metrology traceability services for accredited laboratories, hospitals, nuclear power stations, and nuclear technology reliant industries.

Strategic Focus:

1	Support the national health laboratories network with multidisciplinary measurement services traceable to the SI, to ensure accuracy and international traceability of results from the laboratory to the patient, contributing to quality healthcare while reducing the costs associated with misdiagnosing and incorrect treatment which could result in hospitals being sued. NMISA will strengthen its independent dosimetry audit services by implementing the brachytherapy postal audit for reference beams, participating in the International Atomic Energy Agency (IAEA) blind audit, and conducting the annual postal audit of radiotherapy centres. As part of the national programme established in 2017 under the IAEA/WHO dosimetry network, these activities will use radio photoluminescence dosimeters (RPLDs) and develop new methodologies, including work in an IAEA Coordinated Research Project, while enabling international benchmarking through the Dosimetry Audit Network (DAN). In addition, NMISA will advance the development of NMS for radiation dosimetry through the establishment of ISO narrow-spectrum X-ray beams and the commissioning of a Cobalt-60 (Co-60) and Caesium-137 (Cs-137) gamma radiation beam facility. These deliverables will provide the basis for the calibration of survey meters and personal dosimeters, strengthening South Africa's capability to ensure accurate, traceable measurements in support of radiation protection and safety.
2	Provide reference measurements and calibration services to regulators to enable compliance with 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 safer usage of advanced nuclear technologies in the health sector through dosimetry and/or comprehensive radiation oncology audits.

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

C2.2.4 Energy Efficiency

Energy efficient lighting, liquefied natural gas (LNG), renewable energy

Purpose:

The programme develops and provides the underpinning measurement solutions required to support energy-efficient lighting (LEDs), energy conversion processes (including renewable and alternative energy sources), and smart grid systems, contributing to improved electrical energy performance and reliability.

It strengthens the measurement infrastructure necessary to enable innovation, localisation and competitiveness in emerging energy technologies. In alignment with South Africa's Just Energy Transition Investment Plan (JET IP), the programme supports the transition to a lower-carbon economy through accurate, traceable measurement capabilities that underpin infrastructure modernisation and energy-efficient technologies and practices.

Through collaboration with industry, regulators and technical partners, the programme advances metrology solutions that enhance regulatory confidence, reduce performance uncertainty, and enable sustainable industrial development in the energy sector.

Strategic Focus:	
1	Provide measurement solutions for characterisation and verification of Light Emitting Diodes (LEDs) to support manufacturers and the NRCS. A fully operational, accredited measurement facility for energy efficient lighting to be established, achieved through securing grant funding.
2	Provide measurement solutions for smart grid applications (Eskom), independent power producers (IPPs), weather stations as well as municipalities.
3	Provide measurement solutions related to energy gases and other energy sources for renewable energy IPPs and municipalities.
4	Produce reference materials to support the energy sector, including value assignment of samples for the gas-to-power industry. For 2026/27, establish and uphold measurement standards for renewable energy gases, such as biogas, liquefied petroleum gas (LPG), and green hydrogen, to facilitate South Africa's energy industrialisation and transition to cleaner fuels.

Links to Realisation, Maintenance and Development of NMS:

NMS for LEDs; DC Low Frequency Metrology; Gas Analysis; Temperature Metrology.

Explanation of Planned Performance:

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

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

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

C2.2.5 Manufacturing

Material characterisation, advanced material development, materials property testing

Purpose:

The Manufacturing Programme provides advanced measurement and materials characterisation solutions to support industrial development, product quality, export competitiveness and technological advancement.

Through consolidated and modernised capabilities, the programme enables industry to improve manufacturing performance, support value addition in metals and critical minerals, and strengthen localisation in strategic sectors such as steel, mining, advanced materials and energy-storage technologies.

In collaboration with government and industry partners, it develops traceable measurement systems, reference materials and analytical methods that enhance regulatory confidence, industrial competitiveness and innovation within South Africa's evolving industrial landscape.

Strategic Focus:	
1	Conduct elemental composition analysis of stainless steel metal bases and coatings used in the manufacturing of automotive parts.
2	Provide characterisation (including fingerprinting) services for the beneficiation efforts of metals (e.g. nickel, steel), polymers and energy-storage materials (including batteries for electric vehicles). NMISA will pursue collaborative research with relevant stakeholders in the mining, minerals and geology sector to support **the dtic** and DMPRs Regional Critical Minerals Strategy. The partnership will include developing traceability systems for gold fingerprinting, reference methods and materials for platinum group metals (PGMs), high-purity metal CRMs, and advanced analytical methods for electric vehicles. It will also encompass method development and validation for the quantification of rare earth elements (REEs) in geological materials, as well as a feasibility study on measuring non-metallic impurities (CHONS) in high-purity metals.
3	Perform automated particulate matter size and composition analysis of trapped particles formed during mining operations and materials production.
4	Provide optoelectronic, microstructural, and chemical analysis of advanced materials produced through advanced manufacturing routes and industrialisation/upscaling of nano-manufacturing.
5	Characterise mineral content in powders used for infrastructure projects.
6	Deliver 3D tomography and mechanical properties of materials produced by additive manufacturing and traditional manufacturing routes.
7	Provide traceable calibration and specialised measurement support for manufacturing. In 2026/27, NMISA will complete the upgrade of the 6 000 kN hydraulic press to enable improved force stability and extended tension capabilities above 1 000 kN. Development of torque measurement capability in the sub-100 Nm range will also be advanced. In addition, extended tension force services above 1 000 kN will be rolled out to key sectors, including manufacturing, mining, energy, and materials testing, thereby expanding national access to advanced force measurement services.

Links to Realisation, Maintenance and Development of NMS:

Materials Science; Photometry and Length Metrology; Dosimetry.

Explanation of Planned Performance:

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

C2.2.6 Strategic Research

Revision of the SI

Purpose:

The Strategic Research Programme develops and implements the realisation of the revised International System of Units (SI), including the establishment of a Kibble Balance system, to ensure that South Africa's national measurement system remains directly linked to the international measurement framework.

By securing international equivalence of measurement standards, the programme enables global acceptance of locally generated measurement results, supports export competitiveness and ensures confidence in scientific, industrial and regulatory applications.

Through advanced measurement science and collaboration with other African National Metrology Institutes, the programme strengthens regional capability and reinforces a trusted, future-ready measurement infrastructure aligned with the post-2019 SI framework.

Strategic Focus:	
1	Realise the kilogram through the Kibble Balance.
2	Validate the 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 2029 and will become the national standard for mass in 2031. Thereafter, all mass measurements in South Africa must demonstrate traceability to this standard to prove accuracy.

C2.2.7 Digital Economy

Telecommunications metrology, quantum optical metrology, standard frequencies and time signals, metrology for advanced manufacturing and digital transformation

Purpose:

The Digital Economy Programme applies metrology expertise through enabling digital technologies to modernise measurement and business systems, improve operational efficiency and enhance client experience.

It supports industrial digitalisation by developing digital metrology frameworks and technology demonstrators for applications in sectors such as energy distribution and advanced manufacturing, while providing high-accuracy time and frequency infrastructure to strategic national initiatives, including the South African Radio Astronomy Observatory (SARAO) for the Square Kilometre Array.

A core focus of the programme is the implementation of digital solutions that contribute directly to red tape reduction, streamline regulatory and service processes, shorten turnaround times, and improve ease of doing business with state entities. Through digitalisation, automation and improved system integration, the programme reduces administrative burden for clients while strengthening transparency, traceability and service reliability.

In so doing, it enhances innovation capability, supports industrial competitiveness and positions NMISA as a financially sustainable, digitally enabled and future-ready national measurement institute aligned with global developments.

Strategic Focus:	
1	Collaborate with SKA Observatory on implementing a time reference signal from NMISA to the SKA site. Develop and assess the feasibility of an Africa Time Network.
2	Conduct a digital metrology technology study with recommendations for implementation.
3	Develop and implement DCCs.

Links to Realisation, Maintenance and Development of NMS:

Fibre Optics, Time and Frequency Metrology.

Explanation of Planned Performance:

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

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

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

C2.2.8 Environmental Monitoring and Mining

Mining, environmental monitoring, waste management

Purpose:

The Environmental Monitoring and Mining Programme develops standards, reference methods and measurement capabilities that provide reliable reference values, testing and analytical services for monitoring environmental contaminants in air, water and soil across South Africa and the region.

It supports mining, manufacturing and agricultural sectors (as well as regulators) with traceable measurement solutions to verify compliance with environmental legislation and standards, strengthening regulatory confidence while reducing compliance uncertainty for industry.

The programme also advances and enhances measurement capabilities that enable industry to quantify, validate and reduce carbon emissions and environmental impact, supporting South Africa's transition to a more sustainable and lower-carbon economy. Through trusted environmental measurement infrastructure, it contributes to responsible resource development, public health protection and sustainable industrial growth.

Strategic Focus:	
1	Provide reference measurements for emissions from manufacturing, agriculture, maritime and mining sectors to support improved air quality in South Africa and safeguarding the environment.
2	Provide reference measurements for food industry toxicants to comply with export regulations, especially for fish exports.
3	Test and analyse various chemical composition; toxic elements and organic contaminants in environmental samples, soils, sludges, and mine tailings.
4	Provide reference materials for environmental monitoring and value assignment of environmental samples.
5	Promote reliable emissions reporting through primary reference gas mixtures that are SI-traceable and internationally equivalent.
6	Analyse environmental and food samples for radionuclides. NMISA has applied for IAEA sponsorship (SAF2024004) to establish analytical capabilities for Naturally Occurring Radioactive Material (NORM) in environmental samples. This multi-year project, if approved, will deliver specialised equipment and training valued at approximately R6 million and will focus on developing alpha-spectrometry (including radiochemistry techniques) and gross alpha/beta counting methods, to supplement existing gamma-ray spectrometry and LSC services. These deliverables will enable NMISA to provide essential radioanalytical services for food, water, and environmental safety, addressing a national priority with strong relevance to the mining sector, the National Nuclear Regulator, and the Department of Health.
7	Support the mining sector with SI-traceable measurement solutions that promote workplace safety.
8	Develop new or improve existing measurement capabilities delivered for green industrialisation, including green hydrogen and other energy sources that reduce the carbon footprint, including support for the verification of carbon footprint claims in international trade under carbon border adjustment mechanisms.

Links to Realisation, Maintenance and Development of NMS:

Gas Analysis; Organic and Inorganic Chemistry; Radioactivity; Dosimetry.

Explanation of Planned Performance:

1. Reference materials for emission monitoring ensure compliance with legislation and reliable reporting 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. Reference measurements support food safety and export compliance.
3. 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 (PCB).
4. Measurements in plastics support sustainable and environmentally responsible practices within the African continent.
5. Metrology ensures hydrogen quality, free from contaminants that could affect its performance, which is necessary for commercialisation.
6. NMISA produces certified primary reference gas mixtures, which are used by regulators and manufacturers to monitor greenhouse gas emissions.
7. Measurement data is only accepted internationally if the accuracy can be demonstrated by traceability to internationally accepted NMS.

C2.2.9 Agriculture and Food

Development of reference methods, reference materials, and the co-ordination of PTS for food and feed

Purpose:

The Agriculture and Food Programme provides quality assurance and traceable measurement solutions that enable food and agricultural testing laboratories to produce accurate and reliable results. These services support food safety, regulatory compliance, fair trade and the protection of public health.

In the context of the AfCFTA, the programme strengthens local and regional testing capability to support increased cross-border trade while safeguarding the integrity of food supply chains. It contributes to maintaining a robust quality infrastructure that enables mutual recognition of measurement results across the continent, promoting both intra- and extra-African trade.

Through the development of Africa-relevant reference measurements, certified reference materials and PTS tailored to indigenous and priority commodities, the programme reduces reliance on imported materials, enhances localisation and supports the economic sustainability of essential food testing services.

Strategic Focus:	
1	Provide reference measurement for new product development in agricultural production/processing to support the activities in 2 and 3. NMISA, with support from the Gauteng Department of Agriculture and Rural Development (GDARD), will advance the development of South Africa's first Cannabis Certified Reference Material (CRM) for hemp (CBD) oil. Key deliverables include validated methods for cannabinoids and terpenes, a homogeneity assessment, and a short stability assessment. This work forms part of a broader initiative to establish a standardised testing framework, address mislabelling and quality variability, and promote regulatory acceptance by South African Health Products Regulatory Authority (SAHPRA), SANAS, and SABS within three years, in alignment with the Gauteng Cannabis Industrialisation Master Plan.
2	Produce and monitor the stability of African-relevant reference materials according to international standards.
3	Develop and run PTS and capacity-building programmes to ensure maintenance of the South African quality infrastructure, and support trade within the AfCFTA. Proficiency testing materials are also sold as quality control materials.

Links to Realisation, Maintenance and Development of NMS:

Organic Chemistry; Material Science.

Explanation of Planned Performance:

1. These services enable laboratories to independently confirm the accuracy of their test results, demonstrating competence to regulators and clients. Reference measurements also support testing and training services through the ARI, contributing to scientific capacity building and analytical support for food producers.
2. Material 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 Medium-Term Expenditure Framework period, i.e. 2026/27 to 2028/29. The project details with specific deliverables and dates are available in the programme business plans for 2026/27.

C3.1 Programme resource considerations

NMISA Consolidated Budget Estimates 2026/27–2028/29			
	2026/27	2027/28	2028/29
	R'000	R'000	R'000
		4,7 % (average growth rate)	4,1 %
Revenue	**207 703**	**217 627**	**226 564**
Transfers received	169 841	176 619	182 108
Rendering of services	29 862	32 848	36 133
Investment income	8 000	8 160	8 323
Expenditure	**207 703**	**217 627**	**226 564**
Employee related costs	121 171	126 780	132 486
Administrative and operating expenditure	85 982	90 847	94 078
Capital expenditure	550	–	–

C3.2 Expenditure estimates

Statement of Financial Performance											
	Audited outcome	Audited outcome	Audited outcome	Revised budget	Average growth rate (%)	Expenditure/ total: Average (%)	Medium-term estimate			Average growth rate (%)	Expenditure/ total: Average (%)
R thousand	2022/23	2023/24	2024/25	2025/26	2022/23–2025/26		2026/27	2027/28	2028/29	2025/26–2028/29	
Revenue											
External revenue	**31 659**	**40 383**	**36 257**	**35 148**	**3,5 %**	**16,6 %**	**37 862**	**41 008**	**44 456**	**8,1 %**	**17,9 %**
Sales of goods and services produced by entity	24 653	28 444	26 985	27 148	3,3 %	12,4 %	29 862	32 848	36 133	10,0 %	14,2 %
Investment and other income	7 006	11 939	9 272	8 000	4,5 %	4,2 %	8 000	8 160	8 323	1,3 %	3,7 %
Retention of surplus	**–**	**–**	**–**	**28 605**	**–**	**3,0 %**	**–**	**–**	**–**	**-100,0 %**	**2,9 %**
Transfers received	**195 704**	**152 722**	**177 312**	**175 099**	**-3,6 %**	**80,4 %**	**169 841**	**176 619**	**182 108**	**1,3 %**	**79,2 %**
Total revenue	**227 363**	**193 105**	**213 569**	**238 852**	**-4,1 %**	**100,0 %**	**207 703**	**217 627**	**226 564**	**4,7 %**	**100,0 %**
Expenses											
Current expenses	**256 748**	**251 820**	**254 325**	**194 654**	**-8,8 %**	**100,0 %**	**207 153**	**217 627**	**226 564**	**-1,7 %**	**95,3 %**
Compensation of employees	127 404	116 136	105 555	105 477	-6,1 %	45,4 %	121 171	126 780	132 486	7,9 %	54,8 %
Goods and services	79 086	78 791	84 523	89 177	4,1 %	33,2 %	85 982	90 847	94 078	1,8 %	40,5 %
Depreciation	50 258	56 893	64 247	–	-100,0 %	16,9 %	–	–	–	–	–
Capital expenditure	**–**	**–**	**–**	**44 198**	**–**	**4,6 %**	**550**	**–**	**–**	**-100,0 %**	**4,7 %**
Total expenses	**256 748**	**251 820**	**254 325**	**238 852**	**-2,4 %**	**100,0 %**	**207 703**	**217 627**	**226 564**	**-1,7 %**	**100,0 %**
Surplus/(Deficit)	**(29 385)**	**(58 715)**	**(40 756)**	**–**	**-100 %**		**–**	**–**	**–**	**–**	

C3.3 Outcomes, outputs, performance indicators and targets

C3.3.1 Programme Performance Indicators 2026/27 to 2028/29

Outcome	Output	KPI #	Outcome Indicator		Actual Performance			Estimated Performance	Medium-term Targets		
					2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29
Administration Programme											
Enable inclusive economic growth through industrialisation, localisation and export competitiveness through trusted measurement infrastructure.	Strengthen the competitiveness and regulatory compliance of enterprises located within SEZs, industrial parks and priority districts through targeted NMISA measurement and training services.	5	Number of companies within industrial zones in priority districts given access to NMISA technical measurement services.		New KPI	New KPI	0 companies within industrial zones in priority districts given access to NMISA technical measurement services	5 companies within industrial zones in priority districts given access to NMISA technical measurement services	9 companies within industrial zones in priority districts given access to NMISA technical measurement services	11 companies within industrial zones in priority districts given access to NMISA technical measurement services	15 companies within industrial zones in priority districts given access to NMISA technical measurement services
Develop human capital skills development pipeline through partnerships to enable transformation and economic development.	Placement of qualified but unemployed graduates in the NMISA Human Capital Development (HCD) programme in collaboration with sector partners such as SETAs, universities, and industry.	16	Number of qualified unemployed graduates placed in the NMISA HCD programme annually.		31 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	34 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	5 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	7 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	13 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	15 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	18 new qualified unemployed graduates placed in the NMISA Human Capital Development programme
	Deliver structured HCD programmes that produce job-ready graduates equipped with industry-relevant scientific and technical competencies.	17	Number of job-ready graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement.		New KPI	New KPI	New KPI	New KPI	4 graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement	5 graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement	5 graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement
	Strengthen the retention and development of critical scientific and technical skills to sustain institutional capability and support a transformed measurement workforce.	18	Annual voluntary staff turnover rate maintained at 6 % or lower.		New KPI	New KPI	16,0 % (Revised KPI)	≤ 7 % (Revised KPI)	≤ 6 % annual voluntary staff turnover rate maintained	≤ 6 % annual voluntary staff turnover rate maintained	≤ 6 % annual voluntary staff turnover rate maintained
	Strengthen disability inclusion within NMISA's workforce.	19	Percentage of workforce represented by persons with disabilities.		New KPI	New KPI	New KPI	2 % workforce represented by persons with disabilities	5 % workforce represented by persons with disabilities	5 % workforce represented by persons with disabilities	5 % workforce represented by persons with disabilities
	Strengthen the postgraduate research and innovation pipeline through strategic partnerships that advance technical capability, transformation and economic development.	20	Number of innovative postgraduate research initiatives supported through NMISA-led collaborative partnerships annually.		New KPI	New KPI	New KPI	New KPI	1 innovative postgraduate research initiative supported	2 innovative postgraduate research initiatives supported	2 innovative postgraduate research initiatives supported
		21	Number of fellowships in metrology contracted		New KPI	New KPI	New KPI	New KPI	1 fellowship in metrology contracted	0 fellowships in metrology contracted	1 fellowship in metrology contracted
	Contribution to national transformation and inclusive industrial development objectives through measurable improvement in B-BBEE performance.	22	Achieve the target B-BBEE Status Level		-	-	-	New KPI	3	2	1

Outcome	Output	KPI #	Outcome Indicator		Actual Performance 2022/23	Actual Performance 2023/24	Actual Performance 2024/25	Estimated Performance 2025/26	Medium-term Targets 2026/27	Medium-term Targets 2027/28	Medium-term Targets 2028/29
Metrology Programme (realisation, maintenance and dissemination of the National Measurement Standards)											
Enable inclusive economic growth through industrialisation, localisation and export competitiveness through trusted measurement infrastructure.	Sustain and modernise nationally relevant measurement capabilities aligned to priority industrial sectors to ensure international recognition, support localisation, enable export competitiveness and strengthen regulatory confidence.	1	Number of foundational National Measurement Standards (NMS) maintained at international equivalence annually.		6 SI units realised	6 SI units realised	6	SI Base units: 5 realised and 1 maintained	5 NMS maintained	5 NMS maintained	5 NMS maintained
	Demonstrate and expand internationally equivalent national measurement capabilities that provide investor assurance, enable compliant local manufacturing, and strengthen export readiness across priority value chains.	2	Percentage of nationally relevant measurement services covered by internationally recognised Calibration and Measurement Capabilities (CMC).		91 % measurement services covered by internationally recognised CMC	90,5 % measurement services covered by internationally recognised CMC	91,0 % measurement services covered by internationally recognised CMC	91 % measurement services covered by internationally recognised CMC	91 % measurement services covered by internationally recognised CMC	95 % measurement services covered by internationally recognised CMC	95 % measurement services covered by internationally recognised CMC
	Develop and enhance nationally relevant measurement standards, reference materials and reference methods that strengthen priority industrial value chains and reduce technical barriers to trade.	3	Number of enhanced National Measurement Standards (NMS) developed in support of priority industrial sectors.		23 enhanced NMS developed	15 enhanced NMS developed	4 enhanced NMS developed	2 enhanced NMS developed	2 enhanced NMS developed	3 enhanced NMS developed	5 enhanced NMS developed
	Sustain internationally benchmarked NMS that demonstrate technical equivalence with leading National Metrology Institutes and strengthen confidence in South Africa's measurement system.	4	Number of scheduled international measurement comparisons completed with satisfactory performance, confirming equivalence of South Africa's NMS.		23 (KPI Revised)	22 (KPI Revised)	26 (KPI Revised)	New KPI	5 international measurement comparisons completed with satisfactory performance	7 international measurement comparisons completed with satisfactory performance	11 international measurement comparisons completed with satisfactory performance
Enhance stakeholder engagement to drive innovation, diversification, and sector growth through metrology.	Develop and deploy advanced internationally benchmarked measurement capabilities that enable green industrialisation, climate compliance, energy efficiency and strategic sector innovation, including support to the Just Energy Transition.	6	Number of enhanced measurement capabilities developed to support green industrial sector.		New KPI	New KPI	New KPI	1 enhanced measurement capabilities developed to support green industrial sector	1 enhanced measurement capabilities developed to support green industrial sector	1 enhanced measurement capabilities developed to support green industrial sector	3 enhanced measurement capabilities developed to support green industrial sector
	Strengthen regional trade integration and industrial cooperation under AfCFTA through provision of NMISA metrology services, products and technical collaboration that support harmonisation of measurement systems across Africa.	7	Number of African countries contracting NMISA's metrology offerings annually.		New KPI	New KPI	13 African countries contracting NMISA's metrology offerings	15 African countries contracting NMISA's metrology offerings	15 African countries contracting NMISA's metrology offerings	17 African countries contracting NMISA's metrology offerings	17 African countries contracting NMISA's metrology offerings
		8	Number of regional measurement comparisons coordinated with African metrology institutes.		New KPI	New KPI	9 regional measurement comparisons coordinated with African metrology institutes	4 regional measurement comparisons coordinated with African metrology institutes	5 regional measurement comparisons coordinated with African metrology institutes	5 regional measurement comparisons coordinated with African metrology institutes	7 regional measurement comparisons coordinated with African metrology institutes
	Establish and sustain strategic collaboration agreements in priority sectors that generate recurring value and contribute to long-term institutional and economic sustainability.	9	Percentage of collaboration agreements in priority sectors demonstrating measurable recurring results annually		New KPI	New KPI	80,0 % collaboration agreements in priority sectors demonstrating measurable recurring results	≥ 70 % collaboration agreements in priority sectors demonstrating measurable recurring results	≥ 70 % collaboration agreements in priority sectors demonstrating measurable recurring results	≥ 75 % collaboration agreements in priority sectors demonstrating measurable recurring results	≥ 80 % collaboration agreements in priority sectors demonstrating measurable recurring results

Outcome	Output	KPI #	Outcome Indicator		Actual Performance 2022/23	Actual Performance 2023/24	Actual Performance 2024/25	Estimated Performance 2025/26	Medium-term Targets 2026/27	Medium-term Targets 2027/28	Medium-term Targets 2028/29
Metrology Programme (realisation, maintenance and dissemination of the National Measurement Standards)											
Strengthen regulatory effectiveness, reduce cost of doing business drivers and improve ease of doing business through responsive metrology services.	Deliver responsive, reliable and industry aligned metrology services that strengthen regulatory compliance, reduce administrative burden and improve business operating efficiency.	10	Percentage of clients reporting satisfaction with the responsiveness of NMISA metrology services.		KPI revised	KPI revised	88,0 % (4,4 on a 5-point scale)	80 % clients reporting satisfaction with the responsiveness of NMISA metrology services	≥ 80 % clients reporting satisfaction with the responsiveness of NMISA metrology services	≥ 80 % clients reporting satisfaction with the responsiveness of NMISA metrology services	≥ 80 % clients reporting satisfaction with the responsiveness of NMISA metrology services
	Provide targeted metrology and technical support services to MSMEs to strengthen regulatory compliance, improve product quality and accelerate market access.	11	Number of MSMEs receiving NMISA measurement support services to enhance market readiness.		New KPI	New KPI	32 MSMEs receiving NMISA measurement support services	44 MSMEs receiving NMISA measurement support services	50 MSMEs receiving NMISA measurement support services	55 MSMEs receiving NMISA measurement support services	60 MSMEs receiving NMISA measurement support services
	Strengthen African regional metrology capacity to improve regulatory effectiveness, trade facilitation and ease of doing business across the continent.	12	Number of African institutions that implemented improved metrology procedures within 24 months following NMISA training.		New KPI	New KPI	New KPI	New KPI	3 African institutions that implemented improved metrology procedures within 24 months following NMISA training	4 African institutions that implemented improved metrology procedures within 24 months following NMISA training	5 African institutions that implemented improved metrology procedures within 24 months following NMISA training
	Process optimised and industry responsive metrology services that reduce red tape and improve regulatory responsiveness.	13	Percentage reduction in turnaround times in the selected public-facing services.		New KPI	New KPI	New KPI	New KPI	30 % reduction in turnaround times in the selected public-facing services	30 % reduction in turnaround times in the selected public-facing services	30 % per annum reduction in turnaround times in the selected public-facing services
Build a financially sustainable, digitally enabled and future-ready national measurement institute.	Implement digitally enabled, efficient and customer-centred business processes that improve operational efficiency and reduce administrative burden.	14	Number of operational business processes digitalised.		New KPI	New KPI	2 operational business process digitalised	1 operational business process digitalised	1 operational business process digitalised	1 operational business process digitalised	2 operational business process digitalised
	Strengthen revenue diversification, financial resilience and digital service delivery to ensure long-term institutional sustainability and reduced reliance on baseline funding.	15	Percentage of approved annual sales revenue budget achieved.		R14 203 999 (KPI revised)	R18 706 997 (KPI revised)	R26 984 826, which represents an annual real revenue growth rate of 9,5 % (adjusted for inflation) (KPI revised)	R27 148 000 (KPI revised)	85 % approved annual sales revenue budget achieved	85 % approved annual sales revenue budget achieved	90 % approved annual sales revenue budget achieved

C3.3.2 Quarterly Targets 2026/27

Output	KPI #	Outcome Indicator		Annual Target 2025/26 (Baseline)	Annual Target 2026/27	1st Quarter Milestone	2nd Quarter Milestone	3rd Quarter Milestone	4th Quarter Milestone
Administration Programme									
Strengthen the competitiveness and regulatory compliance of enterprises located within SEZs, industrial parks and priority districts through targeted NMISA measurement and training services.	5	Number of companies within industrial zones in priority districts given access to NMISA technical measurement services.		5 companies within industrial zones in priority districts given access to NMISA technical measurement services	9 companies within industrial zones in priority districts given access to NMISA technical measurement services	-	-	-	9
Placement of qualified but unemployed graduates in the NMISA Human Capital Development (HCD) programme in collaboration with sector partners such as SETAs, universities, and industry.	16	Number of new qualified unemployed graduates placed in the NMISA HCD programme annually.		7 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	13 new qualified unemployed graduates placed in the NMISA Human Capital Development programme	2	3	4	4
Deliver structured HCD programmes that produce job-ready graduates equipped with industry-relevant scientific and technical competencies.	17	Number of job-ready graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement.		New KPI	4 graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement	-	-	-	4
Strengthen the retention and development of critical scientific and technical skills to sustain institutional capability and support a transformed measurement workforce.	18	Annual voluntary staff turnover rate maintained at 6 % or lower.		7 % (Revised KPI)	≤ 6 % annual voluntary staff turnover rate maintained	-	-	-	≤ 6 %
Strengthen disability inclusion within NMISA's workforce.	19	Percentage of workforce represented by persons with disabilities.		2 % workforce represented by persons with disabilities	5 % workforce represented by persons with disabilities	-	-	-	5 %
Strengthen the postgraduate research and innovation pipeline through strategic partnerships that advance technical capability, transformation and economic development.	20	Number of innovative postgraduate research initiatives supported through NMISA-led collaborative partnerships annually.		New KPI	1 innovative postgraduate research initiative supported	-	-	-	1
	21	Number of fellowships in metrology contracted.		New KPI	1 fellowship in metrology contracted	-	-	-	1
Contribution to national transformation and inclusive industrial development objectives through measurable improvement in B-BBEE performance.	22	Achieve the target B-BBEE Status Level		New KPI	3	-	-	-	3

Output	KPI #	Outcome Indicator		Annual Target 2025/26 (Baseline)	Annual Target 2026/27	1st Quarter Milestone	2nd Quarter Milestone	3rd Quarter Milestone	4th Quarter Milestone
Metrology Programme (realisation, maintenance and dissemination of the National Measurement Standards)									
Sustain and modernise nationally relevant measurement capabilities aligned to priority industrial sectors to ensure international recognition, support localisation, enable export competitiveness and strengthen regulatory confidence.	1	Number of foundational National Measurement Standards (NMS) maintained at international equivalence annually.		5 NMS maintained	5 NMS maintained	-	-	-	5
Demonstrate and expand internationally equivalent national measurement capabilities that provide investor assurance, enable compliant local manufacturing, and strengthen export readiness across priority value chains.	2	Percentage of nationally relevant measurement services covered by internationally recognised Calibration and Measurement Capabilities (CMC).		91 % measurement services covered by internationally recognised CMC	91 % measurement services covered by internationally recognised CMC	-	-	-	91 %
Develop and enhance nationally relevant measurement standards, reference materials and reference methods that strengthen priority industrial value chains and reduce technical barriers to trade.	3	Number of enhanced National Measurement Standards (NMS) developed in support of priority industrial sectors.		2 enhanced NMS developed	2 enhanced NMS developed	-	-	-	2
Sustain internationally benchmarked NMS that demonstrate technical equivalence with leading National Metrology Institutes and strengthen confidence in South Africa's measurement system.	4	Number of scheduled international measurement comparisons completed with satisfactory performance, confirming equivalence of South Africa's NMS.		New KPI	5 international measurement comparisons completed with satisfactory performance	-	-	-	5
Develop and deploy advanced internationally benchmarked measurement capabilities that enable green industrialisation, climate compliance, energy efficiency and strategic sector innovation, including support to the Just Energy Transition.	6	Number of enhanced measurement capabilities developed to support green industrial sector		1 enhanced measurement capabilities developed to support green industrial sector	1 enhanced measurement capabilities developed to support green industrial sector	-	-	-	1
Strengthen regional trade integration and industrial cooperation under AfCFTA through provision of NMISA metrology services, products and technical collaboration that support harmonisation of measurement systems across Africa.	7	Number of African countries contracting NMISA's metrology offerings annually.		15 African countries contracting NMISA's metrology offerings	15 African countries contracting NMISA's metrology offerings	3	4	4	4
	8	Number of regional measurement comparisons coordinated with African metrology institutes.		4 regional measurement comparisons coordinated with African metrology institutes	5 regional measurement comparisons coordinated with African metrology institutes	-	2	-	3
Establish and sustain strategic collaboration agreements in priority sectors that generate recurring value and contribute to long-term institutional and economic sustainability.	9	Percentage of collaboration agreements in priority sectors demonstrating measurable recurring results annually		≥ 70 % collaboration agreements in priority sectors demonstrating measurable recurring results	≥ 70 % collaboration agreements in priority sectors demonstrating measurable recurring results	-	-	-	≥ 70 %
Deliver responsive, reliable and industry aligned metrology services that strengthen regulatory compliance, reduce administrative burden and improve business operating efficiency.	10	Percentage of clients reporting satisfaction with the responsiveness of NMISA metrology services.		80 % clients reporting satisfaction with the responsiveness of NMISA metrology services	≥ 80 % clients reporting satisfaction with the responsiveness of NMISA metrology services	≥ 80 %	≥ 80 %	≥ 80 %	≥ 80 %
Provide targeted metrology and technical support services to MSMEs to strengthen regulatory compliance, improve product quality and accelerate market access.	11	Number of MSMEs receiving NMISA measurement support services to enhance market readiness.		44 MSMEs receiving NMISA measurement support services	50 MSMEs receiving NMISA measurement support services	5	10	15	20

Output	KPI #	Outcome Indicator		Annual Target 2025/26 (Baseline)	Annual Target 2026/27	1st Quarter Milestone	2nd Quarter Milestone	3rd Quarter Milestone	4th Quarter Milestone
Strengthen African regional metrology capacity to improve regulatory effectiveness, trade facilitation and ease of doing business across the continent.	12	Number of African institutions that implemented improved metrology procedures within 24 months following NMISA training.		New KPI	3 African institutions that implemented improved metrology procedures within 24 months following NMISA training	-	1	1	1
Process optimised and industry responsive metrology services that reduce red tape and improve regulatory responsiveness.	13	Percentage reduction in turnaround times in the selected public-facing service.		New KPI	30 % reduction in turnaround times in the selected public-facing services	-	-	-	30 %
Implement digitally enabled, efficient and customer-centred business processes that improve operational efficiency and reduce administrative burden.	14	Number of operational business processes digitalised.		1 operational business process digitalised	1 operational business process digitalised	-	-	-	1
Strengthen revenue diversification, financial resilience and digital service delivery to ensure long-term institutional sustainability and reduced reliance on baseline funding.	15	Percentage of approved annual sales revenue budget achieved.		R27 148 000 (Revised KPI)	90 % approved annual sales revenue budget achieved	15 %	35 %	55 %	90 %

C4 Updated Key Risks

Updated key risks are aligned with the Strategic Objectives linked to associated Outcomes under section B1 on page 15 of this report.

Strategic Objectives	Key Risks	Key Risk Mitigations
Improve financial stability and ensure sustainable growth.	Financial Sustainability and Funding Constraints	Diversify funding sources; Advocate for increased **dtic** baseline; Implement cost containment and prioritisation.
	Reputational and Governance Integrity Risk	Ensure compliance with the conditions and obligations set out in the NMISA Shareholder's Compact.
	Compliance Risks	Maintain a formal legislative and regulatory tracking process, with impact assessments and controlled updates to NMISA policies, procedures, and processes where required.
	Fraud and Corruption	Maintain and uphold the Code of Conduct, promoting adherence and supported by consistent consequence management for breaches.
Develop and retain a capable workforce that is able to utilise world-class infrastructure to deliver specialised and innovative measurement solutions.	Human Capital and Resourcing Constraints	Workforce optimisation (prioritise critical posts); Employer-of-choice initiatives; Improve BBBEE staff development score; Strengthen wellness programmes; Resource project/IP/ knowledge management functions
	Organisational Culture and Employee Wellbeing Risk	Strengthen HR capacity; Enhance wellness and support programmes.
Maintain fast and efficient service delivery to clients.	Aging Infrastructure and Service Continuity Risk	Secure capital investment for upgrades; phased replacement of end-of-life assets; strengthen maintenance programmes; modernise IT and facility systems.
	Business Continuity and Cybersecurity Risk	Invest in cybersecurity systems; Build resilience protocols; Secure funding for IT upgrades; Ensure data protection and compliance with the POPI Act.
Effectively engage and collaborate with stakeholders to develop and strengthen mutually beneficial relationships in fulfilment of NMISA's mandate.	Strategic Research Underinvestment	Prioritise high-impact research and development; Secure external funding for contract research; Expand partnerships with universities, science councils, NRF, Department of Science, Technology and Innovation, and other academic institutes; Strengthen IP and knowledge management.
	Strategic Positioning and Influence Risk	Outreach programme to schools, industry, government, metrology/quality infrastructure bodies, academia; Strengthen communication strategy; Build continental partnerships.
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.	International Equivalence Gaps	Prioritise key equivalence areas; Maintain SANAS accreditation (or self-declare where appropriate); Invest in ILC and PTS participation.
	Digital Transition Risk	Advance digital and AI-enabled capabilities; Strengthen internal digital skills and capacity; Align with international digital metrology initiatives.

C5 Fraud Prevention Plan

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

NMISA's fraud prevention objectives are as follows:

- **Prevention:** Ensuring that fraud risks are prevented and/or avoided.
- **Detection:** Ensuring that incidents of fraud are discovered when they occur, and that 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 the following activities:

- Identifying fraud risks, reviewing NMISA's operations, and updating the Fraud Prevention Policy every two years or earlier when necessary.
- Providing fraud awareness training to all staff.
- Communicating the procedures for reporting suspected fraud.
- Assigning responsibility for immediate response to incidents.
- Investigating alleged or suspected fraud and corruption using qualified personnel with appropriate investigative expertise.
- Taking appropriate action to address confirmed, suspected, or alleged fraud and corruption, including prosecuting individuals and/or organisations where and when appropriate.
- Ensuring the protection of whistle-blowers.
- Pursuing all avenues to recover funds or property lost through fraudulent activity.
- Ensuring prompt and accurate communication with the media regarding reported and/or alleged cases.
- Preserving evidence and reporting matters to the appropriate authorities.

C6 Materiality and Significance Framework

C6.1 Introduction

In accordance with 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".

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

C6.2 Assessment and determination of materiality

The materiality of transactions will be assessed from both quantitative and qualitative perspectives. Therefore, both the amount (quantity) and nature (quality) of information must be considered when determining whether the event or matter is material or not.

C6.2.1 Quantitative materiality

Basis	Guideline	% used	Rand value per 2024/25 annual report	Materiality amount
Total revenue	0,5 % – 1 %	0,5 %	R213 569 319	R1 067 847
Total assets	1 % – 2 %	1 %	R585 918 310	R5 859 183

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

C6.2.2 Qualitative materiality

Qualitative characteristics 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.

C6.3 Assessment and determination of significance

Quantitative and qualitative factors

Although significance may include 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

When 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 operational transactions, 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 any operational transaction of R8 000 000 or more, the organisation must submit the relevant particulars to the Accounting Authority for approval.

  The organisation must also submit a procurement plan for all procurement of R1 000 000 or more to the Accounting Authority for approval.

- ***Transactions that are strategic in nature, i.e. outside normal operations, non-routine, or those that could affect the business or financial position of the entity as a whole.***

  For strategic transactions, a lower significance level is set due to their potential strategic impact.

  Therefore, any transaction, that in the Accounting Authority's opinion, could 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 of this 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.

C6.4 Framework of acceptable levels of materiality and significance

Materiality and significance levels are influenced by legal and regulatory requirements.

NMISA Materiality and Significance Framework, as required by the PFMA and accompanying Treasury Regulations, is detailed in the table that follows.

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 statements 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 under 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.

C7 Infrastructure Projects

The NMS and other standards are continually reviewed to ensure they meet the needs of the South African industry. Stakeholder engagement is conducted in line with the Stakeholder Engagement Plan, which is aligned with the key market sectors served by NMISA, and 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 investment building infrastructure throughout history, NMISA became a tenant of the premises in 2007. The aging laboratory infrastructure continues to hamper NMISA's ability to meet the demands of modern measurement technologies both in developing new NMS and maintaining and/or improving existing NMS to industry-required levels.

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

- Procurement of equipment to modernise NMISA, ensuring it keeps 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 technologies acquired. NMISA is reliant on its human capital, and this will become even more pronounced with modernisation.

Addressing these priorities enables NMISA to continue providing traceability to the SI system in South Africa, facilitating trade and reducing barriers to trade, especially with the implementation of the AfCFTA.

Infrastructure upgrades will be executed in accordance with approved financial plans and budgetary provisions.

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

C8 Public-Private Partnerships

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

Part D

Technical Indicator Descriptions

D1 Indicator Profiles

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

Performance indicators

Number	Indicator Description	Outcomes
1	Number of foundational National Measurement Standards (NMS) maintained at international equivalence annually.	Enable inclusive economic growth through industrialisation, localisation and export competitiveness through trusted measurement infrastructure.
2	Percentage of nationally relevant measurement services covered by internationally recognised Calibration and Measurement Capabilities (CMC).	
3	Number of enhanced National Measurement Standards (NMS) developed in support of priority industrial sectors.	
4	Number of scheduled international measurement comparisons completed with satisfactory performance, confirming equivalence of South Africa's National Measurement Standards.	
5	Number of companies within industrial zones in priority districts given access to NMISA technical measurement services.	
6	Number of enhanced measurement capabilities developed to support green industrial sector	Enhance stakeholder engagement to drive innovation, diversification, and sector growth through metrology.
7	Number of African countries contracting NMISA's metrology offerings annually.	
8	Number of regional measurement comparisons coordinated with African metrology institutes.	
9	Percentage of collaboration agreements in priority sectors demonstrating measurable recurring results annually	
10	Percentage of clients reporting satisfaction with the responsiveness of NMISA metrology services.	Strengthen regulatory effectiveness, reduce cost of doing business drivers and improve ease of doing business through responsive metrology services.
11	Number of MSMEs receiving NMISA measurement support services to enhance market readiness.	
12	Number of African institutions that implemented improved metrology procedures within 24 months following NMISA training.	
13	Percentage reduction in turnaround times in the selected public-facing service.	
14	Number of operational business processes digitalised.	Build a financially sustainable, digitally enabled and future-ready national measurement institute.
15	Percentage of approved annual sales revenue budget achieved.	
16	Number of new qualified unemployed graduates placed in the NMISA Human Capital Development programme annually.	Develop human capital skills development pipeline through partnerships to enable transformation and economic development.
17	Number of job-ready graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement.	
18	Annual voluntary staff turnover rate maintained at 6 % or lower.	
19	Percentage of workforce represented by persons with disabilities	
20	Number of innovative postgraduate research initiatives supported through NMISA-led collaborative partnerships annually.	
21	Number of fellowships in metrology contracted.	
22	Achieve the target B-BBEE Status Level	

D1.1 NMISA Technical Indicator Descriptions

Indicators are defined in accordance with the *Revised Framework for Strategic Plans and Annual Performance Plans*, published by the Department of Planning Monitoring and Evaluation.

KPI 1: Number of foundational National Measurement Standards (NMS) maintained at international equivalence annually.	
Indicator title	**Number of foundational National Measurement Standards (NMS) maintained at international equivalence annually.**
Definition	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 National Measurement Standards and ensure that these are internationally equivalent and accepted. The SI base (foundational) units realised by NMISA includes that for Mass (kilogram), Time (second), Length (metre), Temperature (Kelvin), and Current (Ampere). Traceability for Luminous Intensity is imported, with the scale maintained between calibration intervals. New primary realisation methods will be phased in as these are developed. The kilogram is currently realised by NMISA through internationally recognised secondary realisation based on BIPM-calibrated national standards, pending implementation of a primary realisation via a Kibble Balance.
Source/collection of data	Gazetted NMS; calibration certificates from other NMIs. New development and/or realisations of SI units performed annually. Maintenance of SI units reported annually, with quarterly progress updates.
Method of calculation	Simple count
Means of verification	Gazetted NMS, supporting plans and reports
Assumption	Equivalence to international standards, implementation of the Revised International System of Units (SI) as captured in the gazetted NMS.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	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).
Indicator responsibility	Physical and Electrical Metrology Division

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

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

KPI 4: Number of scheduled international measurement comparisons completed with satisfactory performance, confirming equivalence of South Africa's National Measurement Standards.	
Indicator title	**Number of scheduled international measurement comparisons completed with satisfactory performance, confirming equivalence of South Africa's National Measurement Standards.**
Definition	Interlaboratory comparisons (ILCs) or Proficiency Testing Schemes (PTS) initiated, administered, or participated in by NMISA to successfully demonstrate international equivalence of its National Measurement Standards (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.
Source/collection of data	Project plans, progress reports and/or final reports (draft A, B and final report). Successful participation is confirmed in the final reports.
Method of calculation	Simple count of ILCs, PTS and dosimetry audits concluded during the period.
Means of verification	Submission of project plans, progress reports, hospital audit results and/or draft A, B and final reports.
Assumption	Accuracy and confidence in measurement results for South Africa and the region.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative (year-end)
Reporting cycle	Quarterly
Desired performance	International equivalence of the NMISA NMS successfully demonstrated. Regional measurement system linked to the international measurement system. The measurement capabilities of local and/or regional commercial laboratories validated. Harmonisation of national, regional and International Measurement Standards and capabilities facilitates trade.
Indicator responsibility	Technical Divisions

KPI 5: Number of companies within industrial zones in priority districts given access to NMISA technical measurement services.	
Indicator title	**Number of companies within industrial zones in priority districts given access to NMISA technical measurement services.**
Definition	Number of new SOEs or companies, all located within SEZs, industrial parks, or in priority districts (outside main metropolitan areas) supported annually through NMISA outreach, training, or measurement services. “Technical measurement services” refers to at least one substantive NMISA intervention, including delivery of measurement services, formal training, or structured outreach activities targeted at SOEs or companies located within SEZs, industrial parks, or non-metropolitan areas. Outreach activities may be delivered in person or online and are planned engagements. “New” refers to SOEs or companies that have not received NMISA services in the preceding three financial years. “Priority districts” refer to areas outside the main metropolitan areas, which are defined as: • City of Cape Town Metropolitan (Western Cape) • City of Johannesburg Metropolitan (Gauteng) • City of Ekurhuleni Metropolitan (Gauteng) • City of Tshwane Metropolitan (Gauteng) • City of eThekwini Metropolitan (KwaZulu-Natal).
Source/collection of data	Official (signed in case of physical meetings) attendance list of participants attending the meetings or signed register of interest at event booths. Sales revenue data from the financial system and/or laboratory records of client services and/or Training Centre records of participants in training courses.
Method of calculation	Simple count
Means of verification	Attendance registers (including electronic attendance list in case of online meetings) or event registers at booths. Sales revenue records, attendance registers for training courses.
Assumption	Creating awareness of metrology and accurate measurements amongst SEZs, industrial parks and areas outside the main metropolitan areas will lead to increased take-up of NMISA products and services and will promote economic growth and exports in those areas.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative (year-end)
Reporting cycle	Annually
Desired performance	Increased number of new SOEs and companies within SEZs, industrial parks, and priority districts.
Indicator responsibility	Strategy, Business Development and Governance (SBG) Division, Technical Divisions

KPI 6: Number of enhanced measurement capabilities developed to support green industrial sector.	
Indicator title	**Number of enhanced measurement capabilities developed to support green industrial sector.**
Definition	The number of new and improved NMS, reference methods and reference materials developed for application in green industrialisation, climate related trade measures and energy efficiency value chains.
Source/collection of data	New NMS, improved NMS and/or procedure/method validation report; reference materials, measurements register and validation report/procedure. Links and applicability to green industrialisation, climate related trade measures and energy efficiency value changes stated in project or other reports.
Method of calculation	Simple count
Means of verification	Verification/validation report, procedures, NMI report, measurement register.
Assumption	Implementation of the revised SI including NMISA adhering to legislative requirements.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	Green energy initiatives enabled by fit-for-purpose measurement standards
Indicator responsibility	Technical Divisions

KPI 7: Number of African countries contracting NMISA’s metrology offerings annually.	
Indicator title	**Number of African countries contracting NMISA’s metrology offerings annually.**
Definition	Number of African countries contracting NMISA’s metrology services and products annually.
Source/collection of data	Sales revenue data from the financial system and/or laboratory records of client services and/or Training Centre records of participants in training courses.
Method of calculation	Simple count
Means of verification	Sales revenue records, service contracts, collaboration agreements and/or attendance registers for training courses
Assumption	A representative from an African country who receives training from NMISA, as well as services delivered to any African company or organisation, contributes to the count of African countries that contract NMISA for products and/or services.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative (year-end)
Reporting cycle	Annually
Desired performance	NMISA to be contributing to harmonisation of metrology systems for enhanced trade facilitation and industrial cooperation across the continent through measurement services linked to the international measurement system.
Indicator responsibility	SBG Division, Technical Divisions, Training Centre

KPI 8: Number of regional measurement comparisons coordinated with African metrology institutes.	
Indicator title	**Number of regional measurement comparisons coordinated with African metrology institutes.**
Definition	Interlaboratory comparisons (ILCs) or Proficiency Testing Schemes (PTS) initiated, administered, or participated in by NMISA under AFRIMETS, to demonstrate international equivalence of its National Measurement Standards and/or to assist African NMIs to link their standards to the international measurement system, and/or to enable regional laboratories to establish confidence in the accuracy of their measurement capabilities and/or dosimetry audits provided to hospitals and other healthcare facilities. The ILCs, PTS and dosimetry (and comprehensive) audits may run over several financial years.
Source/collection of data	Project plans, progress reports and/or final reports (draft A, B and final report). Successful participation is confirmed in the final reports.
Method of calculation	Simple count of ILCs, PTS and dosimetry audits concluded under AFRIMETS during the period.
Means of verification	Submission of project plans, progress reports, hospital audit results and/or draft A, B and final reports.
Assumption	Accuracy and confidence in measurement results produced on the African continent.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative (year-end)
Reporting cycle	Quarterly
Desired performance	International equivalence of the NMISA NMS successfully demonstrated. Regional measurement system linked to the international measurement system. The measurement capabilities of regional commercial laboratories validated. Harmonisation of national, regional and International Measurement Standards and capabilities facilitates trade.
Indicator responsibility	Technical Divisions

KPI 9: Percentage of collaboration agreements in priority sectors demonstrating measurable recurring results annually.	
Indicator title	**Percentage of collaboration agreements in priority sectors demonstrating measurable recurring results annually.**
Definition	The percentage of collaboration agreements in NMISA's identified priority sectors that demonstrate measurable recurring financial, technical or knowledge-transfer results within the reporting year, measured against the total number of active collaboration agreements in those sectors. Measurable recurring results is defined as: • Recurring revenue generated • Documented technical outputs (e.g., reports, standards development, research milestones, technical assistance delivered) • Formal knowledge-transfer activities (e.g., training sessions, advisory services, consultancy engagements, capacity-building interventions). Priority sectors refer to economic, industrial, regulatory, environmental or public-interest sectors identified by NMISA and relevant national policy frameworks as strategically important for industrialisation, localisation, export competitiveness, regulatory effectiveness, environmental protection, quality of life, transformation or broader economic development.
Source/collection of data	Signed collaboration agreements, performance or progress reports, documented evidence of financial, technical or knowledge-transfer deliverables, and invoiced services recorded against contractual commitments.
Method of calculation	Number of qualifying collaboration agreements divided by the total number of active collaboration agreements in priority sectors, multiplied by 100. (Where "qualifying" is defined in the indicator description.)
Means of verification	Signed contracts/Service level agreements/Memorandum of understandings/CMS reports on client services/financial reports/project reports/evidence of delivery.
Assumption	Strategic collaborations in identified priority sectors will deliver sustained and measurable financial, technical or knowledge-transfer results over time, reflecting continued relevance and partnership value.
Disaggregation	Not applicable
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	NMISA is recognised as a trusted strategic partner in priority sectors, delivering sustained financial, technical and knowledge-transfer value through impactful collaborations.
Indicator responsibility	SBG Division in collaboration with Technical and Support Divisions.

KPI 10: Percentage of clients reporting satisfaction with the responsiveness of NMISA metrology services.	
Indicator title	**Percentage of clients reporting satisfaction with the responsiveness of NMISA metrology services.**
Definition	Average client 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 be responsive to their needs. "Metrology services" means the full suite of measurement-related products, technical services, calibration and testing services, reference materials, proficiency testing schemes, and training programmes offered by NMISA to external clients on a commercial basis.
Source/collection of data	Report on the review of Client Satisfaction Surveys received.
Method of calculation	(Average client satisfaction rating/5) x 100
Means of verification	Completed client satisfaction surveys
Assumption	Clients accurately reflect their satisfaction. All clients were offered an opportunity to complete the survey after the service.
Disaggregation	None
Spatial transformation	None
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	Exceed client expectation. Zero customer complaints are ideal; any customer complaints received to be timeously addressed and cleared satisfactorily
Indicator responsibility	SHEQ

KPI 11: Number of MSMEs receiving NMISA measurement support services to enhance market readiness.	
Indicator title	**Number of MSMEs receiving NMISA measurement support services to enhance market readiness.**
Definition	Number of MSMEs receiving technical support, training, or measurement services from NMISA annually.
Source/collection of data	Sales revenue data from the financial system and/or laboratory records of client services and/or Training Centre records of participants in training courses
Method of calculation	Simple count
Means of verification	Sales revenue records, attendance registers for training courses
Assumption	Measurement traceability and knowledge of metrology empower MSMEs to improve their products and services
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	Increasing numbers of MSMEs benefitting from NMISA's products and services
Indicator responsibility	SBG Division, Technical Divisions, Training Centre

KPI 12: Number of African institutions that implemented improved metrology procedures within 24 months following NMISA training.	
Indicator title	**Number of African institutions that implemented improved metrology procedures within 24 months following NMISA training.**
Definition	Number of African institutions that implemented improved metrology practices or procedures within 24 months following the final day of the NMISA training interventions
Source/collection of data	Identification of African entities that received training from NMISA: sales revenue data from the financial system and/or laboratory records of client services and/or Training Centre records of participants in training courses. Implementation of improved metrology practices or procedures: written feedback with confirmation and information regarding implementation details from the African entities that received training from NMISA.
Method of calculation	Simple count
Means of verification	Sales revenue records, service contracts, collaboration agreements and/or attendance registers for training courses. Written correspondence received from African beneficiaries.
Assumption	The training courses provided by NMISA are directly applicable to the work programmes of African entities that undertake metrology related training.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative (year-end)
Reporting cycle	Annually
Desired performance	NMISA to be contributing to capacity building and harmonisation of metrology systems for enhanced trade facilitation and industrial cooperation across the continent through measurement services linked to the international measurement system.
Indicator responsibility	SBG Division, Technical Divisions, Training Centre

KPI 13: Percentage reduction in turnaround times in the selected public-facing service.	
Indicator title	**Percentage reduction in turnaround times in the selected public-facing service.**
Definition	This KPI measures the extent to which the organisation reduces the time taken to complete or deliver a chosen public-facing service within a given year. Each year, one service will be identified for improvement, which may be any public-facing service.
Source/collection of data	Internal service registers (manual logs of start and end times) and/or departmental reports on service delivery performance.
Method of calculation	The KPI is expressed as the percentage decrease in average turnaround time compared to the baseline (previous year or established benchmark).
Means of verification	Cross-check with system records and/or random sampling
Assumption	It assumes that improvements in turnaround time will be visible and valued by the public, reinforcing trust in service delivery.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Annually
Desired performance	The improvement should be noticeable to service users, reinforcing trust and demonstrating tangible progress in service delivery.
Indicator responsibility	Technical Divisions (Systems Design Group), Corporate Services (IT unit)

KPI 14: Number of operational business processes digitalised.	
Indicator title	**Number of operational business processes digitalised.**
Definition	Number of new or enhanced digital solutions implemented annually that demonstrably increase operational efficiency and/or improve client experience, as part of a continuous effort to streamline processes and reduce administrative burden (“red tape”).
Source/collection of data	Official project reports
Method of calculation	Simple count
Means of verification	Physical verification of systems and/or laboratory equipment records
Assumption	Administrative complexity can be minimised through automation, integration, or simplification enabled by digital tools.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	A more efficient, client-centred, and less bureaucratic organisation, achieved through steady annual implementation of impactful digital solutions.
Indicator responsibility	Technical Divisions (Systems Design Group), Corporate Services (IT unit)

KPI 15: Percentage of approved annual sales revenue budget achieved.	
Indicator title	**Percentage of approved annual sales revenue budget achieved.**
Definition	Sales revenue generated annually from all external income sources, excluding interest. External income includes revenue from products and services such as calibration, measurement, testing, proficiency testing schemes (PTS), reference values, certified measurement standards or mixtures, training, collaborative research and development, donor-funded projects, consultation services, and related offerings.
Source of data	A sales revenue report from the financial system provides the total revenue achieved for the given period. The approved annual revenue target is published in the financial estimates of the Annual Performance Plan for the relevant reporting period.
Method of calculation/ Assessment	Revenue is determined in line with Generally Recognised Accounting Practice. Calculation of the revenue generated during the period as a percentage of the revenue target for the year.
Means of verification	Quarterly finance reports. Approved financial estimates in the applicable Annual Performance Plan.
Assumptions	Higher external revenue correlates with improved operational efficiency, stronger client relationships, and greater organisational impact.
Disaggregation	None
Spatial transformation	None
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Achieve or surpass the annual revenue target to ensure financial sustainability and support NMISA’s long-term growth.
Indicator responsibility	Technical Divisions, Finance and SBG Divisions

KPI 16: Number of new qualified unemployed graduates placed in the NMISA Human Capital Development programme annually.	
Indicator title	**Number of new qualified unemployed graduates placed in the NMISA Human Capital Development programme annually.**
Definition	Number of new, qualified unemployed graduates placed annually in the NMISA Human Capital Development Programme (HCD). Where possible, external funding will be sourced to cover expenses. NMISA provides graduates with work experience aligned to their studies to enhance employability, build a pipeline of skilled professionals, and support organisational transformation.
Source/collection of data	Placement contracts, training/work plans, certificates
Method of calculation	Simple count (total number of new graduates placed/hosted/trained during the financial year)
Means of verification	Appointment contracts
Assumption	Placing unemployed graduates into the NMISA HCD Programme will meaningfully enhance their employability, build a pipeline of skilled professionals, and contribute to organisational transformation.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Work experience must be aligned with the graduate’s field of study to strengthen employability.
Indicator responsibility	Corporate Services (Human Resources) and Division Directors

KPI 17: Number of job-ready graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement.	
Indicator title	**Number of job-ready graduates who were funded through the NMISA Human Capital Development programme who successfully secure work placement.**
Definition	This KPI measures the effectiveness of the NMISA HCD Programme in preparing unemployed graduates for the labour market and supporting their transition into meaningful employment. It tracks the number of graduates who, after receiving funding and completing the programme, are able to secure jobs aligned with their qualifications and skills, whether externally or within NMISA. A job refers to any formal employment position secured by a graduate after completing the NMISA HCD Programme where the information is available, provided that: • Employment type: It includes both permanent and contract positions, as long as they are not trainee or internship roles. • Relevance: The position must be aligned with the graduate's field of study, skills, or competencies developed during the programme. • Employer scope: Jobs may be secured either within NMISA or with external organisations.
Source/collection of data	Employment contracts, resignation letters, exit interviews, graduate self-reporting by documentary evidence, external employer statements.
Method of calculation	Simple count (total number of graduates who secured jobs during the financial year)
Means of verification	Employment contracts, resignation letters, exit interviews, graduate self-reporting by documentary evidence, external employer statements.
Assumption	Participation in the HCD Programme directly enhances graduates' employability and leads to meaningful employment outcomes.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Graduates move from unemployment into formal employment (permanent or contract), demonstrating the programme's effectiveness in bridging the gap between education and the labour market.
Indicator responsibility	Corporate Services (Human Resources) and Division Directors

KPI 18: Annual voluntary staff turnover rate maintained at 6 % or lower.	
Indicator title	**Annual voluntary staff turnover rate maintained at 6 % or lower.**
Definition	Annual voluntary staff turnover rate maintained at 6 % or lower, ensuring the retention of highly skilled scientists, engineers, physicists, and managerial/support staff. NMISA invests in advanced technical training and practical skills development in metrology to upskill talent, facilitate knowledge transfer (across industry, commercial laboratories, regional NMIs, and internally), attract new talent, and retain existing key skills critical to fulfilling its mandate.
Source/collection of data	HR records of resignations, appointments and retirements
Method of calculation	The voluntary turn-over rate for a specific period is calculated using the following formula: $\text{Voluntary staff turnover rate (\%)} = \frac{\text{Number of voluntary separations}}{\text{Average number of employees}} \times 100$ Voluntary resignations mean: • Only employees who leave by choice (resignations, retirements (in accordance with the relevant policies and procedures)) are counted; • Involuntary exits (dismissals, retrenchments, end of fixed-term contracts) are excluded. where: • The average number of employees for the specific period is calculated by adding the number of permanent employees at the start of the period and the number of permanent employees at the end of the period and dividing by 2. • The number of separations is the total number of permanent staff members that have left the organisation voluntary during that period. • The period of interest is a quarter (3 months).
Means of verification	Signed resignation letters and retirement records
Assumption	Retaining highly skilled staff is essential for NMISA to deliver on its mandate, and that investment in training, knowledge transfer, and career development will reduce voluntary turnover to a sustainable level.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	A consistent, engaged workforce reduces disruption, recruitment costs, and the risk of losing scarce technical skills.
Indicator responsibility	Corporate Services (Human Resources) and Division Directors

KPI 19: Percentage of workforce represented by persons with disabilities.	
Indicator title	**Percentage of workforce represented by persons with disabilities.**
Definition	Percentage of the total workforce (total number of permanent and temporary employees) at NMISA who are persons with disabilities, as recognised under applicable labour legislation and organisational policies.
Source/collection of data	Employee self-declarations captured through voluntary disclosure forms (EEA1) completed by employees and disability status updates provided during recruitment or on-boarding.
Method of calculation	The KPI is calculated by dividing the number of employees with disabilities by the total workforce and multiplying by 100 to express the result as a percentage (Bursars and interns are excluded from the calculation).
Means of verification	HR employment equity records
Assumption	Employees will voluntarily disclose their disability status accurately and consistently, and that NMISA's HR systems will reliably capture and report this information in line with legislative definitions.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	NMISA's demonstrates its commitment to reducing barriers to employment, advancing diversity, and contributing to national goals of equity and social justice.
Indicator responsibility	Corporate Services (Human Resources)

KPI 20: Number of innovative postgraduate research initiatives supported through NMISA-led collaborative partnerships annually.	
Indicator title	**Number of innovative postgraduate research initiatives supported through NMISA-led collaborative partnerships annually.**
Definition	The number of postgraduate research projects and innovation initiatives supported annually through NMISA-led collaborative partnerships with academic institutions, public and private entities, and regional or international bodies, where NMISA staff members serve as project leaders or key collaborators.
Source/collection of data	Records of NMISA-led collaborative agreements, project documentation from academic institutions and partner organisations, internal NMISA project proposals and charters, and/or reports submitted by postgraduate students or innovation teams.
Method of calculation	Simple count (each project or initiative can only be counted once)
Means of verification	Signed collaborative agreements, official project documentation, postgraduate research reports, innovation initiative records, and/or NMISA's technical reports.
Assumption	It assumes that the scientific credibility and reputation of NMISA staff directly influence the establishment and success of collaborative research and innovation initiatives.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	Supported projects align with national priorities for skills development, transformation, and innovation-driven economic growth.
Indicator responsibility	Technical Divisions

KPI 21: Number of fellowships in metrology contracted.	
Indicator title	**Number of fellowships in metrology contracted.**
Definition	The number of fellowship agreements formally contracted in the field of metrology, where NMISA provides funding, mentorship, or structured training opportunities to fellows for advanced skills development and knowledge transfer.
Source/collection of data	Signed fellowship contracts, NMISA's HCD records, fellowship programme documentation, and official reports from the fellows or supervising NMISA scientists.
Method of calculation	Simple count
Means of verification	Signed fellowship contracts, official NMISA fellowship programme records, documented funding or mentorship agreements, and progress or completion reports submitted by fellows.
Assumption	There will be sustained demand for fellowship opportunities in metrology, and that NMISA has both the capacity and credibility to attract, fund, and formally contract fellows who are committed to advancing measurement science.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Annually
Desired performance	By contracting fellowships, NMISA strengthens its internal skills base while positioning itself as a recognised hub for advanced training in measurement science.
Indicator responsibility	Corporate Services (Human Resources)

KPI 22: Achieve the target B-BBEE Status Level	
Indicator title	**Achieve the target B-BBEE Status Level**
Definition	Achieve and maintain the annually specified Broad-Based Black Economic Empowerment (B-BBEE) Status Level for each year of the five year period, as determined through verification by an accredited B-BBEE verification agency, in compliance with the Broad-Based Black Economic Empowerment Act, No. 53 of 2003 (as amended) and the Codes of Good Practice. B-BBEE performance shall be measured using data from the most recent financial year-end for which audited financial information has been finalised and formally approved, including approval of the Annual Report and sign off by the relevant authority, where applicable. Where verification occurs before completion and approval of the most recently concluded financial year, approved data from the preceding financial year shall apply. Annual target B-BBEE Status Levels will be set for each year of the five year period and performance assessed against the applicable annual target for the relevant verification cycle.
Source/collection of data	Broad-Based BEE Status Certificate issued by a SANAS Accredited verification agency, and associated evaluation reports and data.
Method of calculation	Overall Broad-Based BEE status stated on the Certificate issued by the verification agency.
Means of verification	SANAS reference number of the accredited B-BBEE verification agency
Assumption	Sufficient resources, accurate data, and timely implementation of B-BBEE initiatives enable achievement of the targeted Status Level.
Disaggregation	Not applicable
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Annually (quarterly progress reports)
Desired performance	Increased participation of black-owned enterprises and strengthened inclusive economic growth.
Indicator responsibility	Human Resources and Supply Chain Management

Notes

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