



2019
2023

STRATEGIC PLAN

FOREWORD BY THE MINISTER



Mr Ebrahim Patel

Minister of Trade, Industry and Competition

The Revised Strategic Plan 2020/21, is hereby submitted in accordance with the Revised Framework on Strategic and Annual Performance Plans.

MR EBRAHIM PATEL
MINISTER OF TRADE, INDUSTRY AND COMPETITION

OVERVIEW BY THE CHAIRMAN



Ms Jabu Mogadime

NMISA was established to be the link to the International measurement system for South Africa and is increasingly playing its role for the Region. For this reason, NMISA has streamlined and realigned its goals to shorten the traceability chain for South Africa and the Region and to prepare for the Africa Continental Free Trade Area.

The Board with Management revised NMISA's strategy for the next period. The resultant theme for 2019-2024 is consolidation of metrological services within the country and shortening the traceability chain in the following ways:

- Metrology for regulatory purposes and in support of Government laboratories, for compliance, development and implementation of regulations,
- Metrology consolidation for State-Owned Entities to provide efficient shared services,
- Metrology for industry including SMEs to provide appropriate services in support of manufacturing, beneficiation and export, and
- Location of Legal Metrology under NMISA to effectively implement the Metrology Act

The Strategy aligns to the efforts by Government to provide shared services that brings about efficiency and cost effectiveness in light of our constrained fiscal environment. The consolidation of measurement/ metrology support for the enhancement of Government's regulatory efficiency is aligned to this drive in the contexts of the implementation of the National Development Plan (NDP).

The revised strategy will also allow NMISA to better provide support to the following NDP aligned sectors:

- Green industries,
- Agro processing,
- Mineral beneficiation,
- Manufacturing,
- Aerospace and defense,
- Electro-technical with a special focus on white goods and
- Health and Safety

The Board is looking forward to supporting the South African trade and industry, work together with regulators for effective implementation of regulation, see to the effective Regional Integration of South Africa, and ensure that South Africa remains competitive Internationally whilst growing the economy.



Ms Jabu Mogadime
Accounting Authority

EXECUTIVE AUTHORITY STATEMENT BY THE CEO



Mr Ndwakhulu Mukhufhi

Accounting Officer of National Metrology Institute of South Africa

South Africa has developed a quality infrastructure over a period of 70 year to support its trade, the manufacturing industry and to provide an essential component of environmental health and safety and effective law enforcement. The global and domestic situation is changing fast with new technological advances and a looming African Continental Free Trade Area (AfCFTA).

NMISA is responding accordingly with one view on the International and Regional developments and the other on the National priorities and needs and in particular the Re-imagined Industrial Strategy and Master Plans. The need for a much stronger export effort, gearing up for the digital industrial revolution (industry 4.0), beneficiation, institutional co-ordination and raising impact are specific drivers for the strategy. Additional drivers are the regulation of medical devices and subsequent need for traceability, the needs from law enforcement agencies and laboratories. The government's response to COVID-19 pandemic also requires a strong measurement infrastructure to underpin all testing conducted to support decision making taken in the fight against the spread of the SARS-COV-2 virus.

NMISA's Strategy 2019 to 2024 expands the traditional offerings of the application of measurement units and the establishment of National Measurement Standards to a comprehensive measurement offering to Government, State-Owned Enterprises and applied/ industrial metrology.

The world class measurement infrastructure is placed at the disposal of the National manufacturing community and the populace and leads the Region to International and Inter-regional acceptance of products and goods.

A handwritten signature in black ink, appearing to read 'Ndwakhulu Mukhufhi', written over a horizontal line.

Mr Ndwakhulu Mukhufhi
Accounting Officer

OFFICIAL SIGN-OFF

It is hereby certified that this Annual Performance Plan:

- Was developed by the management of the National Metrology Institute of South Africa under the guidance of the Board
- Takes into account all the relevant policies, legislation and other mandates for which the National Metrology Institute of South Africa is responsible.
- Accurately reflects the Impact, Outcomes and Outputs which the National Metrology Institute of South Africa will endeavour to achieve over the period 2020-2025.



Calvin Sehlapelo Signature:
Chief Financial Officer



Ndwakhulu Mukhufhi Signature:
Chief Financial Officer



Ms Jabu Mogadime:
Executive Authority

Approved by:

Mr Ebrahim Patel, MP
Executive Authority

Abbreviations and acronyms

AFRIMETS	Intra-Africa Metrology System
AMD	Applied Metrology Division
APP	Annual Performance Plan
BIPM	International Bureau of Weights and Measures
CAPEX	Capital Expenditure
CC	Consultative committee
CEO	Chief Executive Officer
CFTA	Continental Free Trade Area
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
DS	Dosimetry
EHS	Environment, Health and Safety
EXCO	Executive Committee
HCD	Human Capital Development
HR	Human Resources
ICT	Information and Communication Technology
IPAP	Industrial Policy Action Plan
IR	Ionising Radiation
ISO	International Standards Organisation
KCDB	Key Comparison Database
KPI	Key Performance Indicator
LED	Light Emitting Diode
MAT	Materials Characterisation Group
MRA	Mutual Recognition Arrangement
MTEF	Medium Term Expenditure Framework
NLA	National Laboratory Association South Africa
NMI	National Metrology Institute
NMISA	National Metrology Institute of South Africa
NMS	National Measurement Standard
NRC	National Research Council (Canada)
NRCS	National Regulator for Compulsory Specifications
OH&S	Occupational Health and Safety

● *National Metrology Institute of South Africa*

OIML	International Organization of Legal Metrology
OPEX	Operational Expenditure
PEM	Physical and Electrical Metrology
PFMA	Public Finance Management Act
POP	Persistent Organic Pollutant
PPP	Private Public Partnership
PTS	Proficiency Testing Schemes
RIID	Regional, International Relations and Innovation Division
RMO	Regional Metrology Organisation
RS	Radioactivity Standards
SA	South Africa
SADC	Southern African Development Community
SADCMET	SADC Cooperation in Measurement Traceability
SANAS	South African National Accreditation System
SANS	South African National Standards
SEDA	Small Enterprise Development Agency
SEM	Scanning Electron Microscope
SHEQ	Safety Health Environment and Quality
SI	International System of Units
SKA	Square Kilometre Array
SME	Small, Medium Enterprises
SMME	Small, Medium and Micro Enterprises
TBT	Technical Barrier to Trade
TC	Technical Committee
TCS	Technical Cooperation Section
dtic	Department of Trade & Industry
TI	Technical Infrastructure

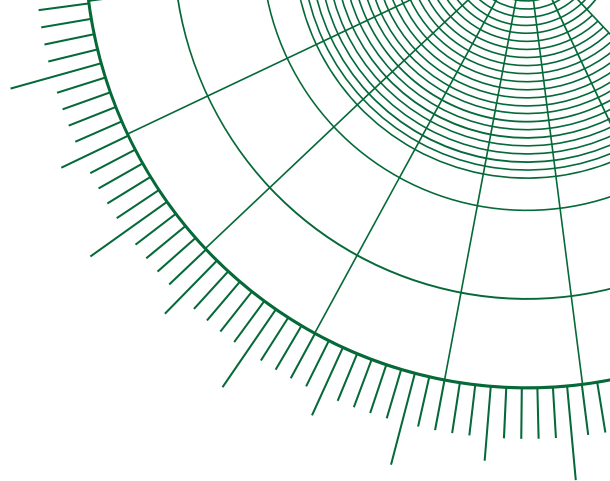


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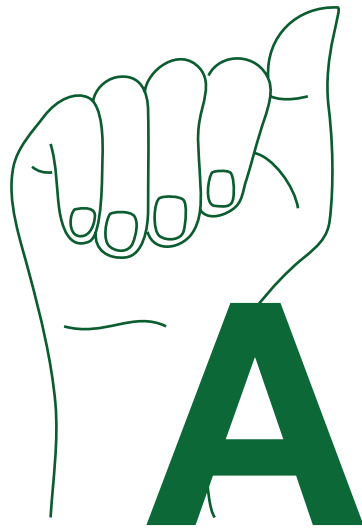
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Part A: Our Mandate



1. LEGISLATIVE AND POLICY MANDATES

NMISA was established under the Measurement Units and Measurement Standards Act, No.18 of 2006 (The Measurement Act);

“To provide for the use of measurement units of the International System of Units (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 national measurement standards and units and to provide for the establishment and functions of the National Metrology Institute”

NMISA sees to the application of the SI units in South Africa, coordinate the process to approve other measurement units for use, continuously improve and maintains the gazetted national measurement standards (NMS), disseminate the NMS and specialised measurement to society. NMISA provides reference measurements, reference standards and reference materials to industry and the Region; this in turn shortens the traceability chain for South Africa including the region.

2. INSTITUTIONAL POLICIES AND STRATEGIES OVER THE FIVE-YEAR PLANNING PERIOD

2.1.1 The Measurement Act

The Measurement Act is under the auspices of the dti and NMISA has also been recognised as a research institution in line with the Scientific Research Council Act. The Measurement Act is under review and proposals for amendments include a requirement for the use of the services and certified reference materials produced by NMISA.

by laboratories of SOEs, public entities and law enforcement agencies. The redefinition of the SI in 2018 and its implementation since 20 May 2019 was considered of how to link the national measurement system to the international system. Closer cooperation between Scientific and Legal metrology may further improve the effectiveness of the national metrology system.

2.1.2 International mandates

South Africa is a signatory of the Metre Convention of 1875 that created the International Bureau of Weights and Measures (BIPM) to act in matters of world metrology, particularly concerning the demand for measurement standards of ever increasing accuracy, range and diversity, as well as to address the need to demonstrate equivalence between national measurement standards.

The SI was also established under the Meter Convention and underwent a major transformation with the Revised SI implemented on 20 May 2019.

This role is further expanded to be the main advisor and consultant on measurement and trade issues to government departments, public entities, state-owned enterprises and the State. NMISA provides input to lawmakers and regulators to ensure the integrity of measurement issues. This role is further expanded to influence and drive regulation where accurate measurement should be enforced.

South Africa signed the International Committee for Weights and Measures (CIPM) Mutual Recognition Arrangement (MRA) in 1999. The CIPM MRA provides an open, transparent and comprehensive scheme to give users reliable quantitative information on the comparability of national metrology services and provide the technical basis for wider agreements negotiated for international trade, commerce and regulatory affairs.

It is the basis for the international acceptance of calibration and measurement certificates issued by National Metrology Institutes (NMIs) and in turn provides the framework for the international recognition of conformity assessment and testing.

The procedures to establish the equivalence of NMS and ensure the correct application of the SI govern the activities of NMISA to ensure a proper measurement system for South Africa and provides regional integration in preparation for the African Continental Free Trade Area (AfCFTA).

2.1.3 National mandates

The Medium-term Strategic Framework outlines Government's priority areas. In response, NMISA re-prioritised its activities to support the development, accreditation and enforcement of standards that can create, scale up and resuscitate industries while simultaneously contributing to broader social benefits thus

- 'Locking out' unsafe and poor-quality imports; and
- 'Locking in' access to increasingly demanding export markets”

NMISA has reviewed its strategic objectives in the wake of the COVID-19 pandemic to ensure that national initiatives to manage the impact of the pandemic is supported by fit-for-purpose measurement services. Priority topics identified for metrology intervention include mobile data usage verification, ventilators, infrared thermometers and walk-through scanners for temperature screening, ultraviolet germicidal disinfection, analysis of sanitisers and reference gas mixtures (oxygen).

Linking NMISA's strategy to the NDP and the Medium-Term Strategic Framework priorities

Medium Term Strategic Focus (MTSF) Priority	Government's Outcome	Dtic's strategic objectives	Nmisa's strategic Objectives	Nmisa's outcomes
Building a capable, ethical and developmental state.	Professional, meritocratic and ethical public administration.	Create a fair regulatory environment that enables investment, trade and enterprise development in an equitable and socially responsible manner.	Metrology consolidation for State-owned entities to provide efficient shared services, Consolidation of Legal Metrology with Scientific Metrology.	<p>New and improved National Measurement Standards for primary realisation of units of the Revised SI (Mass, voltage, resistance, temperature) to provide for international equivalence and national confidence in local measurement results.</p> <p>New and improved reference measurement capabilities (Illuminance, gravimetry, energy, dosimetry, radiation therapy, computed tomography, dimensional) to support emerging measurement applications.</p> <p>Material characterisation for steel and metal fabrication.</p> <p>Monitoring of greenhouse gasses towards clean air.</p> <p>Lighting reference standards, measurement and testing capabilities especially for energy-saving devices such as LEDs.</p> <p>Type testing facilities for regulations under the Legal Metrology Act for EHS and Medical measuring devices.</p>
Economic transformation and job creation.	Creating a conducive environment that enables national priority sectors to support industrialisation, leading to increased exports, employment, and youth- and women owned SME participation.	Facilitate broad-based economic participation through targeted interventions to achieve more inclusive growth.	Metrology for Industry including assistance to SMEs to provide appropriate services in support of manufacturing, beneficiation and export.	<p>Establishment of a Training Centre with courses provided to SMEs in accurate measurement .</p> <p>Partnering with the UK, USA and Germany NMIs to provide advanced training to component manufacturers in the automotive, aerospace, medical and environmental fields.</p> <p>E-learning and Virtual reality-based training modules in accurate measurement NMISA Regional Reference Institute to assist industry and ready South Africa for increased intra-trade in the AfCFTA.</p>

Medium Term Strategic Focus (MTSF) Priority	Government's Outcome	Dtic's strategic objectives	Nmisa's strategic Objectives	Nmisa's outcomes
Education, skills and health.	Increased access among historically disadvantaged learners to 'niche' subjects such as those focusing on engineering and computing.	Facilitate broad-based economic participation through targeted interventions to achieve more inclusive growth.	NMISA Human Capital Development programme.	Bursaries for increased pipeline of professionals with a focus on Science, Technology, Engineering and Mathematics Internships and apprenticeships in applied measurement, host 200 interns and/or in-service trainees over 5 years Improved qualification profile.
A better Africa and world.	Increased intraAfrica trade.	Build mutually beneficial regional and global relations to advance South Africa's trade, industrial policy and economic development objectives.	Metrology for regulatory purposes and in support of Government laboratories for compliance and development of the traceability Chain for South Africa and the Region.	Africa's first Kibble/watt balance for primary mass realisation to ensure independence of the developed world for mass traceability to the SI. Reference materials and certified measurement standards for sub-Saharan Africa with a focus on food security and testing of local food matrices for intra and international trade. Reference Measurements to support the AfCFTA and to retain South Africa's leading position as the largest intra Africa trading partner.

2.1.4 Legal metrology Act

NMISA has extensive metrology laboratories, standards and equipment, together with a solid base of scientific metrology skills, knowledge and capacity to implement Legal Metrology in health, safety and environment measurements. Legal Metrology Act, (Act No. 9 of 2014) currently resides as a division within the National Regulatory Compulsory Specifications (NRCS).

The core business of Legal Metrology is measurement instruments used and measurements made in the areas of trade, safety, health and the environment, it focusses on the protection of individuals and society (citizenry), while the core business of NRCS is the administration and maintenance of compulsory specifications and the implementation of a regulatory and compliance systems (conformity assessments) that focus on industry. Better alignment is necessary with Legal Metrology act for NMISA to provide measurement services and traceability.

3. REGULATION

In response to the amendment of the End-user and subscriber services charter amendment regulation in terms of section 4, read with section 69(3) of the electronic communication Act No 36 of 2005 as amended, NMISA will be focusing on metrology for data and communications technology.

Ionising Radiation monitoring equipment

Regulation No. R. 247, 26 February 1993, under HAZARDOUS SUBSTANCES ACT, No. 15 OF 1973, requires equipment used for monitoring of ionising radiation to be calibrated. This places a requirement on NMISA to provide measurement traceability.

SA Food Labelling regulations

On 1 March 2010, the Department of Health published new regulations relating to the labelling and advertising of foodstuffs as part of the Foodstuffs, Cosmetics and Disinfectant Act. According to the new regulations no manufacturer may make a nutrition claim about his food product unless that food has been analysed in an accredited laboratory and the content of the specific nutrient or nutrients is greater than a specified amount per serving.

This together with regulations under the Agricultural Product Standards Act resulted in testing laboratories requesting NMISA to provide the necessary measurement assurance through proficiency testing and reference materials, and in some instances where no testing facilities exist, to provide the testing capability.

Regulatory Support for Telecommunications

NMISA is strengthening its collaboration with the Independent Communications Authority of South Africa (ICASA) and the National Consumer Commission (NCC), providing metrology expertise to ensure that telecommunication regulations can be enforced to ensure high quality, affordable services to all South Africans.

South African Health Products Regulatory Authority (SAHPRA)

The South African Health Products Regulatory Authority is the new regulatory authority that succeeds the Medicines Control Council (MCC). SAHPRA was originally established by Act No. 72 of 2008 that extended the original MCC mandate to include Medical Devices. Act No. 14 of 2015 extended the oversight of Medical Devices to In Vitro Devices (IVD's). As a fellow Schedule 3A public entity NMISA offers its metrology services to SAHPRA as a related party and offers expertise in the type testing of Medical Devices (as a NRCS designated laboratory) and establishes calibration capabilities for Medical Devices.

4. RELEVANT COURT RULINGS

NMISA is impacted by court rulings on law enforcement issues such as speed trapping, breath alcohol analysis and any product specification issue in a South African law or regulation. For the period discussed the following rulings and changes to laws will impact NMISA.

Legal Metrology Act

The Legal Metrology Act no. 9 of 2014 makes provision for the regulation of measuring instrumentation used in the environment, health and safety. This places an additional requirement on NMISA to provide measurement traceability for the calibration of equipment such as medical devices. It also creates opportunities for NMISA to assist the NRCS Legal metrology with type testing and verification activities for these instruments.

The dismissed speed camera court case

The withdrawal of all criminal proceedings against motorist caught speeding using a specific measuring device in the case of the state vs Zabeer khan in May 2019.

Breathalysers

The Hendrik's judgement in the Western Cape High Court in Sep 2011 led to the newly revised SANS 1793: 2013 (The specification for evidential breath analysers). This meant that no evidential breathalysers were calibrated in South Africa since 2011. Based on this review, tests were completed on a new generation breathalyser required by the SANS regulations and NMISA now calibrates the new breathalysers.



Part B: Our Strategic Focus



5. VISION

To be the leading metrology and measurement centre of excellence on the African continent connecting Africa to the World

6. MISSION

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

7. VALUES

Quality
 Measurement excellence
 Social responsibility
 Economic prosperity; and
 Good governance

8. SITUATIONAL ANALYSIS

8.1 External Environment Analysis

NMISA has been selected and is represented at the highest level of scientific metrology decision making, the CIPM and currently holding its Presidency (Chair). It is the only representative from the African continent and the CIPM member strives to ensure that the interests of the African NMIs/countries and specifically South Africa, are protected.

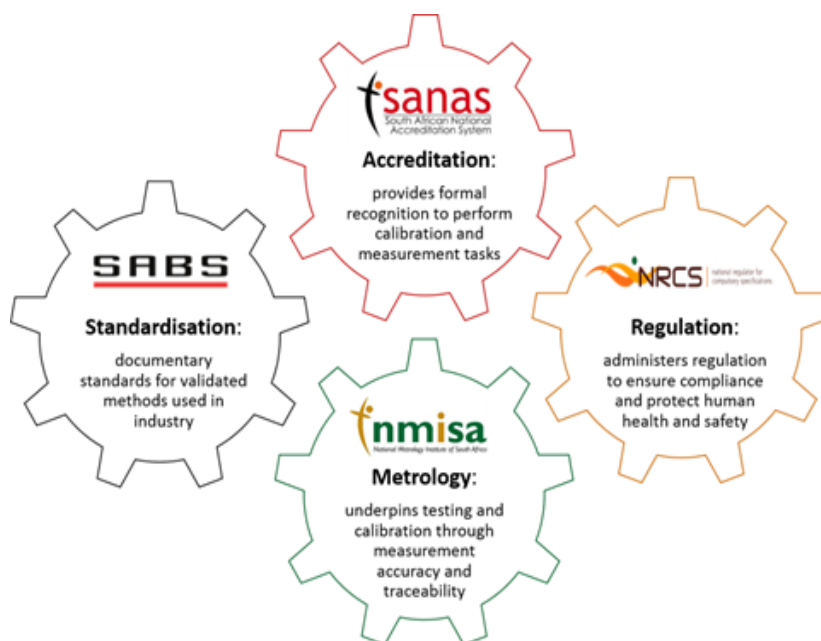
The CIPM coordinates metrology world-wide through 10 technical consultative committees (CCs)). NMISA has membership of the 9 technical CCs of the CIPM and through the Presidency of the CIPM that resides in NMISA since March 2019, has guest membership to the CCU. Technical experts from NMISA participates in the CC working group activities and represent the region at the plenaries, the policy setting meetings. The interests of SADC and Africa need to be protected at these meetings.

The NMIs of Egypt, Kenya and Tunisia have been gradually entering the CCs and it is expected that by 2025, there will be substantial representation from other African NMIs in the CCs

The degree of equivalence and the comparability of the NMS are maintained through comparisons of the standards internationally against other NMS through comparisons organised by the CIPM CCs and/or other NMIs under the Regional Metrology Organisation (RMOs) networks. The results of these comparisons and the CMC claims based on the results are published in the BIPM's Key Comparison Database (KCDB), which is accessible for everybody to check and verify a country's capabilities..

International partnerships	NMISA's Role
SADCMET	Nmisa plays a leadership role in the development of accurate measurement and traceability in the sub-region and africa. Nmisa ensures the acceptance of the quality system (qs) fit-for-purpose for the cipm mra and assists other african members of the bipm and associates of the cgpm to get their qss accepted.
AFRIMETS	MISA provides the traceability link to the SI and international standards to sub-Saharan Africa and is the main driving force behind the sub-regional metrology programme (SADCMET) and the intra-Africa metrology system (AFRIMETS).
AOAC International (AOACI)	NMISA is part of the board of directors of the section that is dedicated to promoting and advancing the knowledge and best practices in the analytical sciences in our region. To achieve method alignment and harmonisation in analytical measurement to ensure accurate testing of food and commodities.

8.2 Internal Environment Analysis



As one of the dti's Technical Infrastructure (TI) institutes, NMISA's activities are critical to the success of the other TIs. Standardisation, metrology, conformity assessment and accreditation are key issues in the implementation of free trade agreements between countries/economic trade blocks. Together the TIs work towards 'measured once, accepted everywhere'.

Measurements performed for regulatory/ legal purposes require traceability through a national reference, as provided by NMISA. Regulations also apply to the use of measurement instruments in areas of trade, health care, environmental protection, traffic surveillance and safety at work and the calibration of these instruments have traceability to the NMS. NMISA therefore has a further role to play in providing technical support for many other acts and regulations, such as the Atomic Energy Act, Act No. 90 of 1967 and the Occupational Health and Safety Act, Act No. 85 of 1993.

NMISA is a relatively small NMI in terms of size and budget which makes it difficult to conduct all research necessary to fulfill the national accurate measurement needs.

As part of the solution NMISA focused on research alliances and networks. Each research thrust identifies research excellence in South Africa and abroad and set up alliances and a network for each. Universities and technical universities outside the main research stream are included in the networks to enable skills transfer and connect these institutes regionally and internationally

NMISA collaborates with the Universities of Cape Town (UCT) and WITS to fast-track the development of quantum standards (the modern way to realise the SI units). The physics department of UCT also recently launched a Metrology and Applied Science Research Unit (Measure) with NMISA as main partner to fill a national gap for academic metrology courses and practical training; NMISA in collaboration with Measure are developing school and university curriculums for metrology.

NMISA as a national institute has designated iThemba LABS for Accelerator-Based Sciences to represent South Africa in medium and high energy neutron measurements. This lifts the profile of metrology in Africa and creates an opportunity to increase the sphere of influence internationally. Other such designations may be explored.

As a major strategy for 2019-2024, NMISA see its expanded role as two-fold:

- (1) Be the main provider of Metrology to State Owned Enterprises
- (2) Support Regulation and with Legal Metrology, Implement regulation in areas where accurate measurement and/or instrument calibration should be mandatory.



Part C: Measuring Our Performance



9. INSTITUTIONAL PERFORMANCE INFORMATION

9.1. Measuring the Impact

Impact statement	NMISA links the regional and national measurement systems to the international measurement system; Shortening the traceability chain for South Africa and the Region.
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9.2. Measuring Outcomes

Outcome	Outcome indicator	Baseline	Five-year target
Shorten the traceability chain for Africa by maintaining the Units and NMS at an internationally recognised level	Number of SI base units realised	6	Maintained and/or updated method for realising the 6 base units
	Number of new and improved NMS and reference Materials and reference methods	20	50. Measurement capabilities are developed based on industry needs. These needs are reviewed annually to ensure fit-for-purpose solutions are developed.
	Number of memberships maintained	Membership of 10 committees maintained	Maintain membership of the 10 committees
	Number of interlaboratory comparisons and Proficiency testing Schemes organised and completed	9	50
	Percentage of metrological services covered by CMCs (i.e. internationally accepted)	80%	95%
Ensure an effective dissemination of the Units and NMS to National and Regional laboratories	Number of accredited laboratories maintained and new laboratory accreditations	25	Maintain accreditation for the 31 calibration/testing methods



Outcome	Outcome indicator	Baseline	Five-year target
Ensure an effective dissemination of the Units and NMS to National and Regional laboratories.	Number of metrologists trained.	100	600 metrologists trained.
	Number of courses provided including SMEs.	18	100
	Number of interns and in services trainees hosted.	27	200 interns and in-service trainees hosted.
	Amount income generated (services and products).	R22 million	R140 million
	Percentage actual expenditure to budget .	98%	98%
To provide metrology for regulatory purposes.	Revised Measurement act to support and contribute to National regulation.	Current Act no 18 of 2006	Revised Measurement Act.
	Percentage increase in visibility of NMISA.	20%	40%
	Percentage customer satisfaction.	Maintain 95%	Maintain 95%

9.3. Planned Performance over the Five-Year Planning Period

The National Measurement Standard (NMS) impact all aspects of the South African (and SADC) community, whether directly or indirectly. For the period under review NMISA will focus on the following strategic thrusts;

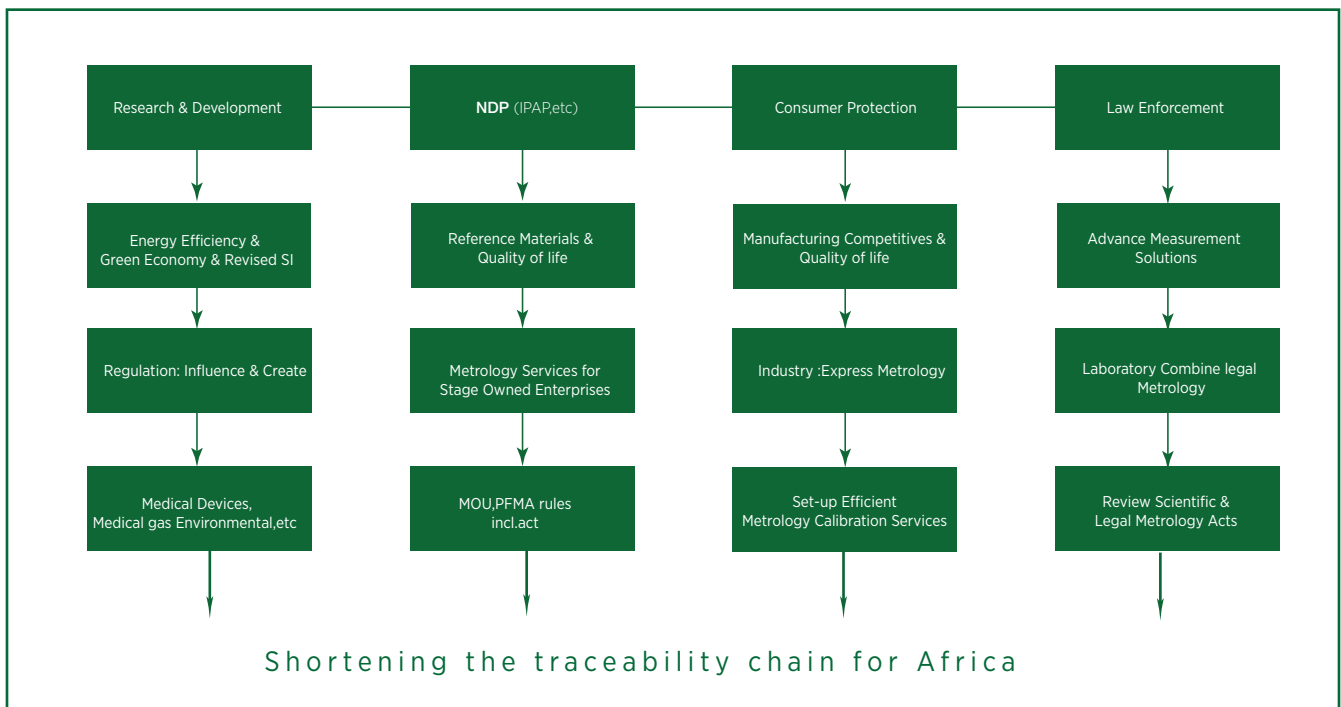
Strategic Thrust 1: Metrology for Regulatory purposes and in support of government laboratories: for compliance and for development of regulations;

Strategic Thrust 2: Metrology consolidation for SOEs to provide efficient shared services;

Strategic Thrust 3: Metrology for Industry including assistance to SMEs to provide appropriate services in support of manufacturing, beneficiation and export;

Strategic Thrust 4: Strategic alignment with Legal metrology to effectively implement the Legal metrology act; and

The NMISA drivers, the thrusts and the programmes to execute with the final goals, are depicted in the following diagram:



To reach the strategic goals NMISA is implementing specific projects to develop new NMS, services and projects in line with industry and AfCFTA requirements, the fourth industrial revolution, the green economy, energy efficiency, manufacturing competitiveness, production of Africa specific matrix certified reference materials (CRMs) and consultancy and training to SMEs and the region.

Revenue generation is substantially increased to assist the implementation of the strategy. The execution of the thrusts is the driver to build appropriate premises for NMISA. Funding is being sourced to implement the Treasury Feasibility study for a fit-for-purpose NMISA to serve the nation and continent for the next 50 years. The dti already committed funds towards the project that may be complemented from savings and other sources.

10. KEY RISKS

Outcome	Key risk	Risk mitigation
Funding for a new NMISA building.	Inability to secure funding from National Treasury for new NMISA building to support mandate.	Receiving funding from the fiscus for appropriate facilities.
Regulators and government using NMISA services.	Regulators and government laboratories not using NMISA services.	Revision of the NMISA Act.
Achievement of NMISA strategy.	Inability to deliver effectively on the revised direction.	NMISA has implementation plans with clear objectives for the strategy.
The use of NMISA services by government, SOEs to enhance trade.	Lack of uptake by the market, SMMEs and government agencies responsible for trade and business development.	Revision of NMISA Act and ongoing engagement with the Dti and DIRCO.
A sustainable organisation.	Sustainability risk.	NMISA will implement its marketing strategy, NMIS programmes also speak to revenue generation, the revenue targets have been increased.





Part D: Technical Indicator Description (TID)



11. TECHNICAL INDICATOR DESCRIPTIONS

Indicators were defined according to the [Revised Framework for Strategic Plans and Annual Performance Plans](#) document, published by National Treasury.

KPI 1: REALISATION OF THE SI BASE UNITS	
Indicator title	Realisation of the SI base units.
Definition	Realisation of the 6 base units; 2 primary base units (Length and temperature) and 4 secondary base units (Mass, Time, Candela and Ampere).
Source of data	Plans for the development and/or realisation of the SI, quarterly progress reports on the 6 base units.
Method of calculation / Assessment	Simple count
Means of verification	Plans and reports
Assumptions	Equivalence to international standards, Implementation of the Revised International System of Units (SI).
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	The South African measurement units need to be equivalent internationally.
Indicator responsibility	Physical Electrical Metrology division.

KPI 2 NEW AND IMPROVED NMS AND REFERENCE MATERIALS METHODS	
Indicator title	New and improved NMS and reference materials and reference methods.
Definition	The number of new and improved NMS, reference methods and reference materials developed. NMISA will develop and/or improve National Measurement Standards (NMS).
Source of data	New NMS, improved NMS and/or procedure/method validation report; reference materials, measurements register and validation report/procedure.
Method of calculation / Assessment	Verification/Validation report, procedures, NMI report, measurement register.
Means of verification	Plans and reports
Assumptions	Implementation of the Revised International System of Units (SI) including NMISA adhering to legislative requirements.
Disaggregation	None
Indicator responsibility	Technical divisions.

KPI 2 NEW AND IMPROVED NMS AND REFERENCE MATERIALS METHODS	
Spatial transformation	Not applicable
Calculation type	Cumulative year end
Reporting cycle	Quarterly
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.

KPI 3: NUMBER OF MEMEBERSHIPS MAINTAINED	
Indicator title	Number of memberships maintained.
Definition	Maintain membership of and active participation in the CIPM and its consultative committees. The work done in the related committees feeds into the CIPM MRA.
Source of data	Membership to the Committees and CIPM as listed in the BIPM website; appointment and invitation to the measurement treaties for participation and/or country reports.
Method of calculation / Assessment	Simple count.
Means of verification	Confirmation of NMISA's membership as listed in the BIPM website.
Assumptions	Membership of the 10 CCs and Participation in the CIPM and link to the international system of units.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	Active participation in international committees to ensure NMISA's adherence to international standards and impact policy decisions.
Indicator responsibility	RIID

KPI 4: NUMBER OF ILCs AND PTS ORGANISED AND COMPLETED	
Indicator title (Output)	Number of ILCs and PTS organised.
Definition	Interlaboratory comparisons (ILCs) or Proficiency Testing Scheme (PTS) Initiated and administered by NMISA. To ensure NMISA is comparable with other NMIs and to assist SADC NMIs to obtain equivalence with South Africa inter-regional trade. To assist National and Regional laboratories in providing confidence in their measurement capabilities. The ILCs and PTS can run over several financial years.
Source of data	Project plans, progress reports and/or final reports (draft A, B and final report)
Method of calculation / Assessment	Simple count
Means of verification	Submission of Project plans, progress reports and/or draft A, B and final reports.
Assumptions	Accuracy and confidence in measurement results for South Africa and the Region.
Disaggregation	None
Spatial transformation	Detailed plans and reports.
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	To build capability in identified parameters.
Indicator responsibility	Technical divisions.

KPI 5: PERCENTAGE METROLOGICAL SERVICES COVERED BY CALIBRATION AND MEASUREMENT CAPABILITIES (CMCS)	
Indicator title (Output)	Percentage of Metrological services covered by Calibration and Measurement Capabilities (CMCs).
Definition	<p>To determine the percentage of services offered by NMISA that are covered by CMCs in the KCDB.</p> <p>A measurement capability claim that has been reviewed and accepted by international peers, and then published in the BIPM international metrology database (key comparison database appendix C). Provides stakeholders with confidence that a claimed measurement capability which internationally accepted and internationally equivalent.</p>
Source of data	SHEQ report showing the number of CMCs in Appendix C of the international (BIPM) key comparison database (KCDB), published at www.bipm.org , NMISA scopes of accreditation and calibration certificates.

KPI 5: PERCENTAGE METROLOGICAL SERVICES COVERED BY CALIBRATION AND MEASUREMENT CAPABILITIES (CMCS)	
Method of calculation / Assessment	Number of services linked to the official number of active CMCS published in the KCDB for South Africa as at 31 March (screen print and date); simple calculation.
Means of verification	Certificates issued against services rendered.
Assumptions	Claimed measurement capability which are internationally acceptable and equivalent.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Capabilities that meet stakeholder needs.
Indicator responsibility	Director RIID together with SHEQ.

KPI 6: NUMBER OF ACCREDITED LABORATORIES AND NEW LABORATORY ACCREDITATIONS	
Indicator title (Output)	Number of accredited laboratories and new laboratory accreditations.
Definition	Activities to support maintenance of the TQMS at an internationally acceptable level (peer-reviewed quality system), peer review for new accredited QMS. Maintain 25 Accredited laboratories.
Source of data	Confirmation of continued accreditation; or peer review reports or schedule of accreditation or certificate of accreditation.
Method of calculation	Simple count
Means of verification	Certificates, peer review reports or schedule of accreditation.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	Maintained Total Quality Management System and maintained schedule of accreditation or self-declared parameters under the CIPM MRA.
Indicator responsibility	SHEQ.

KPI 7: NUMBER OF METROLOGISTS TRAINED	
Indicator title (Output)	Number of metrologists trained in accurate measurement
Definition	Practical training of metrologists to ensure knowledge transfer to industry, commercial calibration labs and regional NMIs. To develop skills and competencies required to provide essential measurement support to industry, commercial calibration labs and NMIs in the region. Training can be provided at NMISA or other laboratories
Source of data	NMISA Certificate of Training and an official report
Method of calculation / Assessment	Simple count (people)
Means of verification	Certificates/ attendance register
Assumptions	Knowledge transfer to industry and regional NMIs
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Capacity building for the region as mandated by the Measurement Act
Indicator responsibility	Director RIID together with Technical Directors

KPI 8: NUMBER OF COURSES PROVIDED	
Indicator title (Output)	Number of courses presented to industry, SMEs and other institutes
Short Definition	To develop skills and competencies required to provide essential measurement support to industry, SMEs and other institutes
Source of data	Official signed attendance list of participants attending the course or workshop given or letter from institute hosting course
Method of calculation / Assessment	Simple count (courses)
Means of verification	Attendance register or letters from host institute
Assumptions	Proof of the dissemination of the NMS and usage of Units to industry and the user community at large
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Increased industry training and SMEs trained in support of the quality infrastructure
Indicator responsibility	Director Applied Metrology and all divisions

KPI 9: NUMBER OF INTERNS AND IN-SERVICE TRAINEES HOSTED	
Indicator title (Output)	Number of interns and in-service trainees hosted.
Short Definition	Number of interns (minimum of six months) and in-service trainees (period as described by the academic institution) hosted. To provide work experience for graduates in line with their studies and improve their employability. To build pipeline of skilled and competent professionals to address current and future skills needs and transform the organisation.
Source of data	Internship contracts, training/work plans, certificates.
Method of calculation / Assessment	Simple count, (total number of interns and in-service trainees hosted/trained during the financial year).
Means of verification	Appointment contracts.
Assumptions	A skilled, competent and transformed workforce.
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Well trained interns who can be placed in NMISA or other organisations.
Indicator responsibility	Human Resources.

KPI 10: AMOUNT INCOME GENERATED	
Indicator title (Output)	Income generated through services dissemination activities.
Short Definition	Income generated through calibration, services (PTS and reference measurements), sales (CRMs), consultation, research funds and donor projects (REVENUE) excluding interest.
Source of data	A report of income is downloadable from NMISA financial system and provided by Finances.
Method of calculation / Assessment	Simple count (Revenue in line with GRAP).
Means of verification	Finance report submitted every quarter.
Assumptions	measurement traceability to industry through calibration, measurement services, analysis, consultation, research grants and donor projects.
Disaggregation	None
Spatial transformation	None
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Meet and exceed annual financial revenue target for sustainability.
Indicator responsibility	EXCO and finance.

KPI 11: ACTUAL EXPENDITURE TO BUDGET	
Indicator title (Output)	Actual expenditure to budget.
Short Definition	Percent of revenue received, expensed and commitments. Establish financial systems and processes to ensure compliance with regulatory frameworks
Source/collection of data	Statement of financial performance and other financial reports
Method of calculation	Actual spending including commitments/ income received
Means of verification	Finance report
Assumptions	Established systems and processes to ensure compliance to regulatory frameworks (PFMA)
Disaggregation	None
Spatial transformation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Full compliance with regulatory frameworks and unqualified audit report
Indicator responsibility	CFO, together with EXCO

KPI 12: REVISED MEASUREMENT ACT TO SUPPORT AND CONTRIBUTE TO NATIONAL REGULATION	
Indicator title (Output)	Revised Measurement Act to support and contribute to National Regulation.
Short Definition	The participation of NMISA in the technical infrastructure review geared towards the revision of the Measurement Act to support regulation.
Purpose/importance	NMISA provides traceability to the international measurement system (the SI) for the protection of the state by ensuring accurate measurements within the Country and Region.
Source of data/collection of data	Reports and/or minutes of the meetings held.
Method of Calculation	Reviewed Measurement Act.
Means of verification	Communication between dtic and NMISA on progress either via email, minutes or reports, proof of submission to the Board.
Assumption	The revised Measurement Act will ensure that industry, government and SOEs use the services of NMISA as an entity developed to support the country.
Disaggregation of Beneficiaries (where applicable)	No disaggregation.
Spatial Transformation (where applicable)	Not applicable
Calculation Type	Non-Cumulative
Reporting Cycle	Quarterly
Desired performance	Amendment of the Measurement Act.
Indicator Responsibility	Directors; RIID and SBDG.

KPI 13: METROLOGY SERVICE PROVIDER TO GOVERNMENT AND SOES	
Indicator title (Output)	Metrology service provider for government services and state-owned entities.
Short definition	NMISA providing metrology related services to government and/or SOEs.
Source/collection of data	Service level Agreements/contracts, with Government or SOE Customers.
Method of calculation	Simple count
Means of verification	Signed contracts/SLAs.
Assumptions	Consolidation of metrological services in government and SOEs to save costs.
Disaggregation	None
Spatial transformation	Not applicable.
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Saving government costs by creating effectiveness.
Indicator responsibility	Business Development with all divisions.

KPI 14: INCREASE VISIBILITY OF NMISA	
Indicator title (Output)	Increase visibility of NMISA in South Africa and the region.
Short definition	Increase visibility of NMISA in order to provide traceability within SA and the region by shortening the traceability ensuring growth in industrialisation, employment within SA and not exporting jobs.
Source/collection of data	Statistical report showing progress throughout the quarters.
Method of calculation	Using Advertising Value Equivalence calculations done by a contracted service provider. total amount of print, online and broadcast media not including paid advertising.
Means of verification	Advertising Value Equivalent reports.
Assumptions	Increased visibility of the organisation.
Disaggregation	Not applicable
Calculation type	Cumulative
Reporting cycle	Quarterly
Desired performance	Increase visibility by 40% of NMISA to our stakeholders.
Indicator responsibility	Business development .

KPI 15: PERCENTAGE CUSTOMER SATISFACTION	
Indicator title (Output)	Percentage customer satisfaction .
Short definition	Percentage of customer complaints against all service jobs. To provide industry with a sense of ownership and confidence in NMISA measurements by providing a superior service. NMISA strives for less than 5% .
Source/collection of data	Report on the review of customer complaints taken from the Quality System (Customer Action Requests-CARs).
Method of calculation	Number of customer complaints per quarter/ total jobs per quarter
Means of verification	List of invoices/jobs done from finance / number of customer complaints.
Assumptions	External client satisfaction.
Disaggregation	None
Calculation type	Non-cumulative
Reporting cycle	Quarterly
Desired performance	Zero customer complaints are ideal; any customer complaints received to be timeously addressed and cleared satisfactorily.
Indicator responsibility	SHEQ.



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