

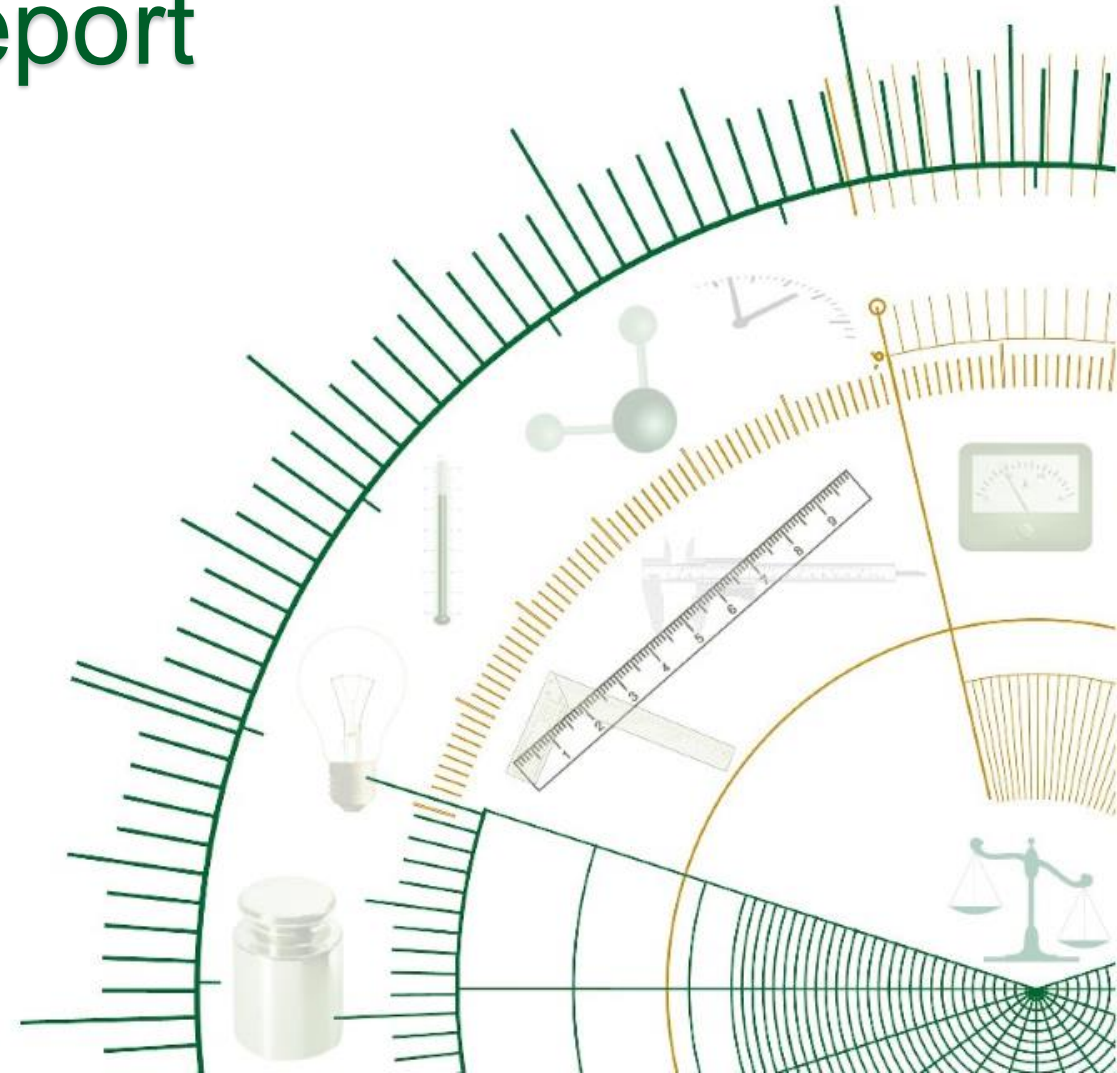


NMISA 2021-22 Annual Report NMISA 2022-23 Q1 Report

Portfolio Committee on Trade,
Industry and Competition

16 November 2022

Your measure of excellence



Details of Delegation

1. Ms Jabu Mogadime

- Chairperson: NMISA Board

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☎ 0849876103

2. Mr Ndwakhulu Mukhufhi

- NMISA CEO

✉ nmukhufhi@nmisa.org

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3. Mr Mogau Sehlapelo

- NMISA CFO

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Presentation Outline

1. Legislative, Vision, Mission and Values (Slide 4)
2. Strategic Objectives (Slide 5)
3. NMISA Thematic Programmes (Slide 6)
4. Applied Metrology Division and Sub-Programmes (Slide 7 – 8)
5. NMISA Highlights for 2021-22 (Slide 9 – 15)
6. NMISA 2021-22 Scorecard Achievements (Slide 16 – 20)
7. NMISA 2021-22 Financial Report (Slide 21 – 24)
8. NMISA Growth (Slide 25 – 29)
9. NMISA Key Challenge (Slide 30)
10. NMISA 2022-23 Q1 Report and Financials (Slides 31 – 42)

VISION, MISSION & VALUES

Empowering Act

Measurement Units and Measurements Standards Act, No 18, 2006

Vision

To be the leading Metrology and Measurement Centre of Excellence on the African Continent connecting Africa to the World

Mission

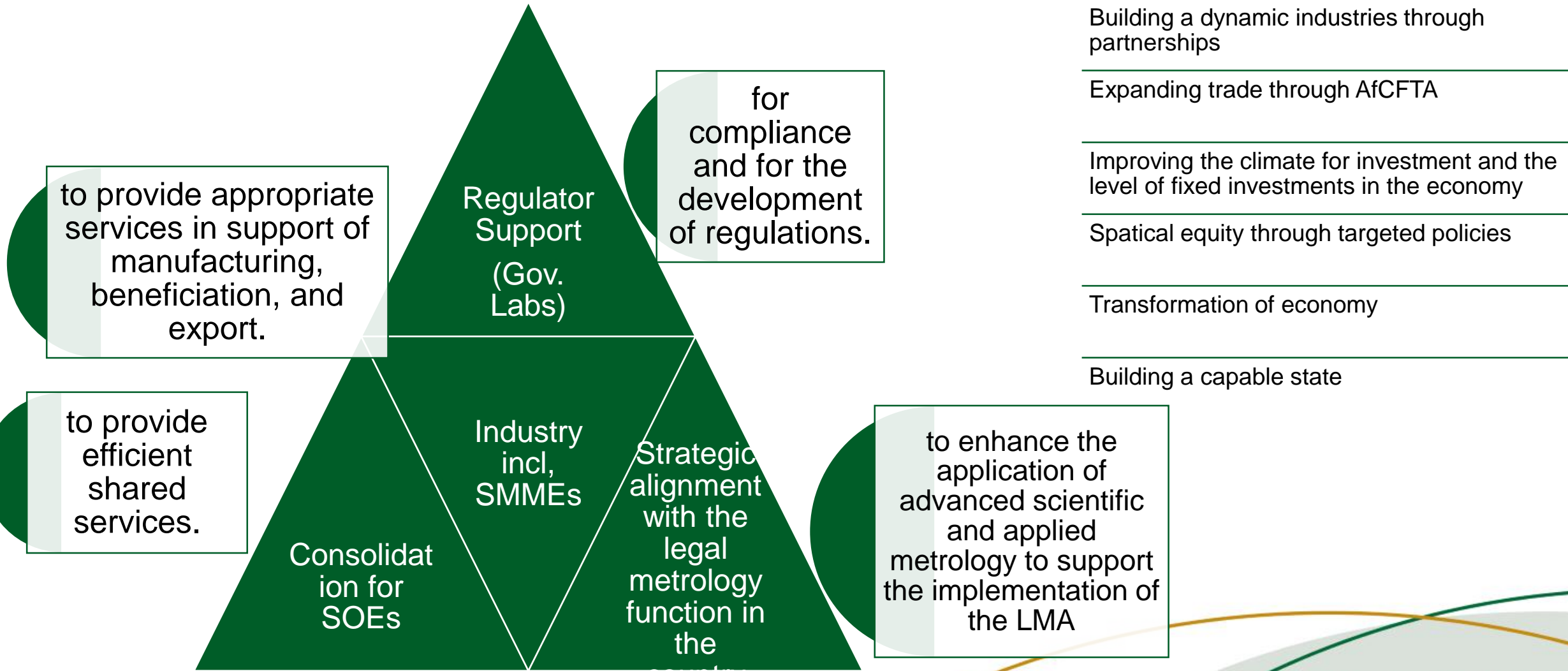
To consistently deliver outstanding, innovative and internationally comparable measurement solutions that support, Regional and International Trade, people's quality of life and enable the protection of the Environment

Values

Quality
Measurement Excellence
Social Responsibility
Economic prosperity
Governance

NMISA Strategic Objectives

NMISA is implementing the Strategic plan 2019-24 with a focus for providing metrology services in four priorities in support of the dtic's six priorities



NMISA Thematic Programmes

Manufacturing Competitiveness

Green Economies

Quality of Life

Reference Materials

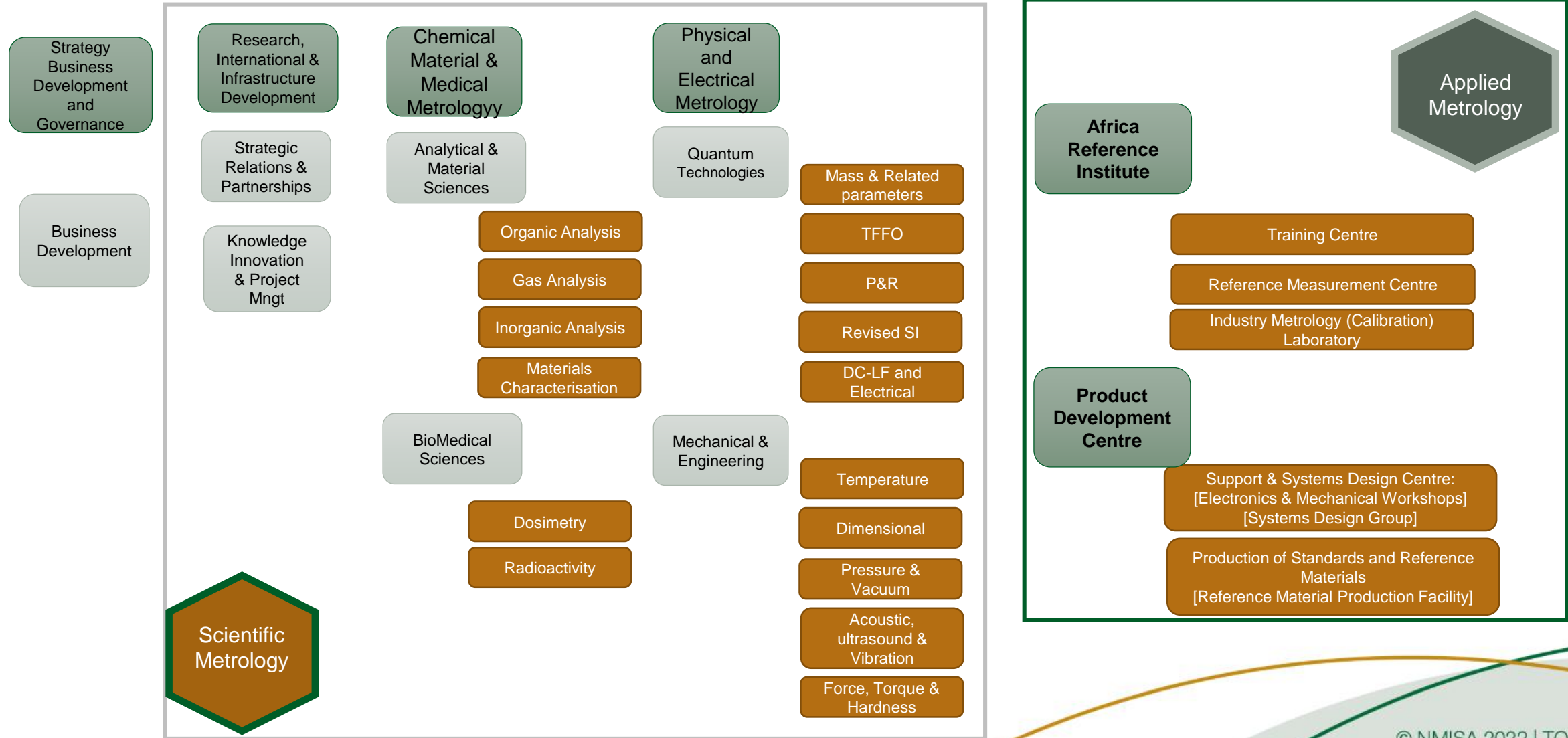
Energy Efficiency

Advanced Measurement Solutions

Revision of the SI (ShortCAF)

Regional Intergration

Development & Implementation of Applied Metrology Division: Key Priority for 2021-22



Applied Metrology sub-programmes

Material Science and Services

- Materials Characterisation
- Advanced Materials Development
- Materials Property Testing

Agriculture, Food and Environmental Monitoring

- Food and Feed Safety and Labelling
- Environmental Monitoring and Waste Management
- Agricultural Production and Processing
- Pharmaceuticals and Cosmetics
- Earth Observation

Health and Safety

- Medical Instruments and Devices
- Radiation Safety and laboratory medicine
- Air, Surface and Water Disinfection
- Medical Gasses
- Safety

Digital Economy

- Standard Frequencies and Time Signals
- Telecommunication Metrology

Conformity Assessment Support

- PT Schemes
- Reference Materials and Standards Production
- Production and High Technology Centre

Training and Knowledge Services

- Training Short Courses
- Training Programmes
- Consultancy and Strategic Liaisons

Energy Efficiency

- Energy Efficient Lighting
- Liquid Natural Gas
- Renewable Energy
- Smart Grid Metrology

Law Enforcement

- Forensic Metrology
- Road Safety
- Consumer Protection

NMISA at a Glance



6

Base (SI) units realised



24

Laboratory accreditations maintained



20

Online courses presented



31

Interns hosted



10

Memberships in international committees under the Metre Convention maintained



25

Proficiency testing schemes and inter-laboratory comparisons



155

Metrologists trained



532

CMCs published in the key comparison database of the BIPM including 11 new Certified Reference Materials

Highlights for 2021-22



APPLIED METROLOGY

The Africa Reference Institute and the Product Development Centre

were launched by the Applied Metrology Division as its main business units



NATIONAL INFRASTRUCTURE

1 new measurement facility for LED and energy-efficient light testing was established



NUTRITION AND FOOD SAFETY

13 proficiency testing schemes for foods and water coordinated by the NMISA



GREEN ECONOMY

Developed standards

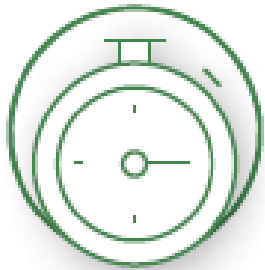
to value assign impurities in hydrogen; this will support the green hydrogen industry



LAW ENFORCEMENT

20 speed measuring instruments from the SADC region were calibrated by the newly established calibration facility for remote speed measuring

Highlights for 2021-22



MEASUREMENT SOLUTIONS FOR INDUSTRY

1

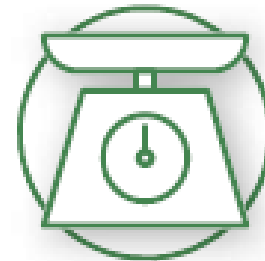
new 3D CT scanner

installed and commissioned by the NMISA to provide measurement services to industry

1

new capability

developed for dioxin analysis



REGIONAL INTEGRATION

4

inter laboratory comparisons
conducted in the region

5

demonstrator Kibble balances
were built by the NMISA as part of
the redefinition of the unit for mass

Highlights for 2021-22



METROLOGY SUPPORT FOR REGULATIONS

4

proficiency testing schemes
coordinated for the environmental
monitoring of ambient air quality



INDUSTRIAL INTERVENTIONS

15

temperature screening devices
calibrated

1

**new National
Measurement Standard**
for Ultraviolet Germicidal Irradiation
(UVGI) devices developed



KNOWLEDGE CREATION AND SCIENTIFIC ACHIEVEMENT

8

articles
published in
scientific journals

20

courses
offered

155

metrologists
trained

Achievements Across Broad Service Areas

1

new measurement facility
for LED and energy-efficient
light testing was established

**The Africa
Reference Institute
and the Product
Development Centre**

were launched by the Applied
Metrology Division as its
main business units

Achievements Across Broad Service Areas

13
proficiency testing
schemes

for foods and water
coordinated by
the NMISA

20

speed measuring
instruments

from the SADC region were
calibrated by the newly
established calibration
facility for remote speed
measuring

Value-assignment of
hydrogen samples

The NMISA has developed
internationally accepted standards to
value-assign Impurities present in the hydrogen
sample. These include ethane, butane, propane
pentane, and hexane in hydrogen samples.
The NMISA participated in a green hydrogen
webinar to be well-positioned to provide
measurement solutions to support
the green hydrogen industry



Achievements Across Broad Service Areas

4

**proficiency testing
schemes**

coordinated for the
environmental monitoring
of ambient air quality



15

**temperature
screening devices
calibrated**

1

**new National Measurement
Standard**

**for UVGI devices
developed**

NMISA 2021-22 Achievements



Shorten the traceability Chain for Africa by maintaining the Units and NMS at an Internationally Recognised level

Performance Indicator	2020-21 Achievement	2021-22 Target	2021-22 achievement
Realisation of the Standard International (SI) base units	New KPI	6 SI base units realised	6 SI base units were realised
Number of new and improved National Measurement Standards and reference material and methods	25	25	28
number of memberships maintained	10	10 memberships maintained	10
number of inter laboratory comparisons and proficiency testing schemes organised and completed	23 ILCs and PTS completed	Organise & complete 26 ILCs and Proficiency testing schemes	25 ILCs & PTS completed
percentage metrological services covered by Claims of Measurement Capability (CMCs)	80%	80% of metrological services covered by CMCs	90.52 %

NMISA 2021-22 Achievements



Ensure an effective dissemination of the Units and NMS to National and Regional Laboratories

Performance Indicator	2020-21 Achievement	2021-22 Target	2021-22 achievement
Number of accredited laboratories and new laboratory accreditations	21 maintained and 2 new accreditations	23 maintained and 1 new accreditation	23 maintained and 1 new accreditation
number of metrologists trained	0	92 metrologists trained	155 metrologists trained
Number of courses provided including SMEs	10	20	20
Number of interns and in-service trainees hosted	15 hosted	28 hosted	31
Amount of income generated	R14 203 999.66	R24 994 554	R 18 706 997 (74% of target)
Percentage actual expenditure to budget	100 %	98 %	99 %

to provide Metrology for regulatory purposes

Performance Indicator		2020-21 Achievement	2021-22 Target	2021-22 achievement
revised measurement act to support and contribute to national regulation	Review and revise Measurement Act.	Participate in the dtic technical infrastructure (TI) review	Updates with regards to NMISA's participation in the dtic TI review was submitted to the Board as planned. NMISA awaits outcome of the dtic process for the review of the NMISA Act was made to the Board.	Act yet to be reviewed

NMISA 2021-22 Achievements



Ensure an effective dissemination of the Units and NMS to National and Regional Laboratories

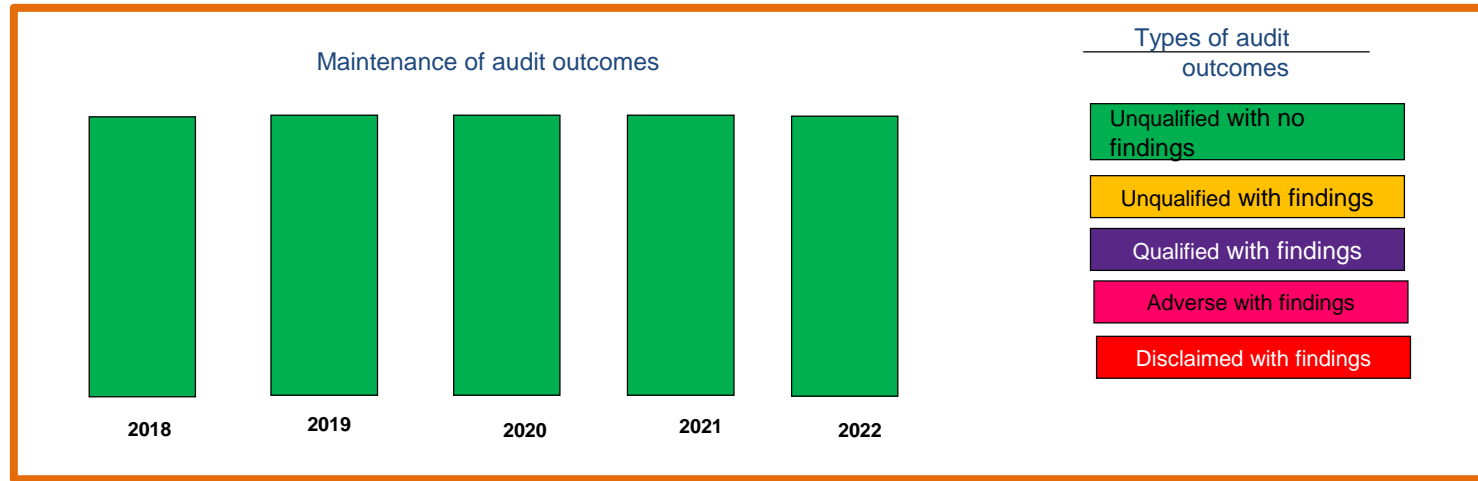
Performance Indicator	2020-21 Achievement	2021-22 Target	2021-22 achievement
number of government department and SOEs serviced by NMISA	2	4	4
Percentage increase visibility of NMISA	37 %	20 %	8 % (40% of target)
Percentage customer satisfaction	99 %	≥95 %	98.34 %

Overall 2021- 22 Performance



- 12 out of 15 targets were achieved for the Year
- Other KPIs achieved to significant extent
- Overall performance calculated at 93.5 %
- Unqualified Audit with no matters raised. (9th Year in a row)

ANNUAL FINANCIAL STATEMENTS 2021/22



1

Spent against budget has been maintained at **98% or above** for the 5 financial years

6

Zero **irregular expenditure** for 4 of the 5 years

2

NMISA has maintained an **unqualified audit opinion, with no findings** for 4 of the 5 years

3

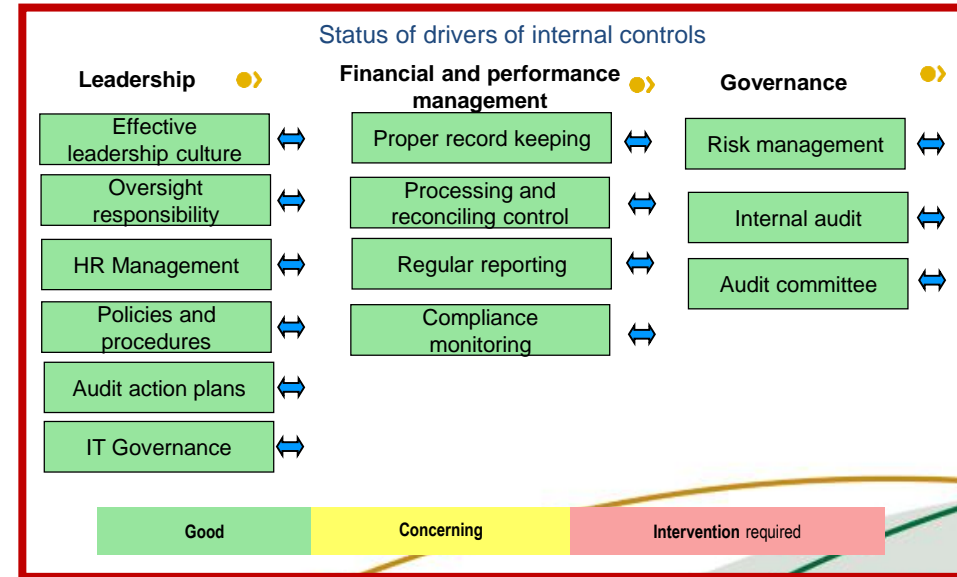
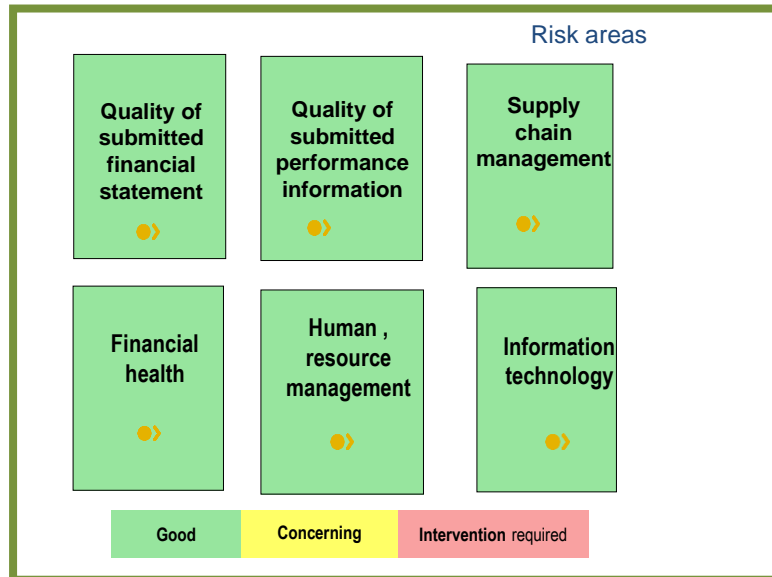
Income from rendering of services has **increased by 83%** in 2020 compared to 2016

4

Information submitted for **audit is of good** quality and proper systems are in place

5

Attention is given to the **key controls** resulting in a sound **control environment**



Revenue and Expenditure – I/S

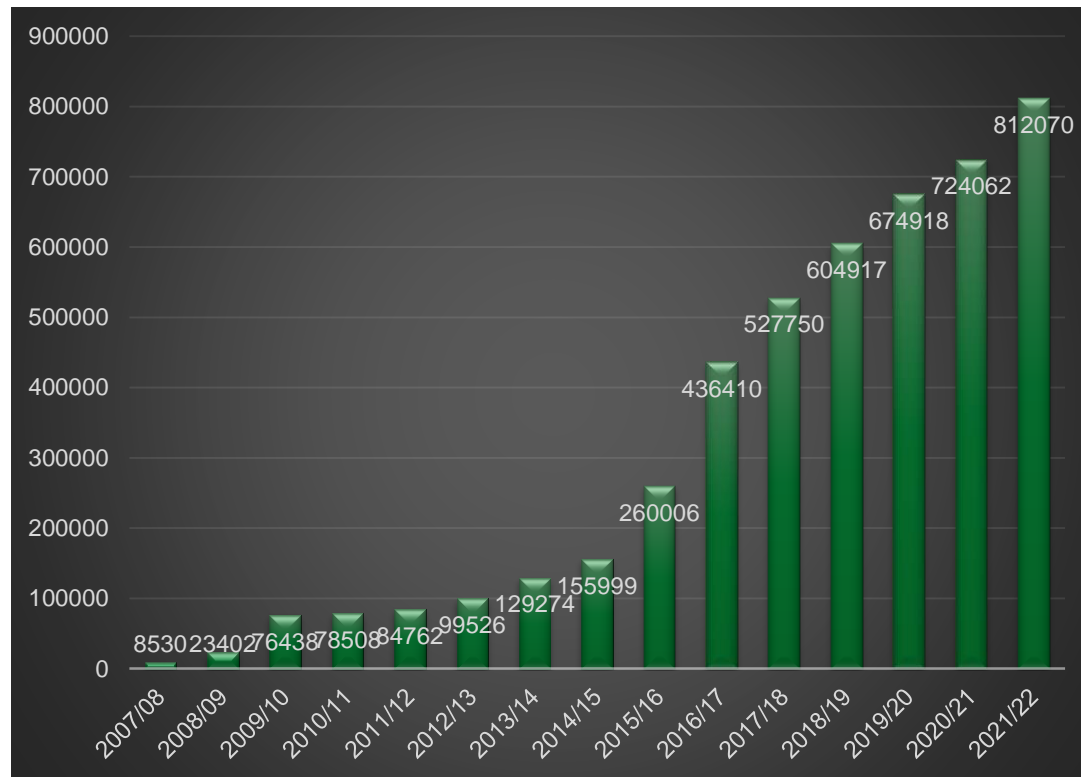
Description	Final Budget	Actual	% Var	Reason for variances
Rendering of services	24 995	18 701	25%	Lower demand than anticipated: Regulation and shared service outstanding. Lagging impact of covid
Compensation of employees	149 440	132 873	11%	No cost-of-living adjustment for management and lower bonus provision
Operating expenses	85 680	75 771	12%	Budget balancing, commitments not yet expensed
Capital Expenditure	57 762	88 072	-52%	Utilization of surplus, commitments and savings
Total Expenditure	292 883	296 716	-1%	

Year on year comparison – Balance Sheet

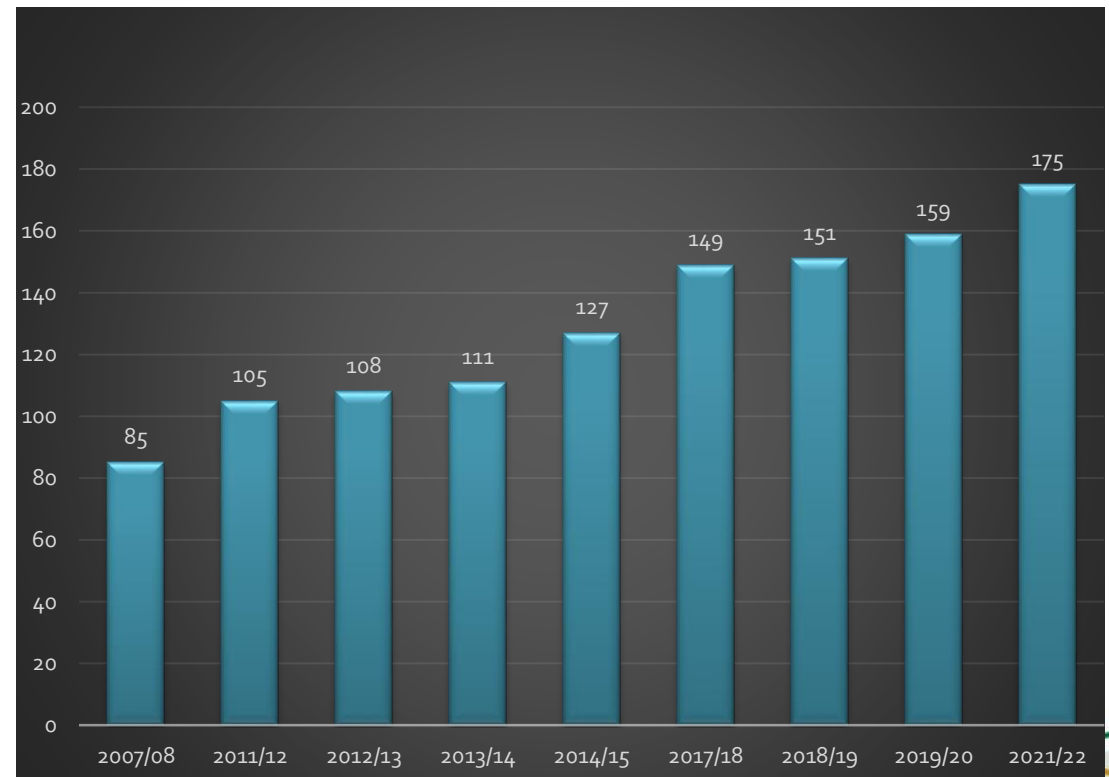
Description	2021/22	2020/21	% Var	Reason for variances
PPE & Intangible assets	532 311	488 013	9%	Due to current year additions less depreciation.
Receivables	6 779	6 693	1%	Slight improvement, DOH impaired
Payables	20 068	12 930	55%	Creditors only R8m and not yet due, late deliveries in March. Leave R7m, advances R3m
Prepayments	41 355	36 880	12%	Mainly due to increased capex and delays in delivery as a result of Covid-19 supply chain issues. Managed actively to ensure delivery.

Growth of NMISA

Growth in Asset Value over the past 15 years (R'm)

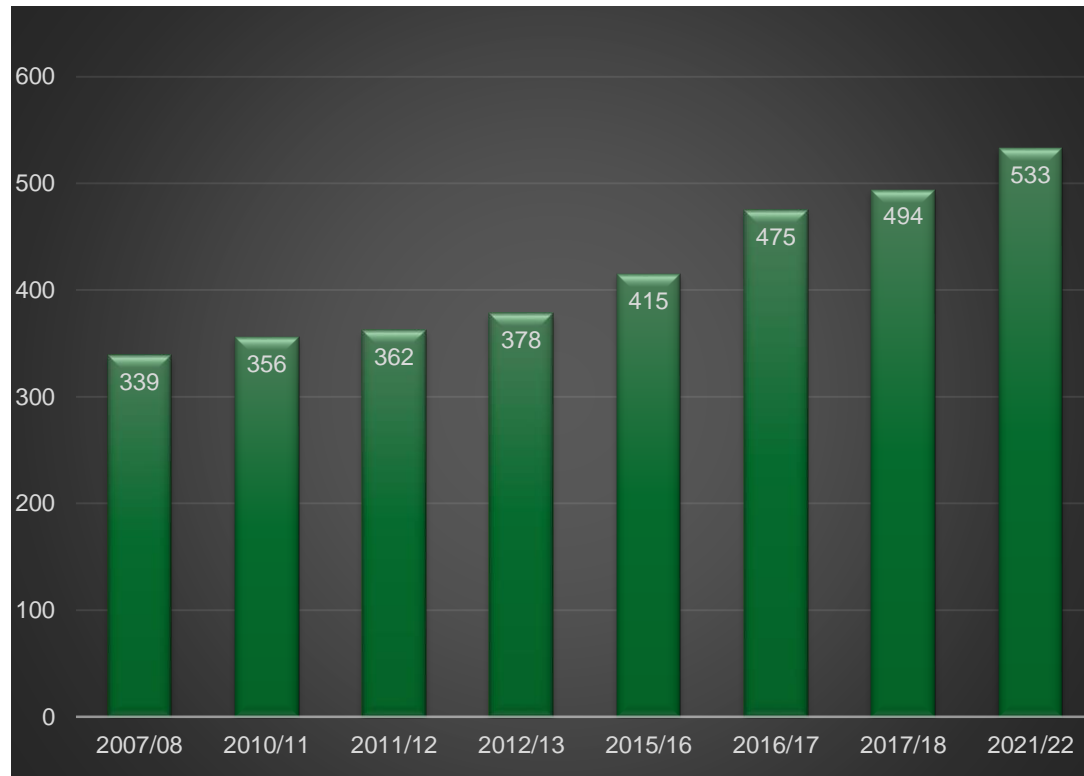


Growth in the number of employees

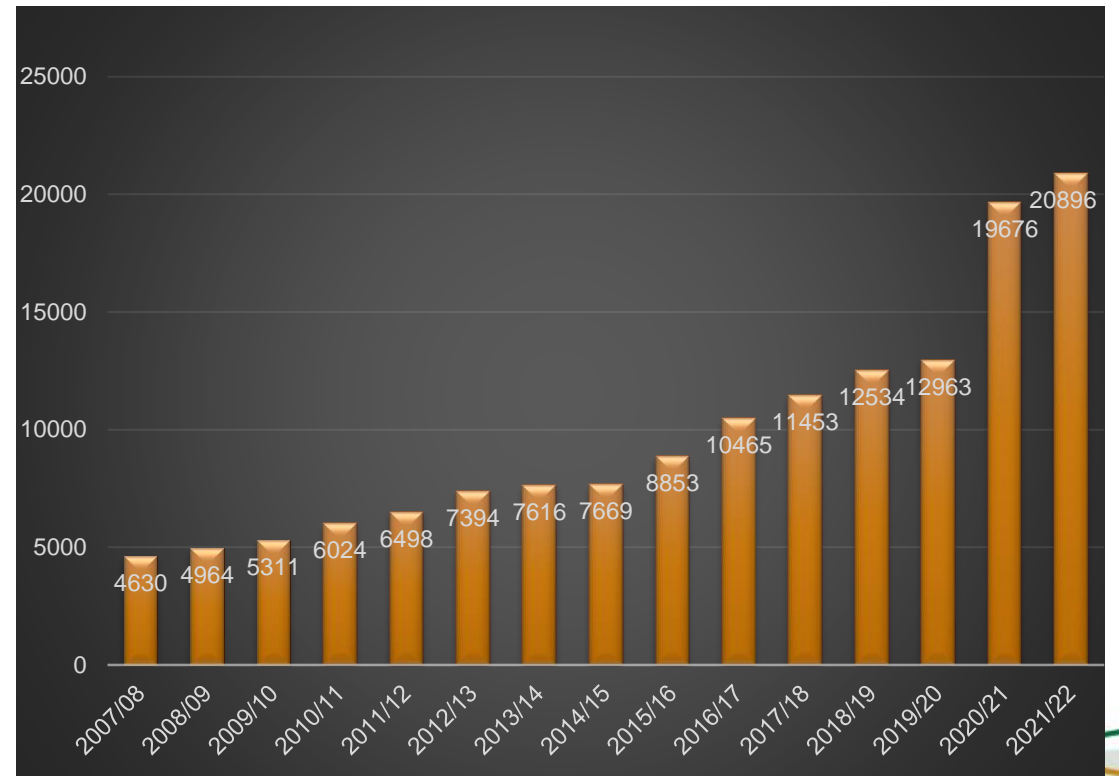


Growth of NMISA

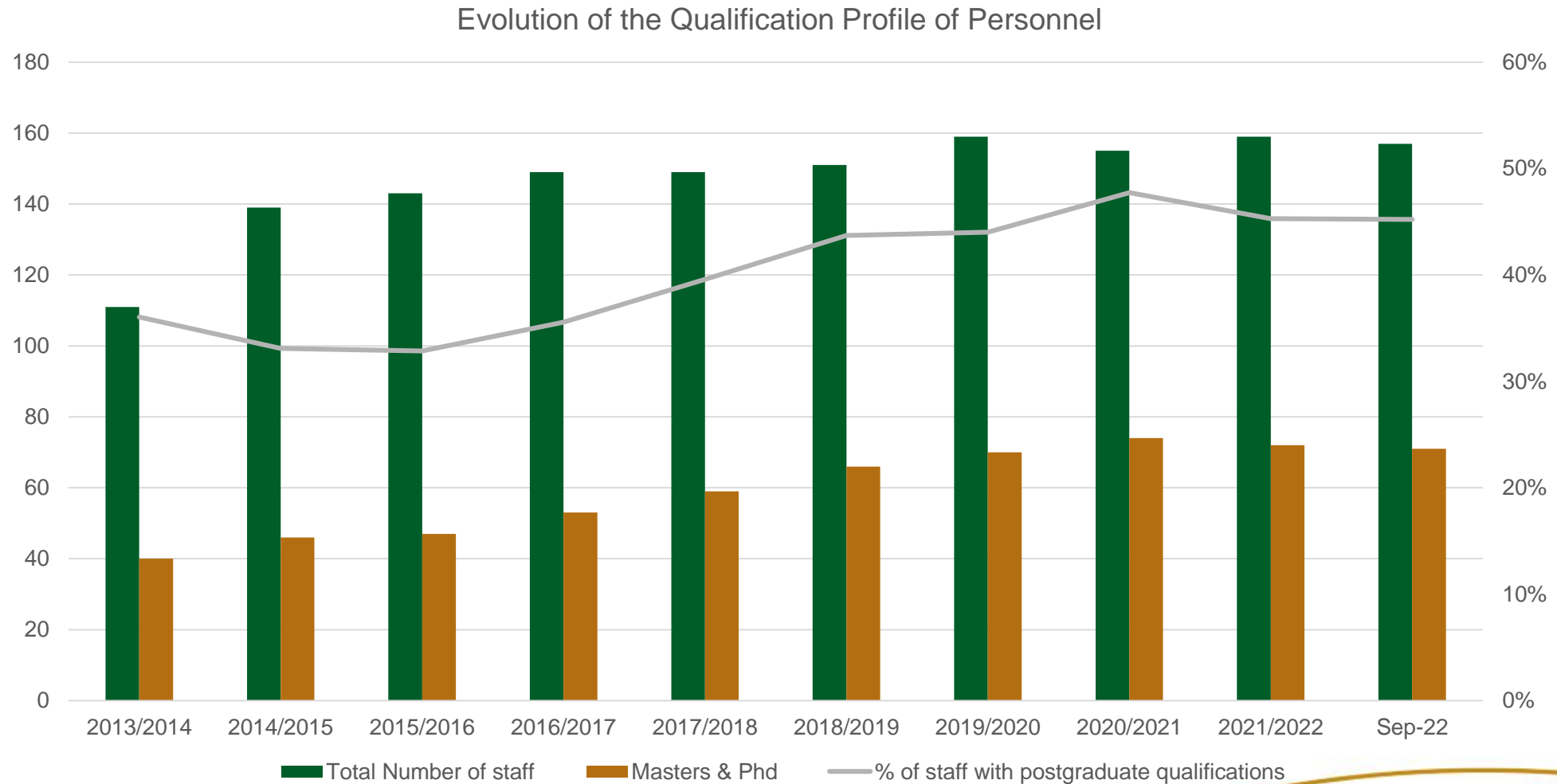
**Growth in number of published CMC's
(Capabilities, with over 90% linked to
services provided to clients)**



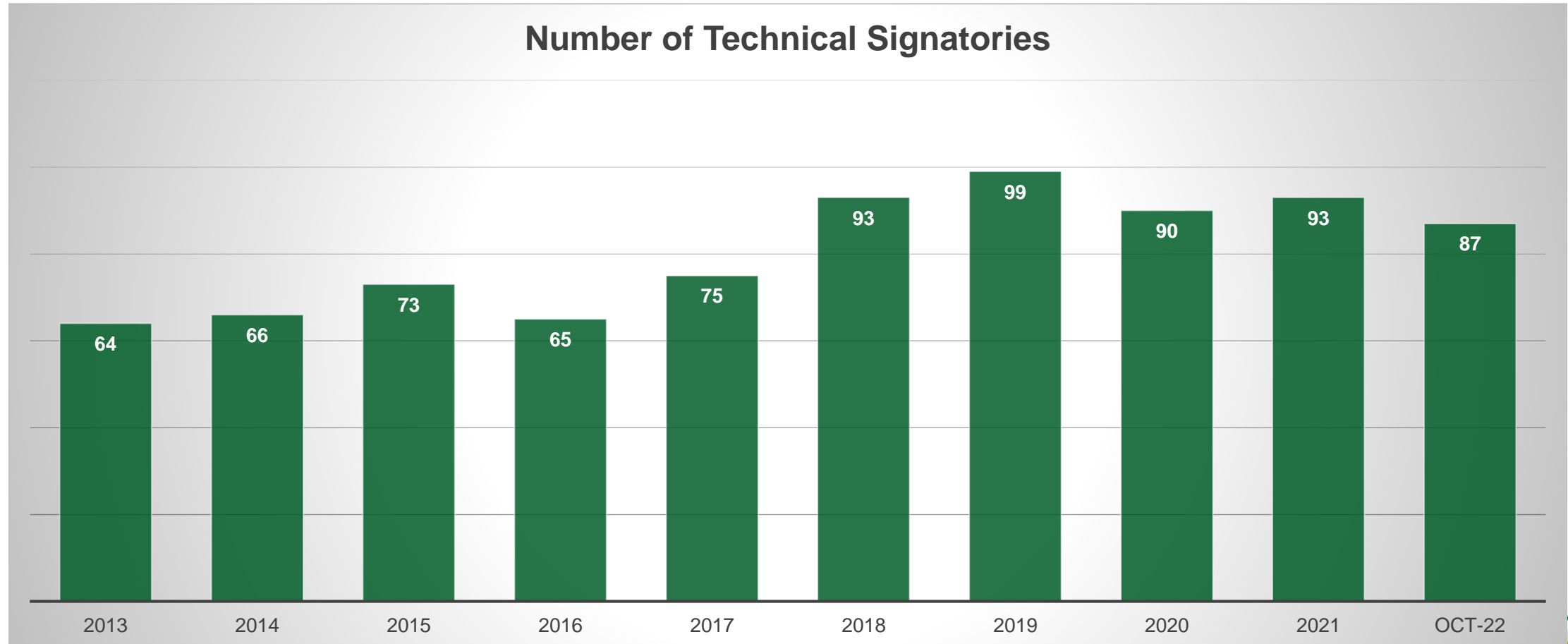
Growth in Space and Rental paid



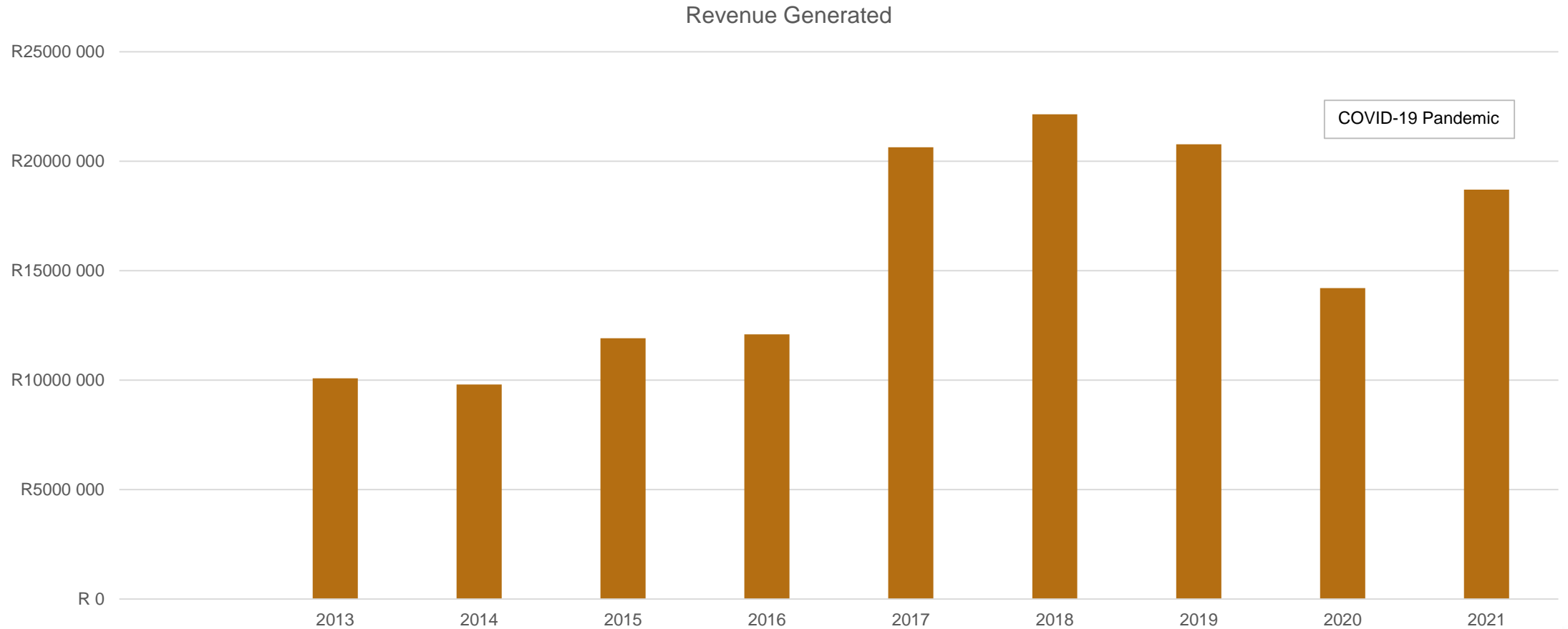
Evolution of the Qualification Profile of Personnel



Internationally Peer Reviewed Technical Competence of Metrologists



External Revenue Generated from Measurement Products and Services



Infrastructure still a Big Challenge

Infrastructure

- Expensive Maintenance
- Inadequate for Modern Technology

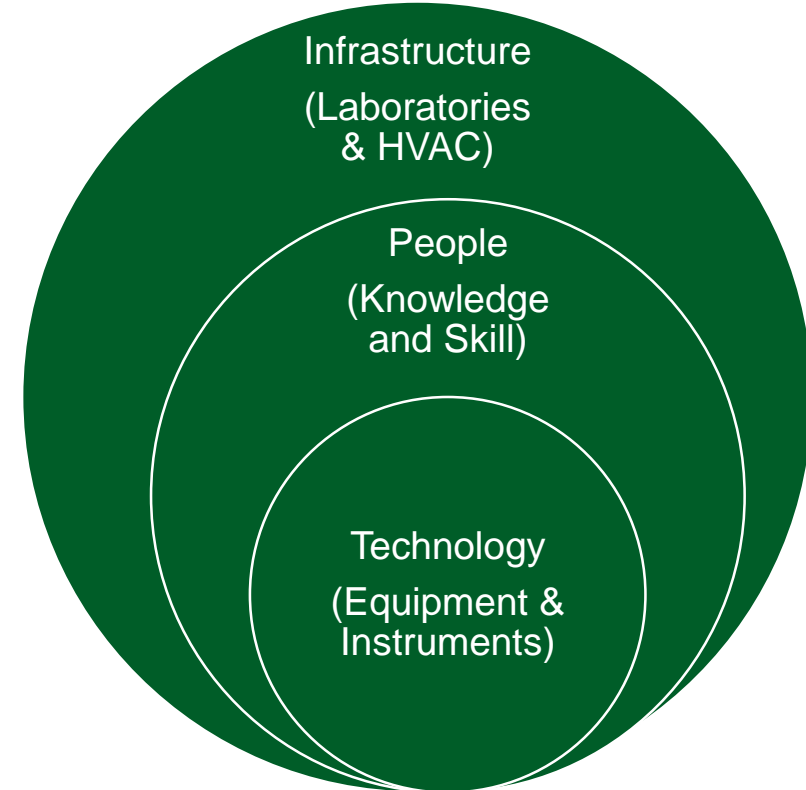
Equipment

- Recently recapitalised equipment
- Newer and more stringent requirements

Housed at the CSIR campus since 1950s, the buildings have reached their technical limit of modification



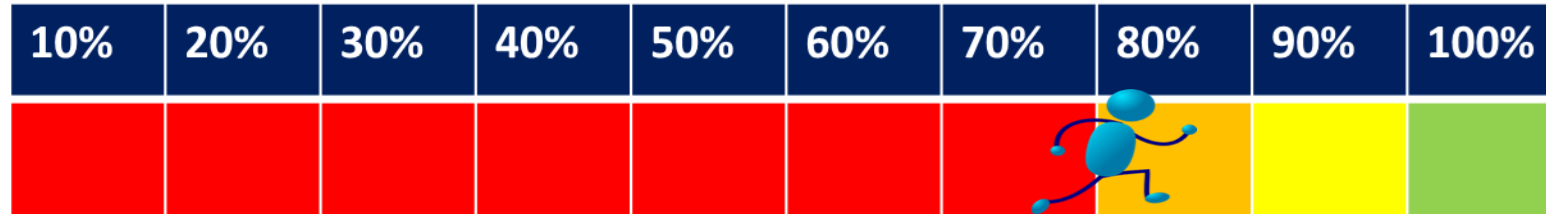
The correct view of NMS:



Maintenance and Dissemination requires OPEX & CAPEX

NMISA 2022-23 Q1 Report

Overall, 2022/23 Q1 Performance



- 4 KPIs were overachieved
- 3 KPIs were met
- 4 KPIs not yet due – reporting in other quarters
- 2 KPIs not met
- 4 KPIs with outstanding performance information

NMISA Quarter 1 Achievements

Administration: Provide for the Measurement Needs of South Africa

Performance Indicator	Annual target	Quarter 1 target	YTD achievement
Number of interns and in-service trainees hosted	30 interns and in-service trainees hosted	2	24 interns hosted
Amount of income generated	R 26 697 333	R 3 690 000	R 2 632 971.68
Percentage actual expenditure to budget	98 %	10 %	19%
Number of accredited laboratories and new laboratory accreditations	24 maintained and 2 new accreditations	24 maintained	24 maintained

NMISA Quarter 1 Achievements

Administration: Provide for the Measurement Needs of South Africa

Performance Indicator	Annual target	Quarter 1 target	YTD achievement
Percentage increase visibility of NMISA	20%	5 %	6 %
Percentage customer satisfaction	≥95 %	≥95 %	98,33 %
Number of government department and SOEs serviced by NMISA	4	1	0
Percentage increase of NMISA clients from the private sector	5 %	-	-
Participate in the dtic technical infrastructure (TI) review	Participated in the dtic TI Review	-	-

Administration: Provide for the Measurement Needs of South Africa

Performance Indicator	Annual target	Quarter 1 target	YTD achievement
Percentage of filled funded vacancies	6 %	12 %	4 %
Turnaround times for filling vacancies	Turnaround times for filling vacancies in line with the approved recruitment plan	<p>Fill all new positions in line with the approved recruitment plan within 4 months for job levels C5 and higher</p> <p>Fill all vacant positions in line with the approved recruitment plan within 3 months for lower job levels</p>	Recruitment plans were concluded during the quarter
Compliance with B-BBEE score	Attain level 8 compliance Status		

Applied Measurement services and products for industry, SOEs and Regulatory Support:

Performance Indicator	Annual target	Quarter 1 target	YTD achievement
Realisation of the SI base units	6 SI base units realised	1 report	1 report
Number of new and improved National Measurement Standards and reference material and methods	17	1	0
Number of inter laboratory comparisons and proficiency testing schemes organised and completed	Organise and complete 30 ILCs and PTS	8	0

Applied Measurement services and products for industry, SOEs and Regulatory Support:

Performance Indicator	Annual target	Quarter 1 target	YTD achievement
Number of metrologists trained	133 metrologists trained	0	6 metrologists trained
Number of courses provided including SMEs	24 courses provided including SMEs	0	5 courses presented
number of memberships maintained	10 memberships maintained	10 maintained	10 Maintained
percentage metrological services covered by CMCs	85 % of metrological services covered by CMCs		-

Applied Measurement services and products for industry, SOEs and Regulatory Support:

Performance Indicator	Annual target	Quarter 1 target	YTD achievement
Number of reports on actions to contribute towards the South African Hydrogen Road Map	4 reports on actions towards green hydrogen	Report on joint thought leadership seminar series on green hydrogen	1 report

Applied Measurement services and products for industry, SOEs and Regulatory Support:

Performance Indicator	Annual target	Quarter 1 target	YTD achievement
Number of reports on the expanded export opportunity for the fish sector under the AfCFTA enabled by the Technical Infrastructure Entities	4 reports on actions related to measurement standards for fish exports	First quarter report on NMISA contribution to enabling fish export	1 report

NMISA

Quarter 1

Finance Information

2022/23

Revenue to date

Transfers from the dti	Approved Budget	YTD Budget	Actual	Percentage variance	Year-end Forecast
Transfer from the dti for Operating expenditure	(122 832 000)	(122 832 000)	-	-100%	(122 832 000)
Transfer from the dti for Capital expenditure	(145 744 000)	(145 744 000)	-	-100%	(145 744 000)
	(268 576 000)	(268 576 000)	-	-100%	(268 576 000)

Rendering of Services by programme/division	Approved Budget	YTD Budget	Actual	Percentage variance	Year-end Forecast
Reference Materials	(3 242 226)	(374 670)	(72 076)	-81%	(3 242 226)
Green Economy	(810 000)	(56 000)	(161 733)	189%	(810 000)
Chemical, Material and Medical Metrology	(4 696 000)	(30 000)	(326 600)	989%	(4 696 000)
Manufacturing Competitiveness	(447 000)	(10 000)	-	-100%	(447 000)
Quality of Life	(258 000)	-	-	#DIV/0!	(258 000)
International and Regional Intergration	(6 100 000)	(100 000)	(1 412 975)	1313%	(6 100 000)
Applied Metrology	(6 351 690)	(633 725)	(172 847)	-73%	(6 351 690)
Physical and Electrical Metrology	(5 030 950)	(392 000)	(486 741)	24%	(5 030 950)
Revision of the SI	(45 000)	(5 000)	-	-100%	(45 000)
	(26 980 866)	(1 601 395)	(2 632 972)	64%	(26 980 866)

Transfers: Current year transfers where not yet received at the end of the quarter. Currently only Opex portion received. Reduced (R72m) recapitalization transfer earmarked.

Revenue: Target for the first quarter achieved, historically revenue target has an exponential increase in the last quarter.

Expenditure to date

Operating Expenditure	Approved Budget	YTD Budget	Current year Actual	Current year commitments	Actual plus commitments	Percentage variance	Year-end Forecast
	R	R	R	R	R	%	R
Administrative expenses	14 686 628	1 003 596	508 316	473 240	981 555	2%	14 686 628
Audit cost: External	900 000	-	-	-	-	#DIV/0!	900 000
Board and Sub Committee Expenses	200 000	-	-	-	-	#DIV/0!	200 000
Calibration expenses	1 478 752	385 000	4 175	6 489	10 664	97%	1 478 752
Catering, events and meetings	2 492 000	393 000	86 042	345 757	431 799	-10%	2 492 000
Chemical, Gas and Lab consumables	6 799 132	1 109 368	465 155	1 819 770	2 284 925	-106%	6 799 132
Communication - Land Line	876 000	146 000	11 846	-	11 846	92%	876 000
Consultants: Business and advisory services	4 882 800	513 000	212 837	362 121	574 959	-12%	4 882 800
Consultants: Legal costs	200 000	-	-	-	-	#DIV/0!	200 000
Consumable: Stationery, printing and office supplies	2 761 350	249 000	32 655	-	32 655	87%	2 761 350
IT Costs - Maintenance	12 900 000	1 586 200	333 930	538 586	872 516	45%	12 900 000
Marketing and Adverting	2 147 697	94 200	196 694	623 864	820 559	-771%	2 147 697
Operating leases - Leasehold	27 000 000	4 500 000	3 726 417	16 768 875	20 495 291	-355%	27 000 000
Repairs and maintenance	9 063 270	412 500	825 955	541 000	1 366 955	-231%	9 063 270
Technical components	3 778 900	493 000	31 619	254 383	286 002	42%	3 778 900
Training and development	4 325 824	356 652	540 524	118 507	659 031	-85%	4 325 824
Travel and subsistence - International	5 038 000	1 065 000	247 011	-	247 011	77%	5 038 000
Travel and subsistence - Local	1 678 370	56 960	164 015	-	164 015	-188%	1 678 370
	101 208 722	12 363 476	7 387 191	21 852 592	29 239 783	-137%	101 208 722

Current year actual: Lower as transfers were not yet received.

Commitments: High due to annual purchase orders being raised in April.



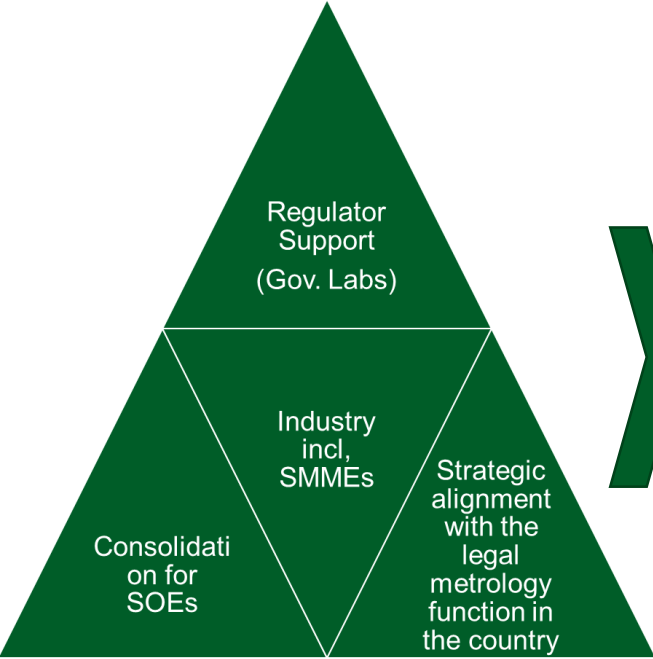
Thank You

We measure what matters

Annex 1: NMISA Strategic Plan

Shortening the Traceability Chain for Africa

NMISA Strategic Thrusts



NMISA Programs



NMISA Subprograms and AM Centres



NMISA Offerings



Physical & Electrical Metrology	AUV Length Mass and related quantities DC Low Frequency & RF Electrical Photometry & Radiometry Time, Frequency and Fibre Temperature & Humidity
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Chemical, Material & Medical Metrology	Gases Inorganic analysis Organic Analysis Bio Sciences Materials Science Dosimetry Radioactivity Measurements Radiation therapy Dosimetry audit
----------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------