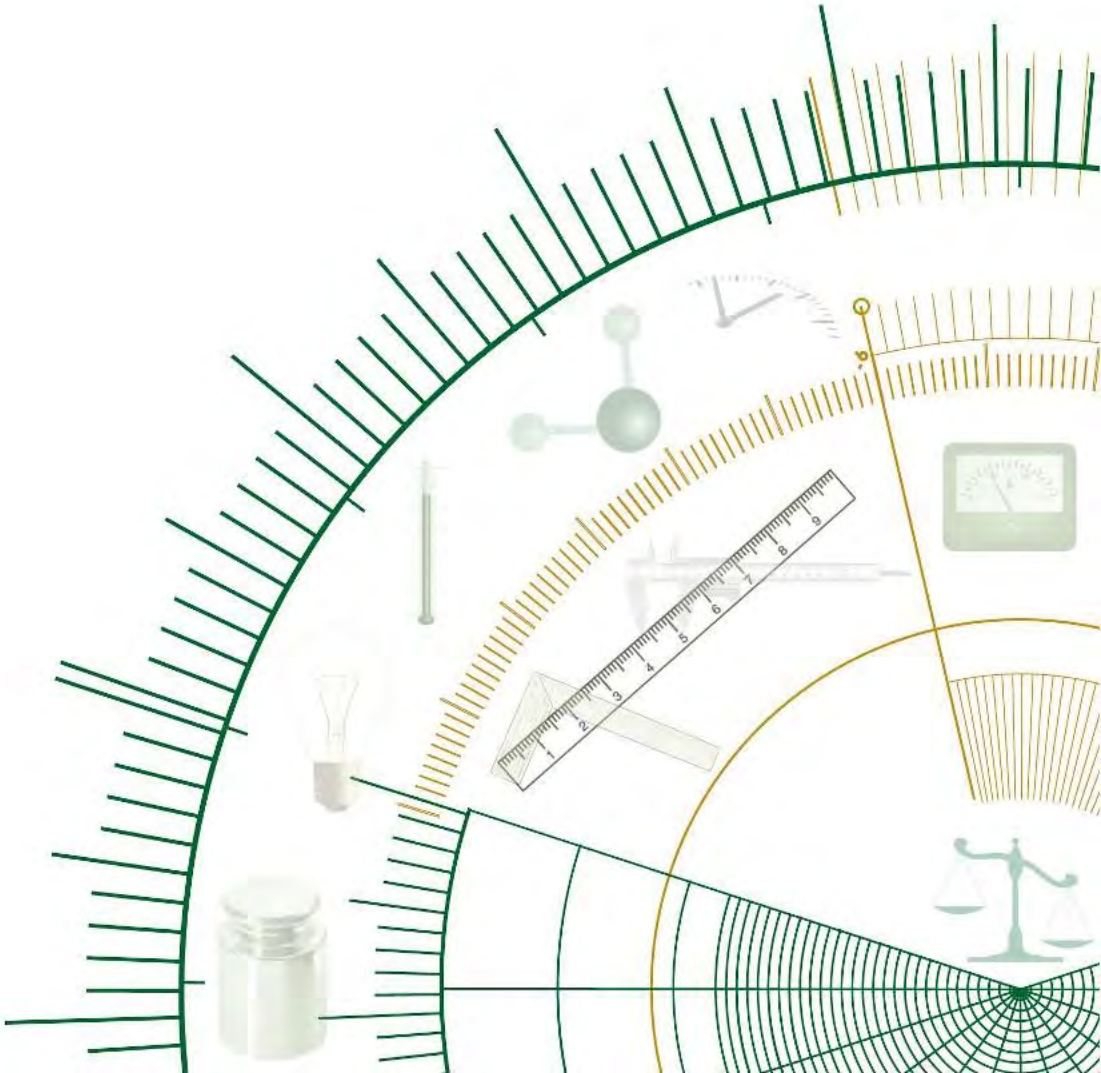
nmisa
National Metrology Institute of South Africa

the dtic
Department:
Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA

Performance against the APP Q4 Financial and Non-Financial



Virtual meeting
20 May 2025
Jessie Pillay (ACEO) and Mogau Sehlapelo (CFO)

Your measure of excellence

Presentation Overview

Stakeholder Awareness

Enhancing public understanding and support

Performance & KPI Delivery

Performance against Targets for year ending 2024/25

Employee Engagement

Recruitment and retention strategy to combat the staff turnover rate

Leadership & Continuity

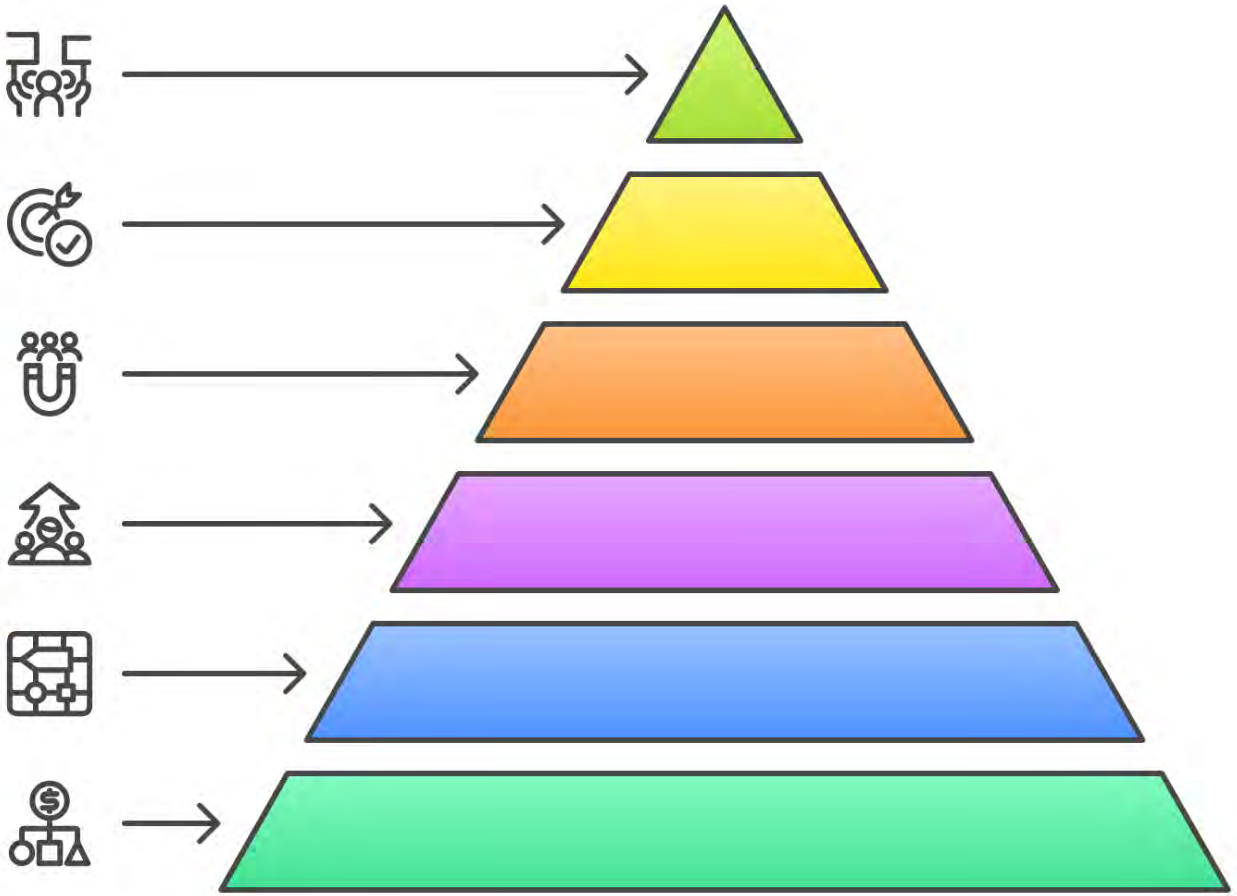
Ensuring stable leadership transition and continuity framework

Action Plan Overview

Outlining steps for strategic implementation

Budget & Financial Management

Ensuring fiscal responsibility and sustainability



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ACT

To provide for the use of measurement units of the International System of Units and certain other measurement units; to provide for the designation of national measurement units and standards; to provide for the keeping and maintenance of national measurement standards and units; to provide for the establishment and functions of the National Metrology Institute; to provide for the repeal of certain laws; and to provide for matters connected therewith.

PREAMBLE

RECOGNISING—

- the need for an internationally recognised national metrology system as the foundation for the South African measurement system;
- the need to strengthen the metrology system as a key component of the technical infrastructure that is aligned with international best practice;
- the importance of ensuring that South Africa maintains national measurement standards and demonstrates its comparability to international standards and measurements;
- the need for support of our enterprises competing in a fast-paced global economy and for public policy objectives with regard to compliance issues in terms of health, safety and the environment; and
- that government is committed to providing a supportive legal environment for a national metrology system; and

IN ORDER TO—

- recognise the National Metrology Institute as the body in South Africa responsible to provide for the use of measurement units of the International System of Units and certain other measurement units;
- designate national measurement standards and provide for keeping and maintaining national measurement standards and units; and
- disseminate traceability in the South African industry,

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What is a National Measurement Standard?

It is the most accurate and reliable reference for a specific measurement in a country, like a "master ruler" or "gold standard.

Why do factories need a trusted reference for measurements?

To ensure their scales are correct, like how NMISA provides the most precise weight standard for weighing gold.

How does NMISA help thermometer manufacturers?

NMISA maintains the official temperature reference to verify the accuracy of their devices.

Why are these standards linked to the International System of Units (SI)?

To ensure South Africa's measurements match those used globally, which is critical for fair trade, scientific research, healthcare, and industry.

Ensuring Precision and Compliance Through National Measurement Standards

National Measurement Standards

Develop, maintain, and disseminate NMS aligned with the SI to support economic and regulatory frameworks.

Economic Support

By ensuring reliable and standardised measurements, NMISA facilitates fair trade, industrial development, and compliance with international market requirements.

Accurate Measurements

NMISA provides internationally recognised measurement standards to ensure accurate and traceable measurements across all industries in South Africa.

Scientific Development

Develop primary scientific standards for physical and chemical measurements to support research and innovation.

Regulatory Compliance

NMISA supports regulatory enforcement by providing accurate measurement standards, with its results legally recognised in South African courts.

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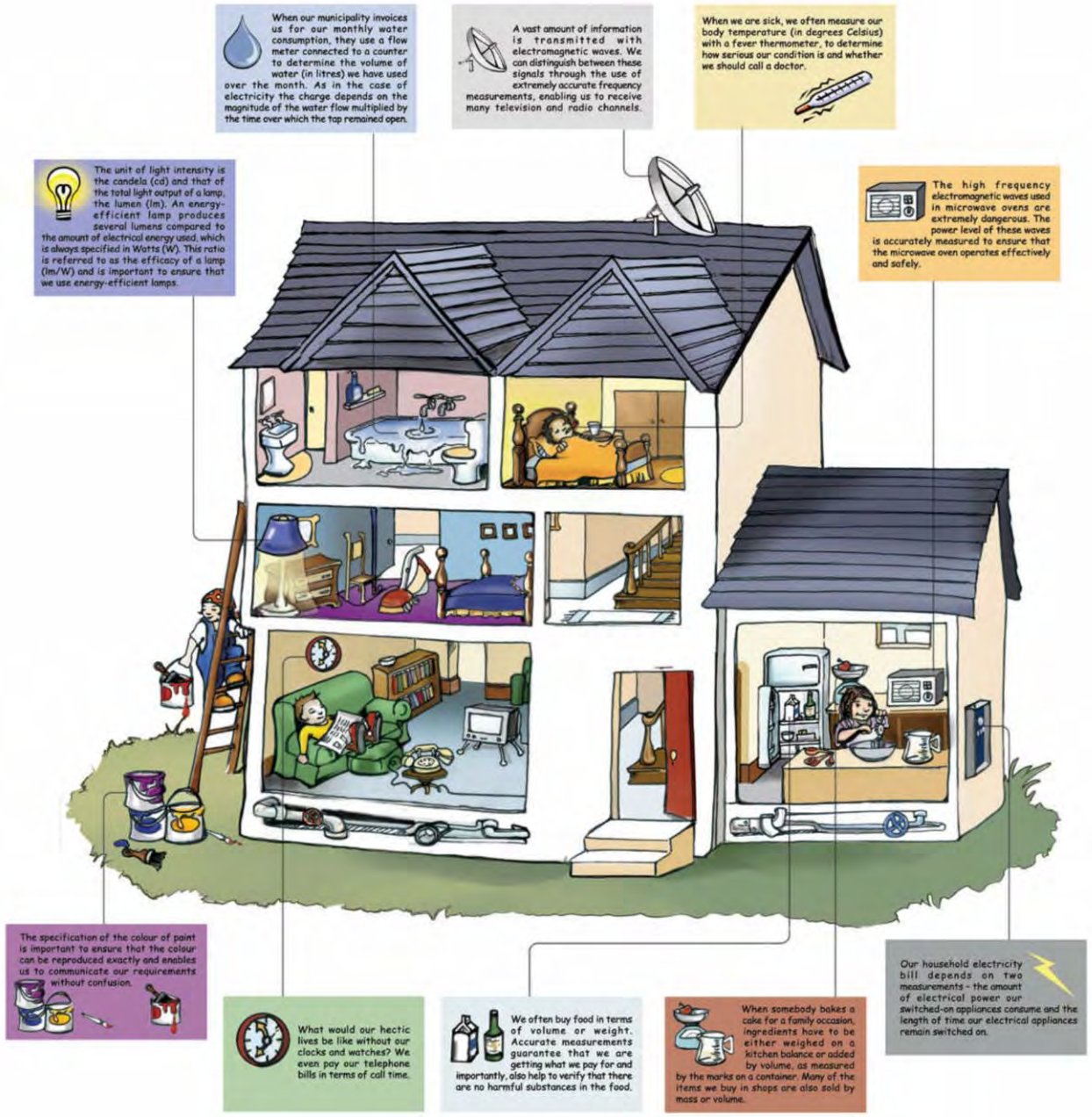

Thermometer for fever	Products purchased	DB Board for power consumption
Kitchen scale for baking	Clocks and watches	Colour of Paint
Power in Watts - lighting	Water consumption	Frequency measurement

Accurate Measurement in your home

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Metrology Services

SMMEs

- **Essential Oils:** NMISA ensures essential oils meet global trade standards through accredited testing and certification.
- **3D Printing:** NMISA provides calibration services to optimise designs, prevent redesign costs, and enhance product durability.
- **Training & Development:** NMISA trains SMMEs on quality standards, helping them comply with regulations and expand market access.
- **Instrument Calibration:** NMISA ensures accurate trade measurements, supporting compliance, research, and financial transparency.
- **Product Calibration:** NMISA certifies products to meet trade standards, reducing recall risks and boosting consumer confidence.

Industry and Local Export

- **Export Quality Assurance:** NMISA ensures food safety, pesticide compliance, and residue analysis for global market access.
- **Agricultural Testing:** NMISA verifies pesticide residue accuracy to prevent trade disruptions and ensure compliance.
- **Gas Standards:** NMISA develops oxygen and environmental gas standards for safety and regulation.
- **Environmental Monitoring:** NMISA detects pollutants in water, soil, and mining sites for compliance and sustainability.
- **Manufacturing Support:** NMISA enhances quality, reduces waste, and ensures compliance in key industries.
- **Diamond & Mineral Calibration:** NMISA ensures accurate grading and compliance for diamonds and minerals.

Government and SOEs

- **Gautrain – Safety & Reliability:** NMISA conducts failure analysis testing on critical components, preventing mechanical failures, ensuring passenger safety, and improving operational efficiency.
- **SAA – Aircraft Safety & Calibration:** NMISA calibrates aviation instruments, ensuring compliance with international safety standards and strengthening South Africa's aircraft maintenance industry.
- **Eskom & Koeberg – Power Generation Safety:** NMISA supplies gas measurement standards for emissions control and ensures precise calibration of safety instruments at Koeberg Nuclear Power Station.
- **Council for Geoscience – Asbestos Monitoring:** NMISA analyses samples from derelict mines to detect asbestos contamination, supporting environmental risk assessments and remediation efforts.

Public

- **Food Safety:** NMISA tests for contaminants in food, ensuring compliance with safety laws and protecting consumers from health risks.
- **Medical Radiation:** NMISA ensures accurate radiation doses in cancer treatment, preventing errors and improving patient safety.
- **Radioactive Testing:** NMISA detects radioactive contamination in food imports, safeguarding public health and enforcing safety regulations.
- **Utility Meter Calibration:** NMISA verifies water, electricity, and fuel meters for fair billing and trade compliance.
- **Retail Scale Calibration:** NMISA ensures weighing accuracy in stores, promoting fair pricing and consumer protection.
- **Methane Poisoning Investigation:** NMISA provides forensic gas testing to support law enforcement and public health investigations.
- **Pharmaceutical Accuracy:** NMISA ensures precise drug measurements, preventing dosage errors and enhancing medication safety.

Regulation/ Law Agency

- **Legal Compliance & Enforcement:** NMISA provides measurement standards for regulatory and law enforcement agencies, ensuring legal compliance in key sectors.
- **Proficiency Testing:** NMISA verifies private laboratory accuracy, ensuring compliance with food safety, chemical, and microbiological standards.
- **Forensic Calibration:** NMISA calibrates breathalysers, speed cameras, and drug tests, ensuring reliable measurements for law enforcement.
- **Emissions Monitoring:** NMISA provides reference standards for emissions control, supporting air pollution regulation and environmental protection.
- **Imported Products & Services:** NMISA ensures imported medical, electronic, and food products meet national safety and quality standards.

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Economic Development

Support for Export and Trade Facilitation
NMISA supported laboratories in over 25 countries through proficiency testing and training.
It contracted services with 8 African countries, enhancing measurement capacity across the continent and promoting intra-Africa trade under AfCFTA.

Agro-processing and Food Exports
NMISA provided certified reference materials (CRMs) and proficiency testing for mycotoxins, pesticides, and other contaminants, supporting food safety and access to international markets.

Green Industrialisation
NMISA conducted benchmark methane emissions measurements, enabling credible GHG data reporting for climate financing and compliance with the Climate Change Act.
Participated in IAEA-backed projects to improve GHG measurement traceability, including methane and CO_2, critical for South Africa's Just Energy Transition and green hydrogen ambitions.

Infrastructure and Industry Support
NMISA assisted sectors such as rail, healthcare, nuclear energy, and mining through failure analysis, materials testing, and measurement traceability—improving product reliability, safety, and export potential.

Collaboration on Critical Minerals
Signed a collaboration agreement with MINTEK to enhance local beneficiation and characterisation of critical minerals, supporting SA's EV battery and precious metals value chains.

Digital Innovation and Efficiency
Developed two new digital solutions, including automation of a calibration system, improving service efficiency and positioning NMISA for industrial digitalisation and modernisation.

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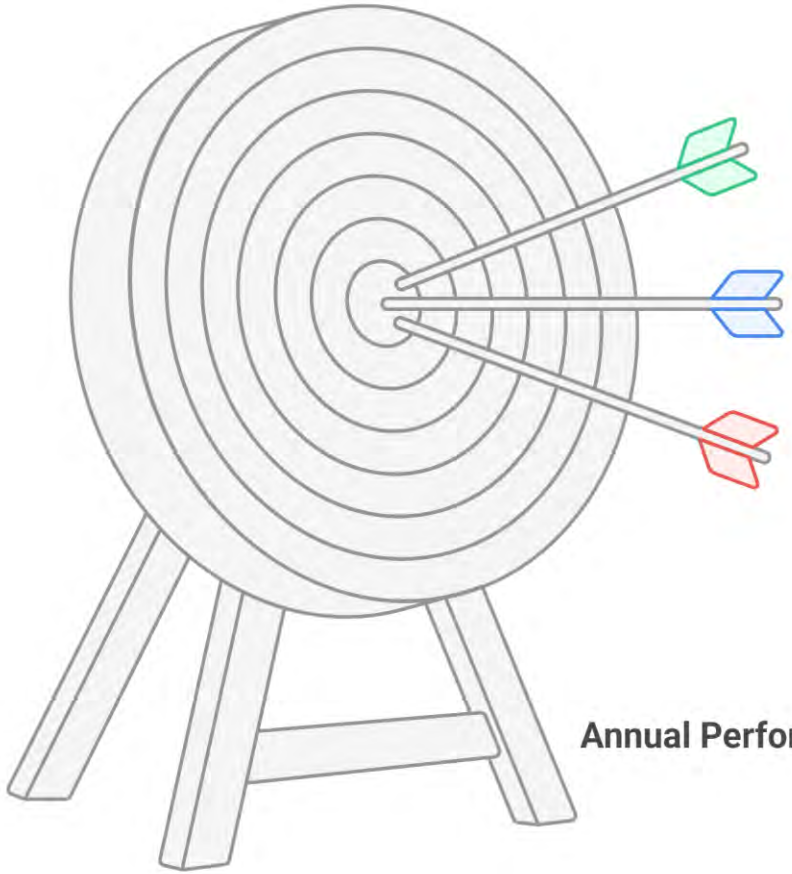
Diversification: Expanding South Africa's Industrial Base

KPI 11 & 12: Collaborative Agreements

Partnerships with SEZs and industrial hubs to support manufacturing, localisation, and value chain growth.

Partnerships between NMISA, manufacturers, and government to support quality assurance and industrial growth.

Performance against Targets



17 Targets Achieved

Represents completed objectives

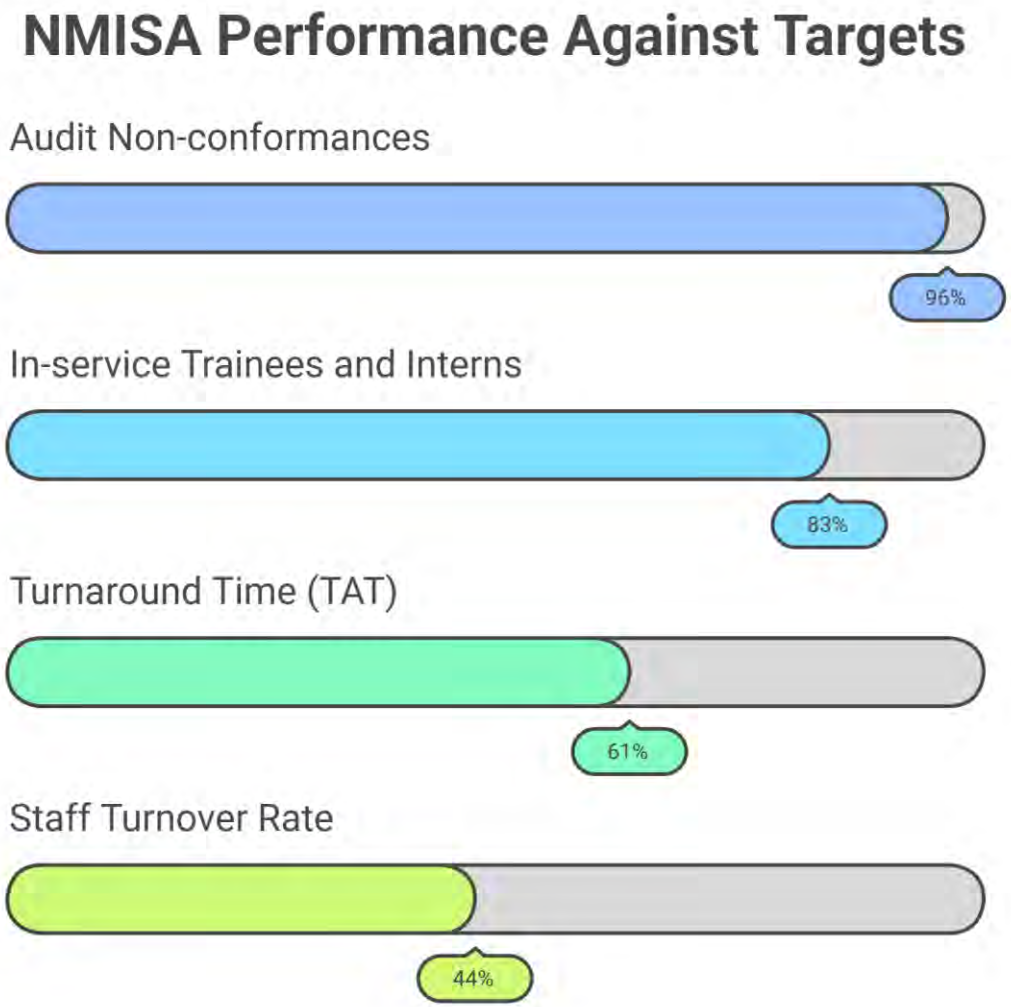
4 Targets Not Achieved

Represents incomplete objectives

81% Overall Performance

Summary of achievement percentage

Annual Performance Overview



Exceeded expectations for 11 KPI Targets

KPI #	Outcome Indicator	Achievement	Performance
KPI 2	Percentage of metrological services offered covered by CMCs – **86 %**	91 %	
KPI 3	New and improved NMS and reference materials and reference methods - **2**	3 (1 Q2, 2 Q3)	
KPI 4	ILCs and PTS initiated, Revised KPI - **20**	23 (3 Q1, 9 Q3, 11 Q4)	
KPI 12	Client retention (over 2 years) – 70 %	74 %	
KPI 19	New collaboration or service agreements with private, non-profit, or public entities - 2	8	

KPI #	Outcome Indicator	Achievement	Performance
KPI 7	Percentage of new clients serviced - **5 %**	23 %	
KPI 13	Percentage of clients served in geographical areas outside main metros – 3 %	30 %	
KPI 20	Percentage of active service/collaboration agreements – ≤ 70 %	80 %	
KPI 8	Maintain visibility of NMISA in South Africa and the region AVE – ≥ **R1m** SM followers - **2,5 %**	R1 634 715.00 7 %	

Revenue Target KPI 5 –
Target: R 24 679 600
Achieved: R 25 961 869

Diversification of revenue streams KPI 6 –
Target: 5% - Achieved: 5.6%

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Achievement of 6 Additional KPI Targets

KPI #	Outcome Indicator	Achievement	Performance
KPI 18	Number of staff leading new external collaborative agreements - 1	1	
KPI 21	Number of outreaches activities to entities within SEZs and outside main metropolitan areas - 1	1	
KPI 15	Number of case studies submitted to **the dtic** - 2	2	
KPI 1	Annual realisation of **6** base SI units	6	
KPI 9	Client Satisfaction Score ≥ 70 % (≥ 3,5 on a 5-point scale)	88 % (4,4 on a 5-point scale)	
KPI 11	Client satisfaction score for training courses ≥ 70 % (≥ 3,5 on a 5-point scale)	89 % (4,5 on a 5-point scale)	

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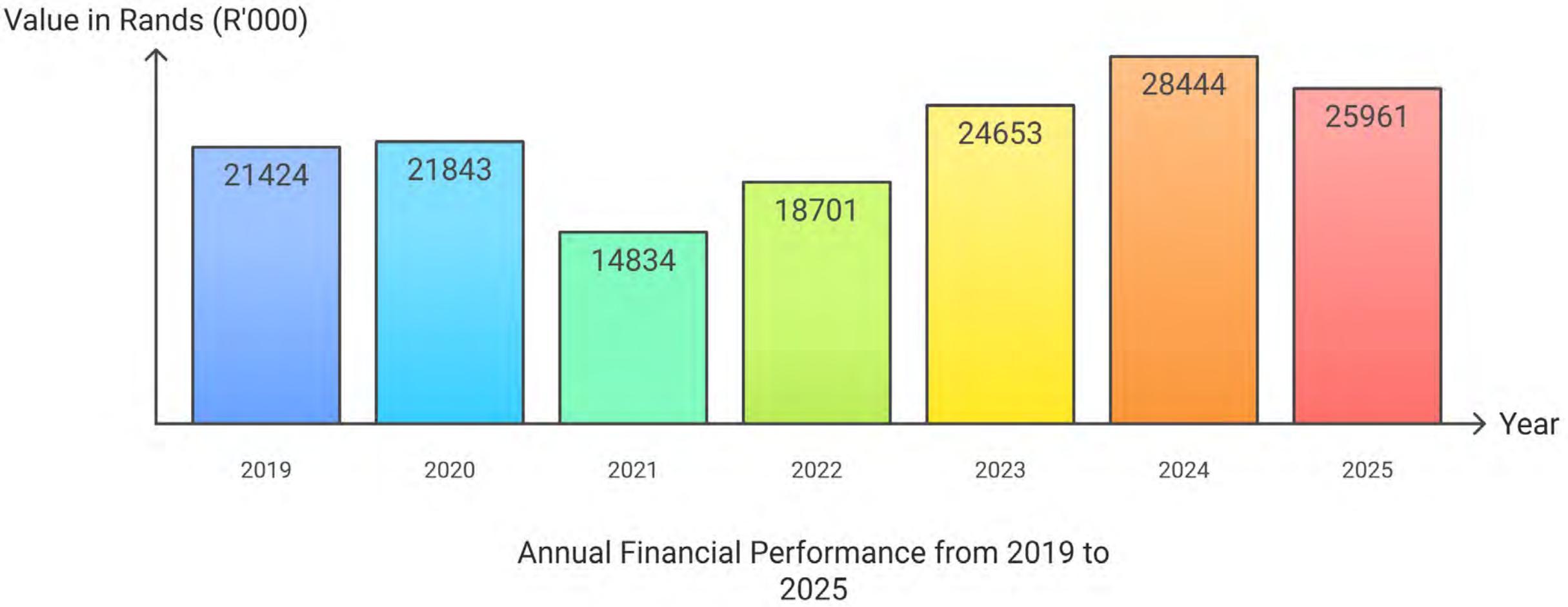
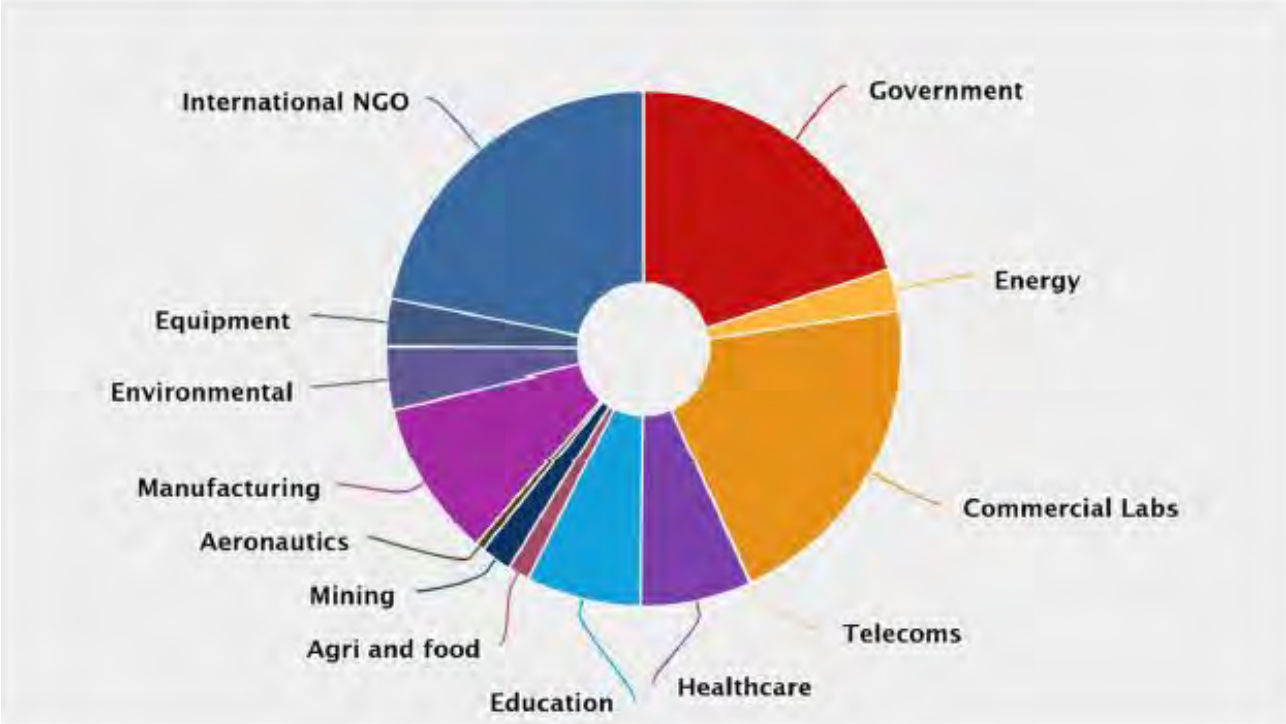
Revenue Figures from 2019 - 2025



Annual Financial Performance from 2019 to 2025

Sales Performance Metrics



	Amount (ZAR)
Calibration	R 8 708 645
Reference Materials	R 5 417 667
Reference Measurements	R 3 196 094
Proficiency Testing Scheme	R 2 392 766
Training and Consulting	R 3 480 905
Assessments	R 159 656
Sponsorships	R 524 454
Other Revenue	R 212 222
Cylinder Rental Fee	R 768 572

HR KPI Targets vs Achievements

Strategic Objective 4: Develop and retain a capable workforce that is able to utilise world-class infrastructure to deliver specialised and innovative measurement solutions						
Key performance output	**Performance Measure or Indicator**	**Annual Target**	**Third Quarter Milestone**	**Actual Achievement**	**Reason for Variance**	**Corrective Action**
Develop and retain a capable workforce	Number of Interns and in-service trainees hosted	6	6	5 (2 interns hosted in Q3 3 interns hosted in Q1)	The recruitment process for the 6th intern is still underway after approval was granted in October 2024.	The internship is at the screening stage
	Staff Turnover Rate	≤ 7 %	≤ 7%	16%	16 positions were approved in October 2024. The recruitment process to fill the vacancies is still underway.	11 positions were advertised while five positions are at the advanced stages of the recruitment and selection process.

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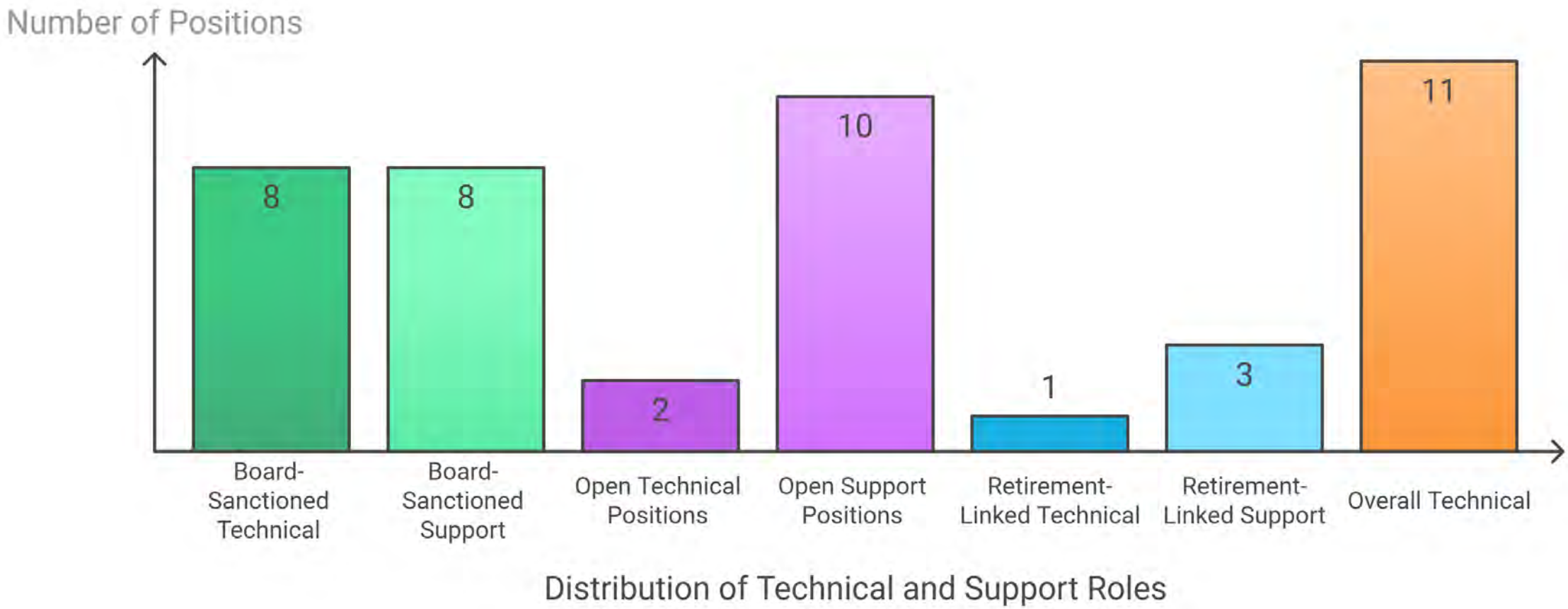
Recruitment status: Staffing Profile & Impact



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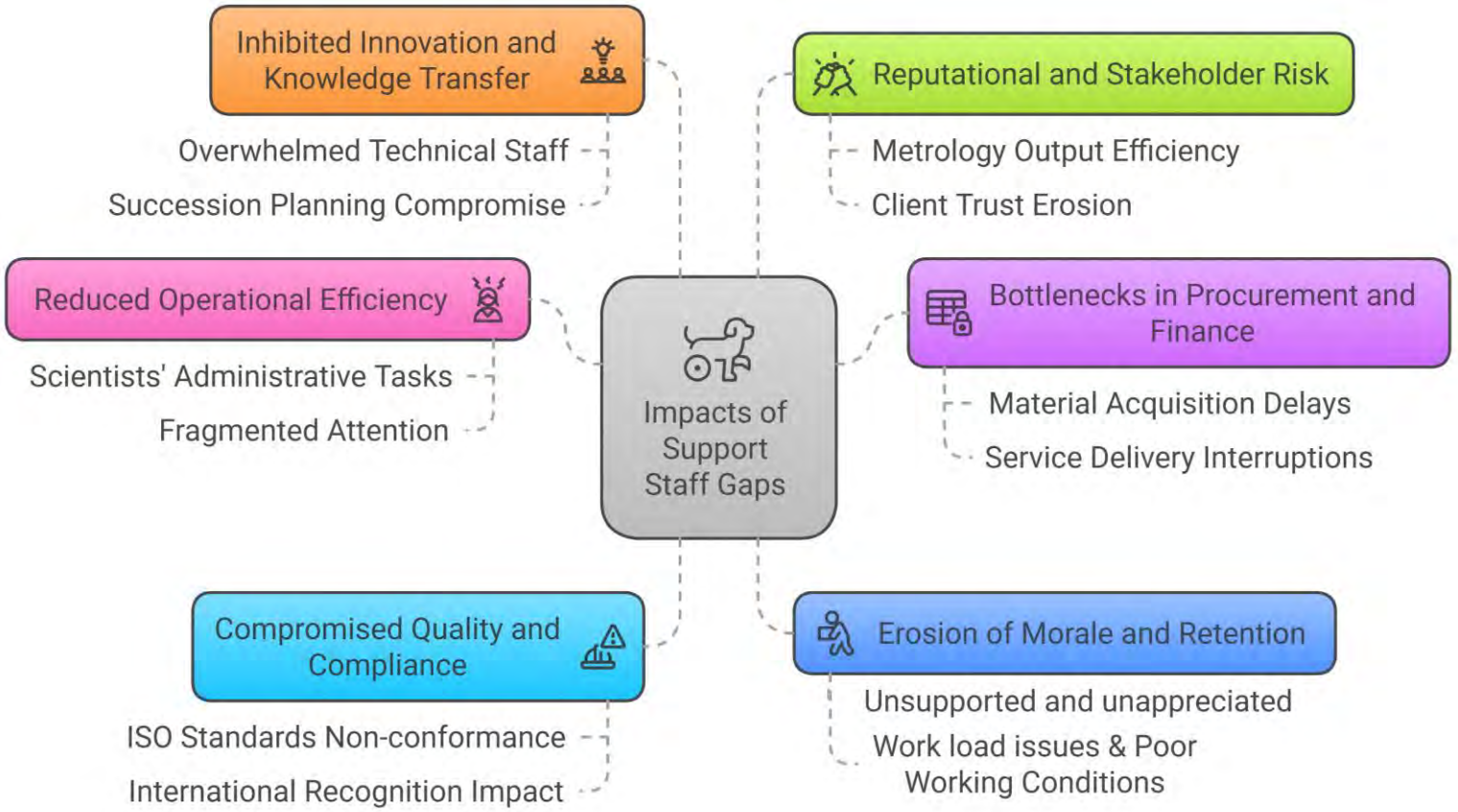
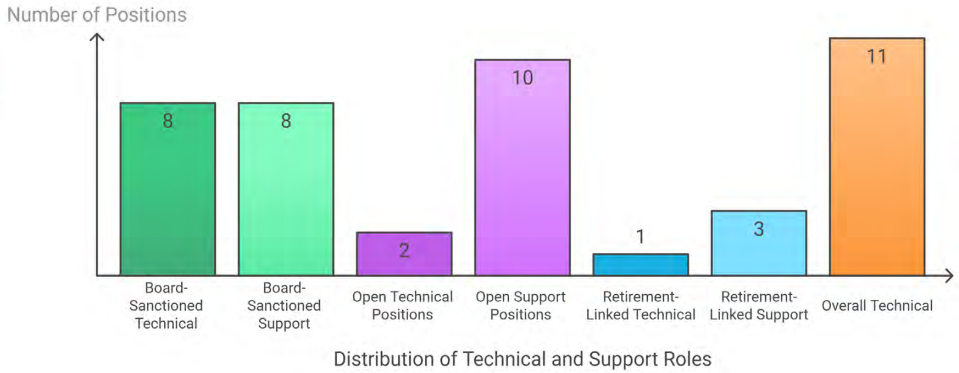
Recruitment status: Staffing Profile & Impact



Impacts of Support Staff Gaps on Technical Divisions



Distribution of Technical and Support Roles

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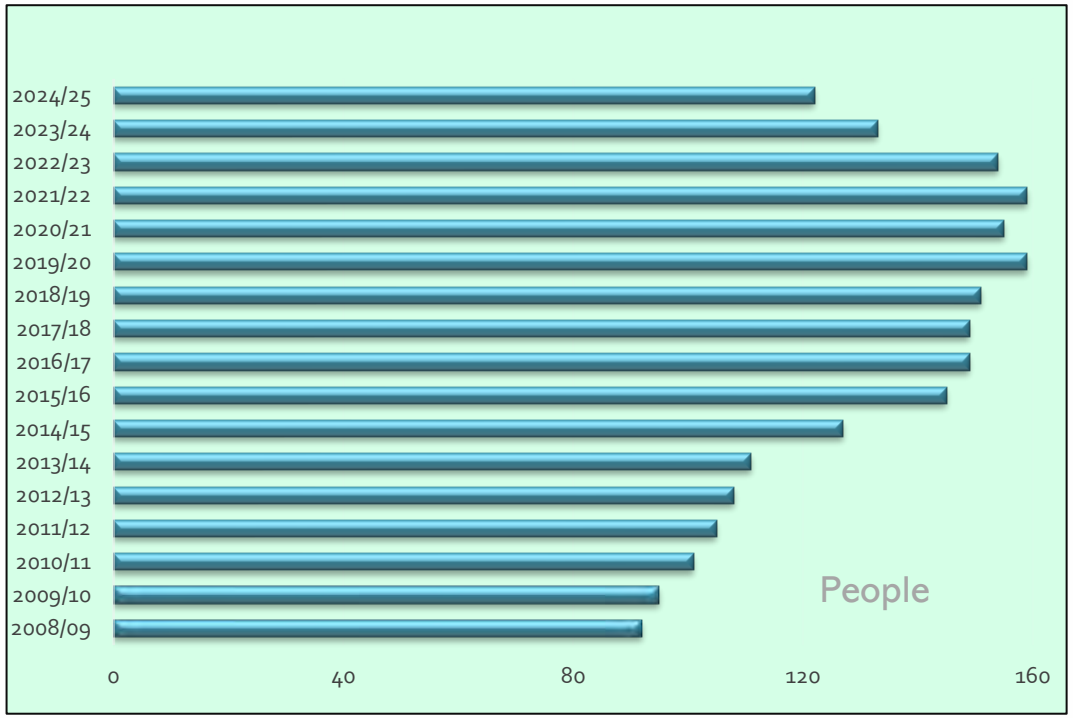
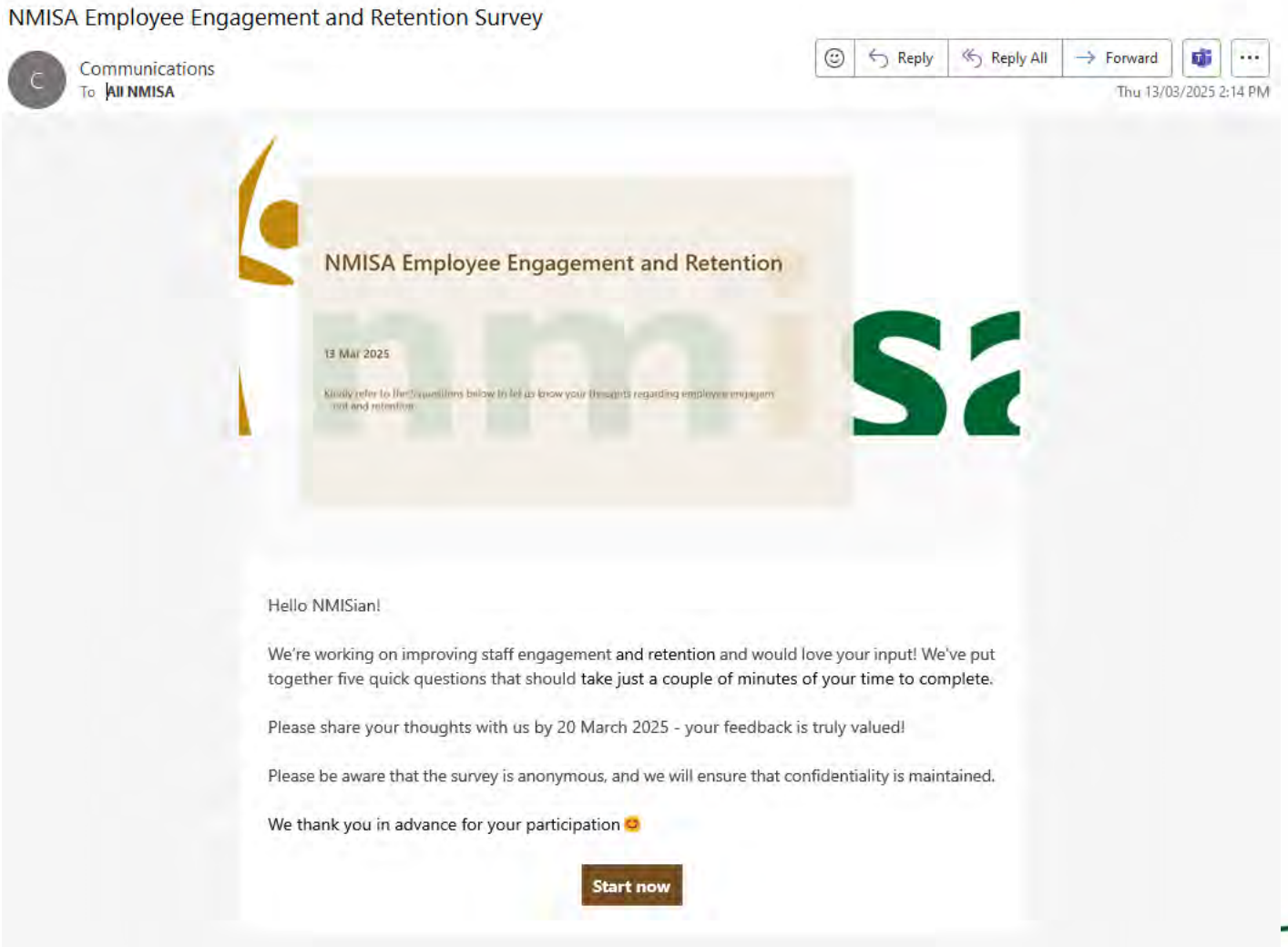
Employee Engagement and Retention





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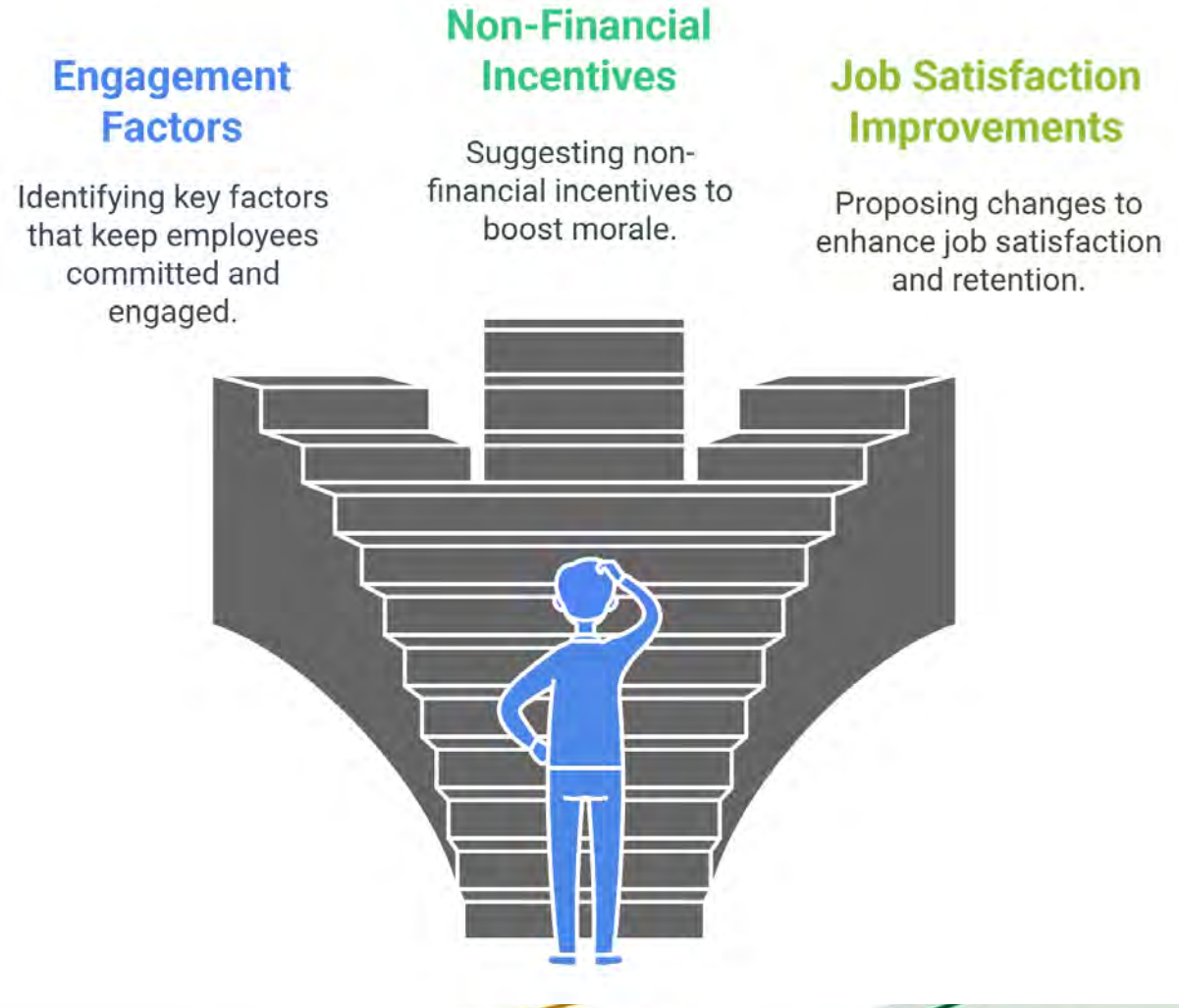
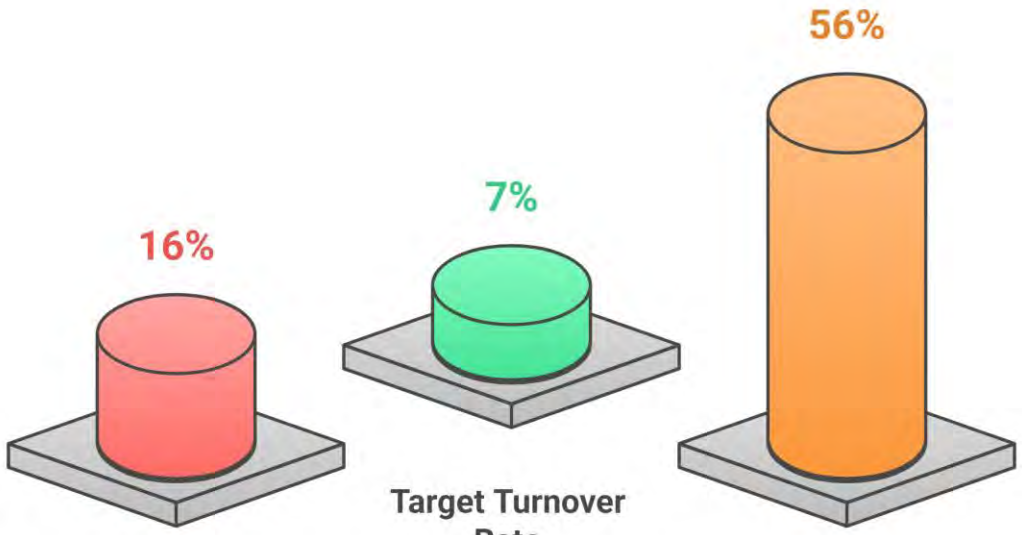
Employee Engagement and Retention

✅ **Action:** Communicate ongoing **HR retention strategies.** The goal is to **enhance engagement beyond monetary incentives**, fostering **growth, training, and leadership development** within NMISA.



Staff Turnover and Retention Strategy



Effective Communication

Strategic briefings enhance clarity. Staff meetings
EXCO - SMC channel

S

W

Limited Monetary Incentives

Flexible work arrangements
Improved work-life balance
Social interaction

Career Growth Initiatives

*Internal mobility - faster turn-around to filling vacancy.
Role-specific growth maps
Leadership 360 reviews

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Budget Constraints

Monitor recruitment rate
Financial rewards and pay progression?
NMISA Salary Bill

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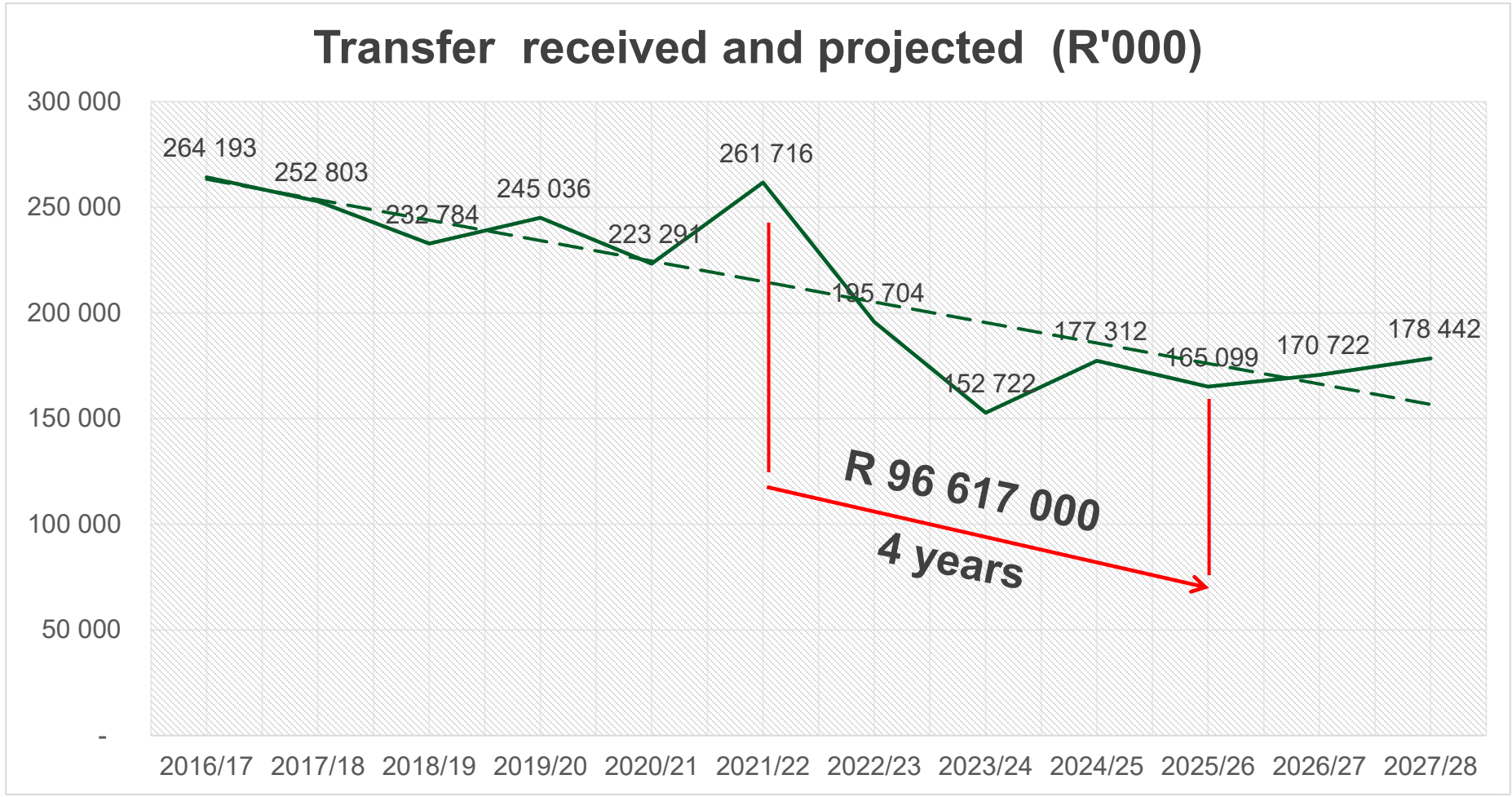
Funding Restrictions through Budget Cuts



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Leadership and Communication

✅ **Action:** Implement regular **feedback** through line-management**, staff meetings, and open-door policies** where employees can directly engage with leadership and understand the reasoning behind decisions.

CSIR Facilities & Rental Updates

Updates on facility management and rental agreements

Leadership Engagement & Organisational Review

Improved channels for communication and review of organisational structure

Funding Engagements

Shareholder management and efforts to secure additional grant and resources

SCM & Procurement Updates

Updates on supply chain management and procurement processes

DTIC Strategic Considerations

Strat plan/ APP discussions with the dtic and NMISA alignment

Agreement on Employee Compensation Adjustments

Negotiations and agreements on employee pay changes

Succession and Continuity Strategy

Traditional succession planning assumes a stable pool of internal candidates being developed over 3-5 years. This model is no longer feasible for NMISA. Instead, we propose a **Continuity Framework** based on the following key pillars:

- Hold signatory authority on national measurement standards (NMS)
- Are required for ISO 17025/17034/17043 compliance
- Serve as single or primary custodians of unique metrology capabilities
- Are responsible for key systems or stakeholder relationships

- Develop modular SOPs and technical records
- Video-record key procedures and training walkthroughs
- Schedule knowledge transfer sessions with outgoing/retiring staff (3–6 months prior)
- Assign technical writers within RIPO to document critical institutional knowledge

- Map roles with overlapping technical competencies
- Formalise team-based responsibilities where individuals back each other up
- Create cross-functional project teams to build institutional memory across units

- Maintain a roster of retired/contractual experts to serve on short-term assignments (6–12 months)
- Fast-track internal appointments using secondments and acting roles for upskilling
- Use targeted HCD bursaries only for high-risk succession gaps aligned to strategy

- RIPO will drive partnerships with academia and international institutes for skills exchanges
- Host a national and regional metrology skills forum to support shared resourcing
- House a digital repository of technical know-how and stakeholder engagements

Systemic Pressures: Action Plan Overview

Short-Term (0–3 months):	Medium-Term (3–12 months):	Long-Term (12–24 months):
Finalise organogram aligned to budget	Rebuild EEC and reinitiate internal communication loop	Evaluate succession outcomes against continuity plan
Address exit interview themes in management meetings	Institutionalise retention metrics in performance reporting	Strengthen grievance, feedback, and leadership coaching frameworks
Align EXCO scorecards with HR KPIs	Implement flexible work and wellness pilot	Complete salary benchmarking exercise
Conduct structural risk-based review (roles vs funding) Analysis of continuity plan	Execute EE plan roll-out and track appointments	Launch secondment and mentoring under Training centre
Migrate to digital recruitment and performance tools	Resolve priority ERP/payroll integration issues	

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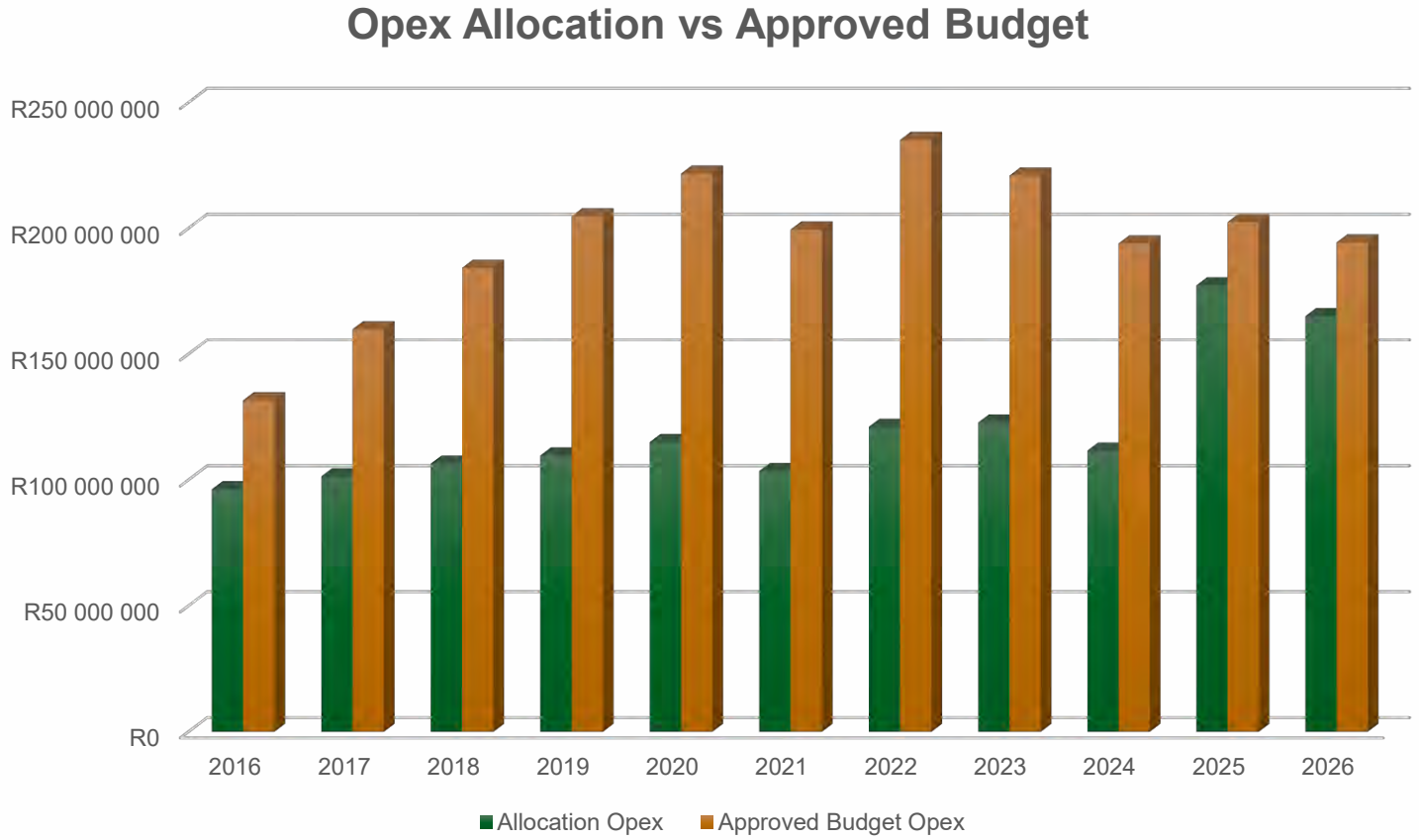
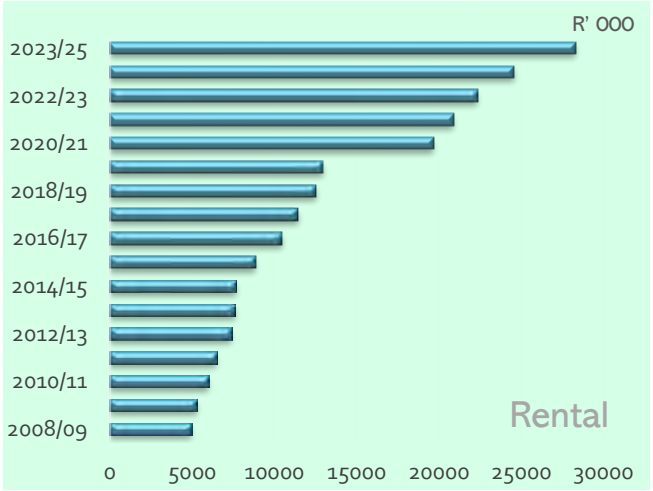
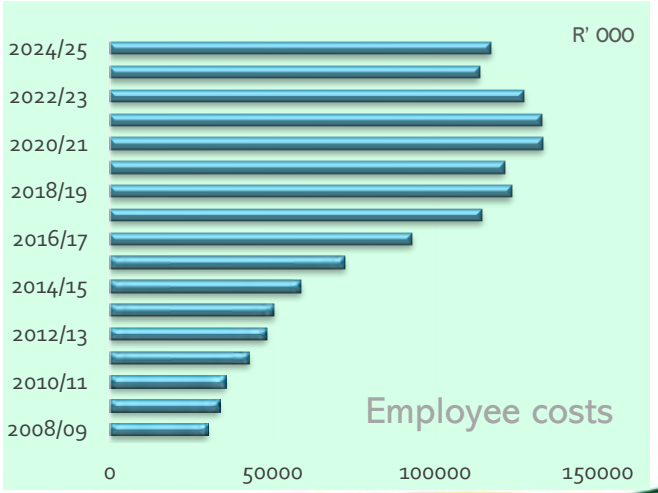
NMISA Financial Constraints







- COE, rentals &Utilities, IT (Fixed Costs) = 85% of budget
- Reduction in budget directly equates to reduction in personnel and scope of services generation revenue

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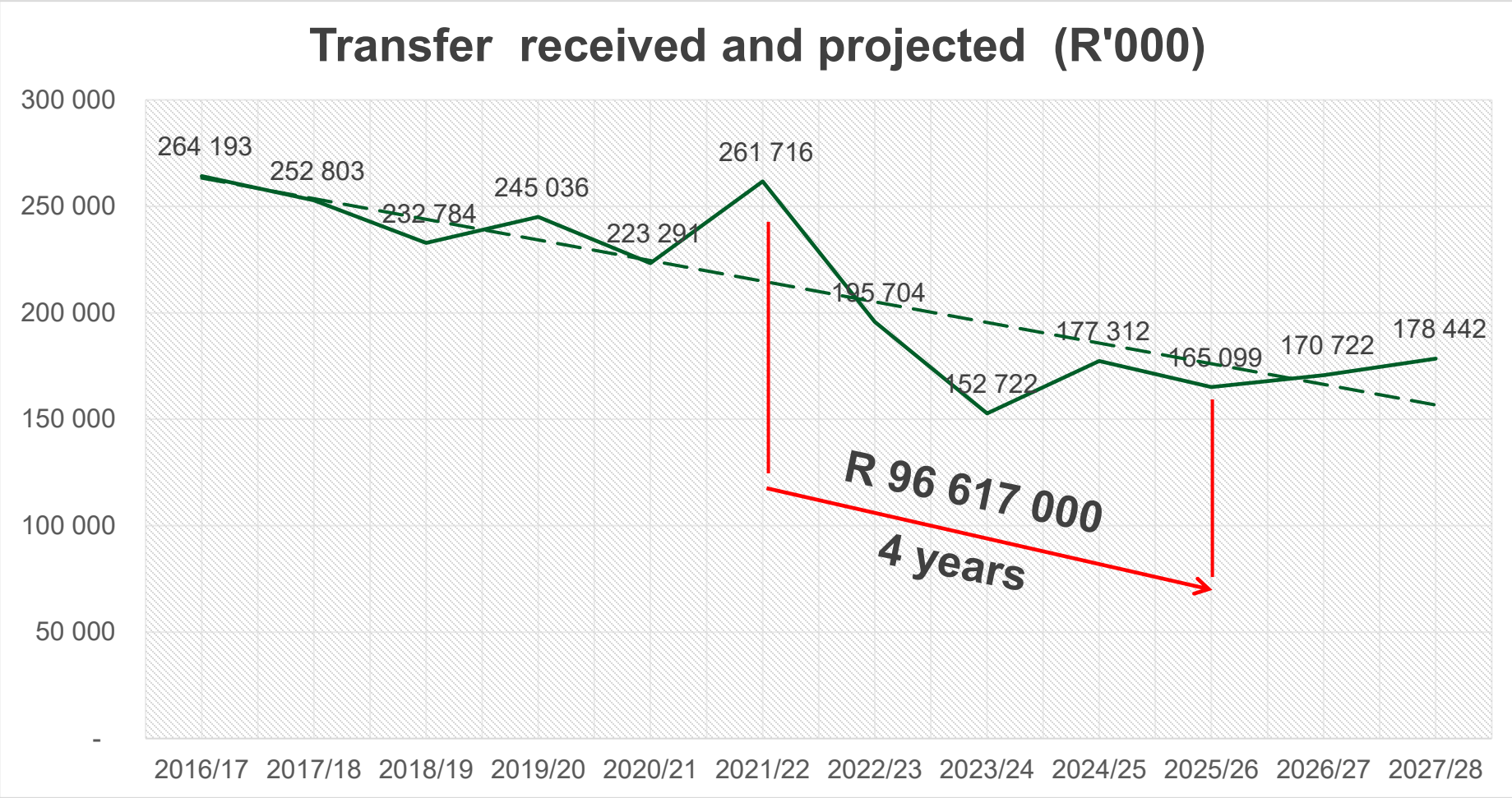
Funding Restrictions through Budget Cuts



Revenue generation based on dtic cuts?

Staff resignations – meant we did not have S189

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Management Accounts Year Ending 2024/25

	Approved Budget	Actual
Revenue		
External Revenue	24 679 600	25 961 869
Interest from Investment	4 000 000	8 306 623
Other Income	0	918 417
	28 679 600	35 186 909
Transfer from controlling entity	177 312 000	177 312 000
Compensation		
Employees	104 081 971	102 019 292
Gratuity	0	990 000
Temporary Employees	918 669	2 303 689
Board Members	700 000	954 680
	105 700 640	106 267 661
Operating Expenses		
Total	76 787 253	80 023 375

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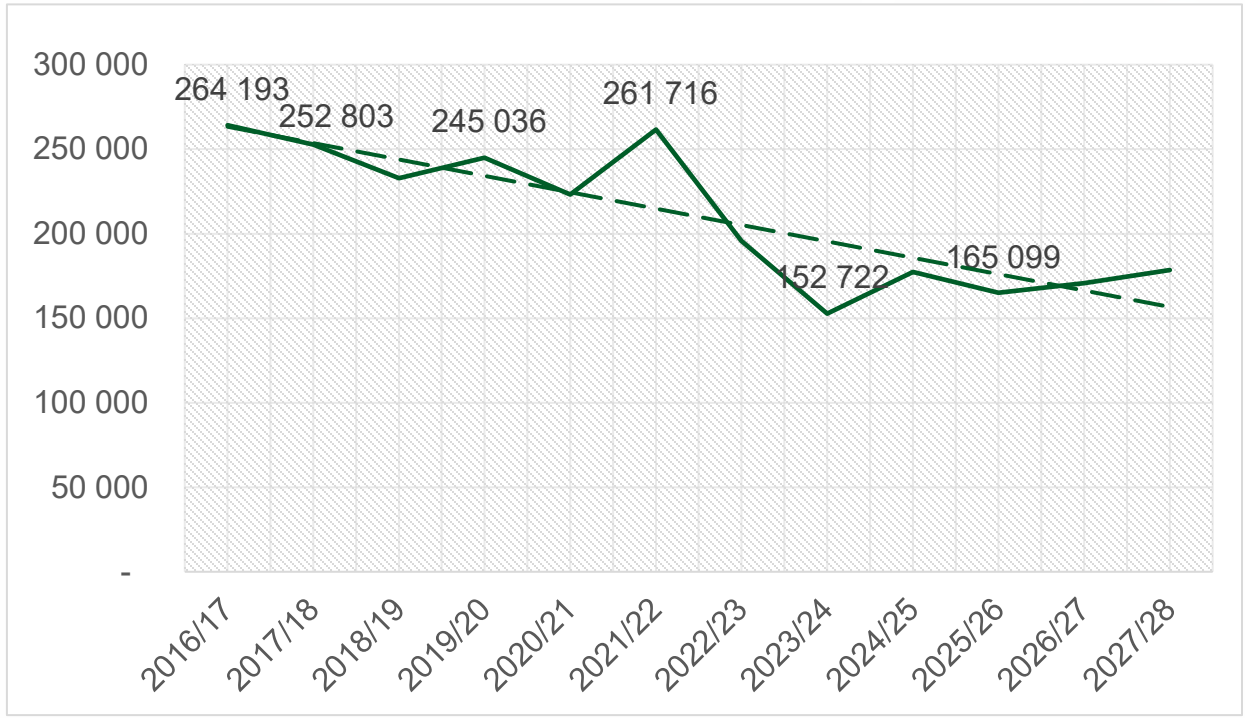
NMISA Budget and Expenditure 2025/26

NMISA BUDGET INCOME AND EXPENDITURE 2025/26

Expenditure Allocations	2025/26 BUDGET	2024/25 APPROVED BUDGET	% change compared to prior year
TOTAL REVENUE	**194 387 843**	**205 991 600**	**-6%**
Total Grant allocated	165 099 000	177 312 000	-7%
Investment Income	6 000 000	4 000 000	50%
Income from rendering of services	23 288 843	24 679 600	-6%
TOTAL EXPENDITURE	**(194 387 843)**	**(205 991 600)**	**-6%**
Operational Expenditure	**(75 069 327)**	**(72 880 414)**	**3%**
Catering, events and meetings	(681 000)	(837 000)	-19%
Chemical, Gas & Consumables	(4 724 809)	(5 256 412)	-10%
IT expenses (incl. software licences)	(11 162 100)	(11 552 000)	-3%
Marketing & advertising	(820 000)	(1 700 000)	-52%
Operating leases	(28 336 912)	(20 304 133)	40%
Repairs and maintenance	(7 220 706)	(7 778 383)	-7%
Technical components	(1 381 100)	(2 360 500)	-41%
Travel related expenses	(1 800 000)	(2 599 536)	-31%
Water & Electricity (CSIR)	(5 900 000)	(5 900 000)	0%
Other operating expenses	(13 042 700)	(14 592 450)	-11%
Employee related costs	**(119 318 516)**	**(129 611 186)**	**-8%**
Employees costs	(117 278 516)	(127 140 186)	-8%
HCD (training & bursaries)	(990 000)	(1 471 000)	-33%
Performance bonus	-	-	0%
Career Ladder Adjustments	-	-	0%
Casual employees	(300 000)	(300 000)	0%
Board Remuneration	(750 000)	(700 000)	7%
Capital Expenditure (PPP)	-	**(3 500 000)**	**-100%**
BUDGET SURPLUS/(DEFICIT)	-	-	**0%**



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Global Metrology Institutes

NIM (China)

Fully State-Funded, Centralised, Not combined with ISO

NPL (UK)

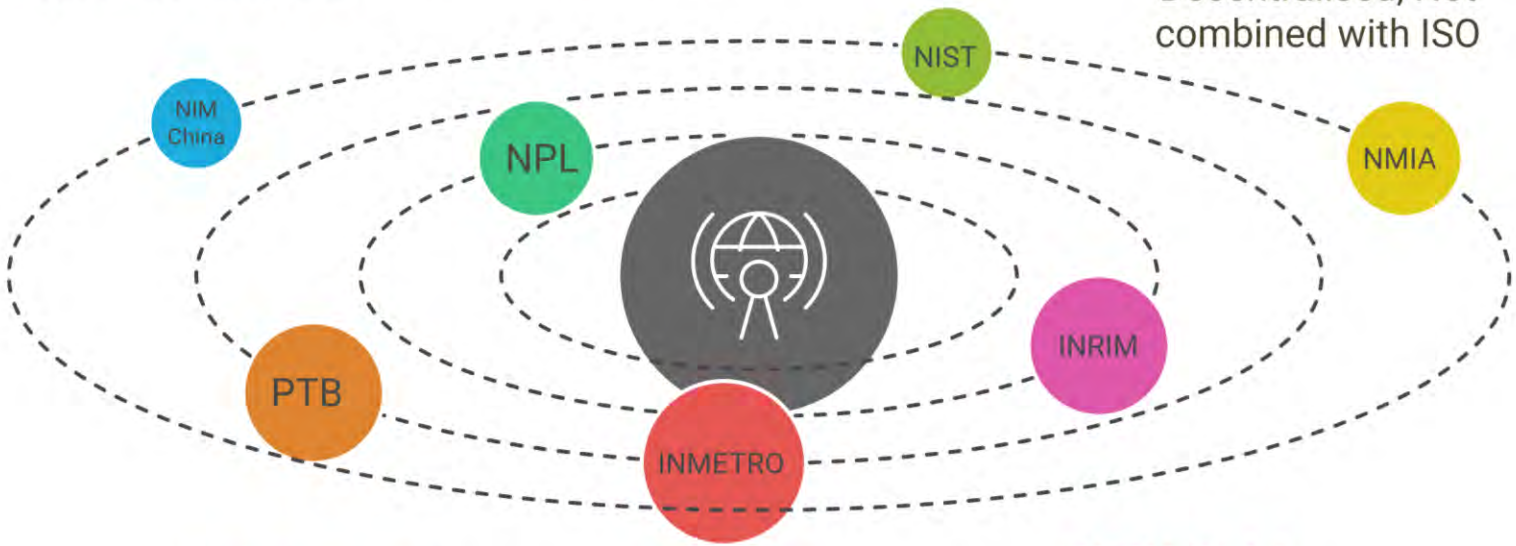
Primarily State-Funded, Decentralised, Not combined with ISO

NIST (USA)

Fully State-Funded, Decentralised, Not combined with ISO

NMI (Australia)

Fully State-Funded, Decentralised, Not combined with ISO



PTB (Germany)

Fully State-Funded, Decentralised, Not combined with ISO

INMETRO (Brazil)

Fully State-Funded, Decentralised, Not combined with ISO

INRIM (Italy)

Fully State-Funded, Decentralised, Not combined with ISO

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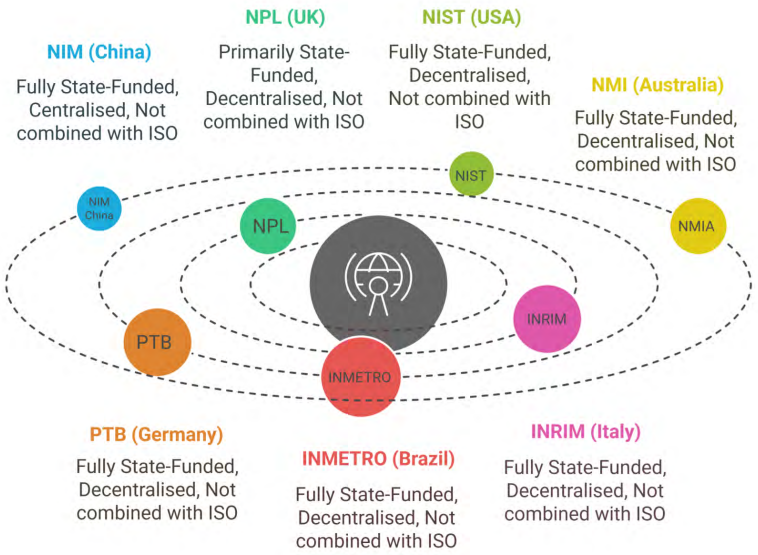
The Metrology Economic Cycle: Multiplier Effect

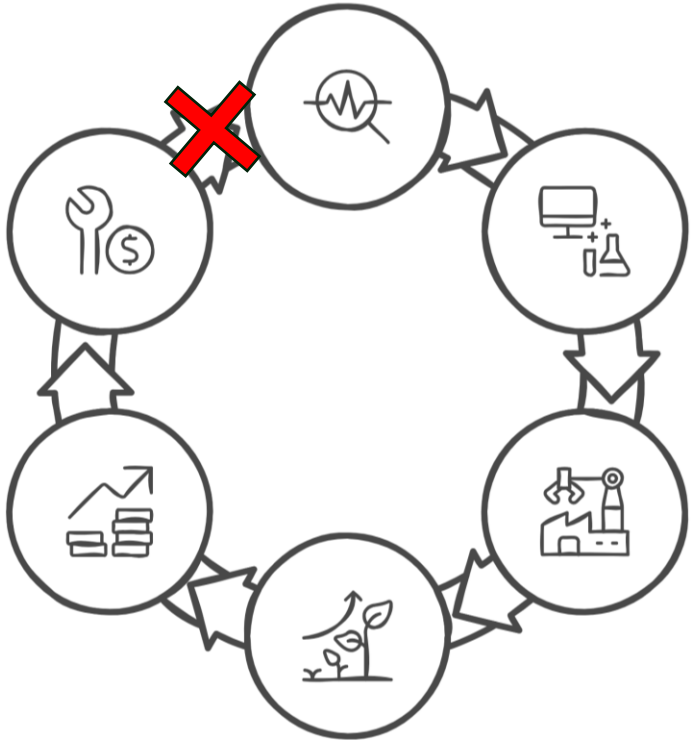


Expand Metrology Services

DTIC invests in NMISA to expand its metrology services.

Reinvest in NMISA

Increased business activities generate more revenue and taxes which fund further metrology investment.



Support Private Labs

Private calibration labs benefit from the decentralised services, allowing them to serve more of industry needs.

Economic Growth

Economic growth leads to higher employment, wages, and consumer spending.

Industry Calibration

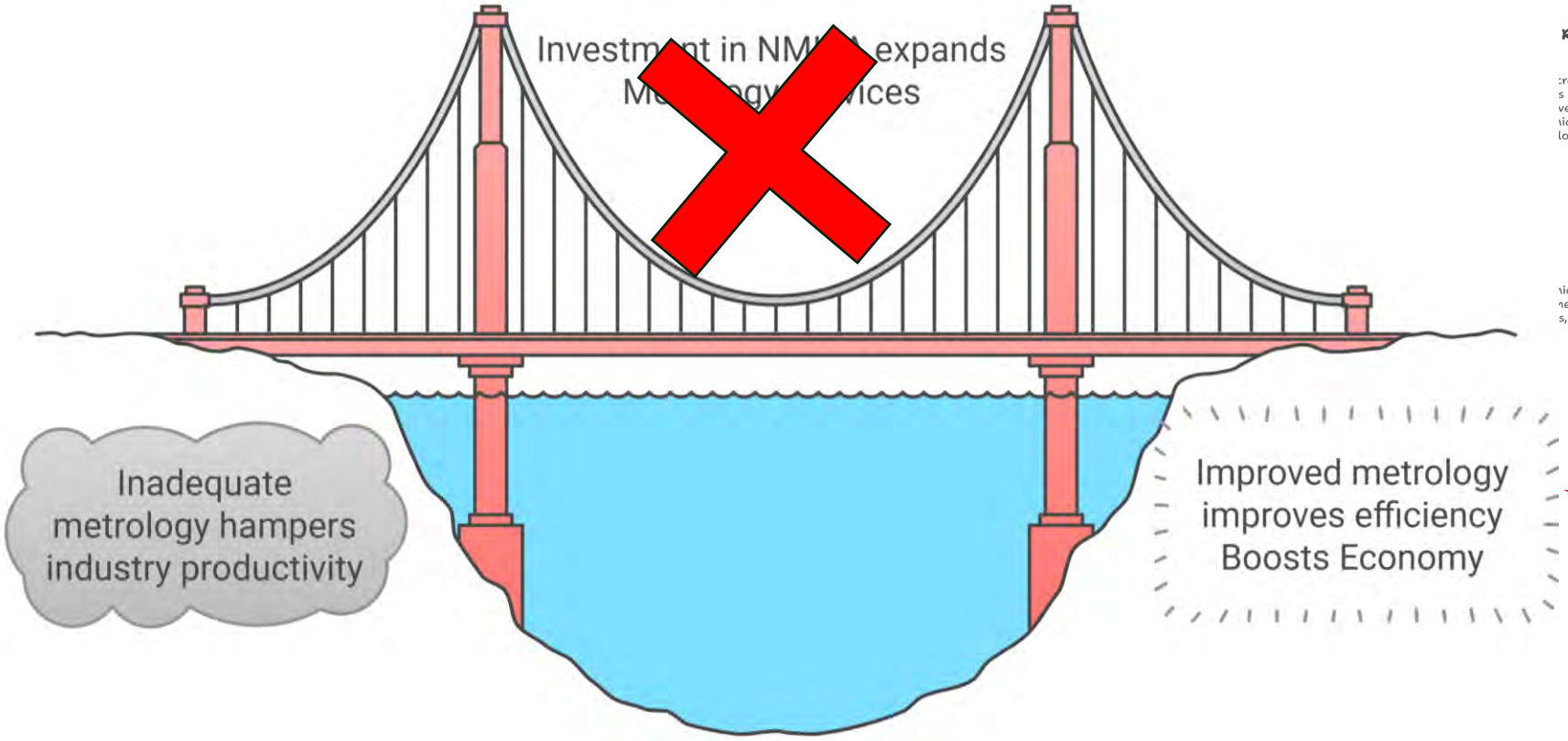
Industry relies on calibrated instruments for quality control, boosting productivity and exports.

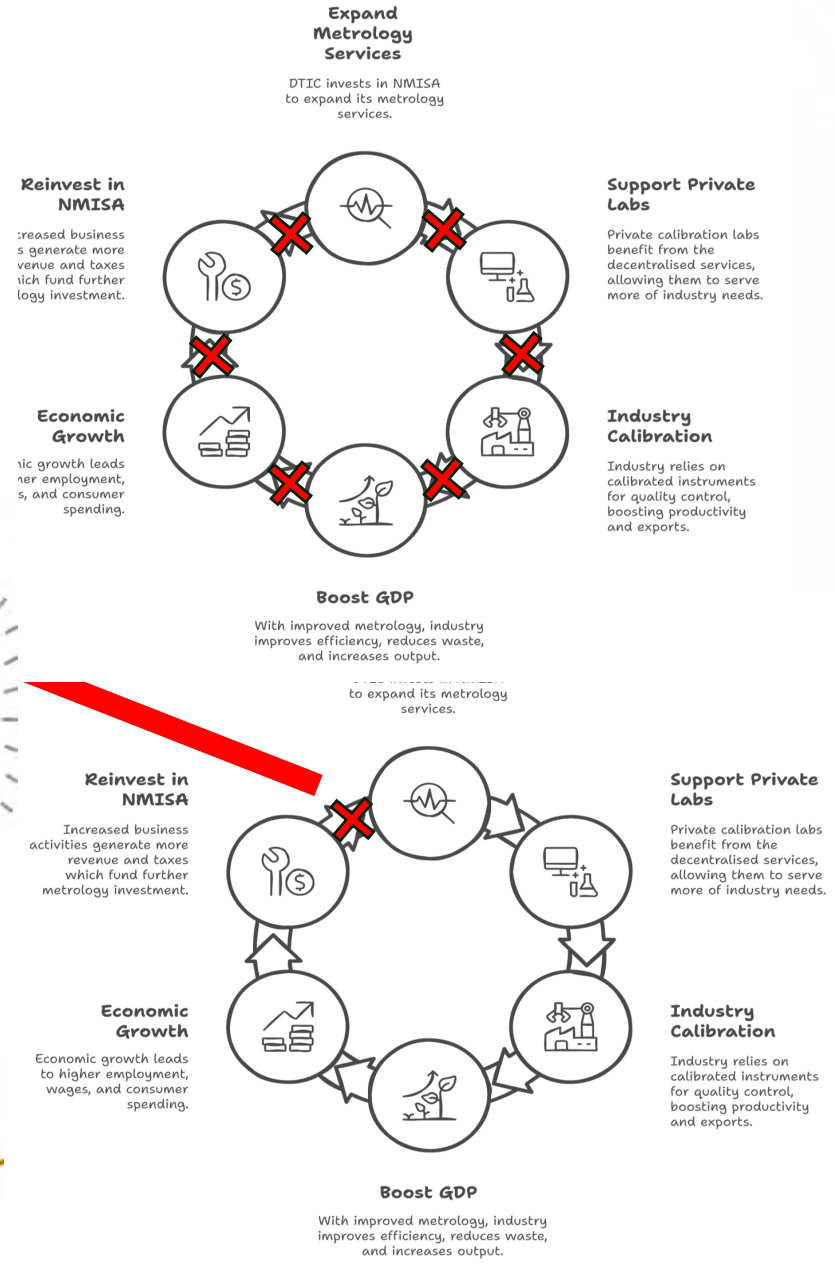
Boost GDP

With improved metrology, industry improves efficiency, reduces waste, and increases output.

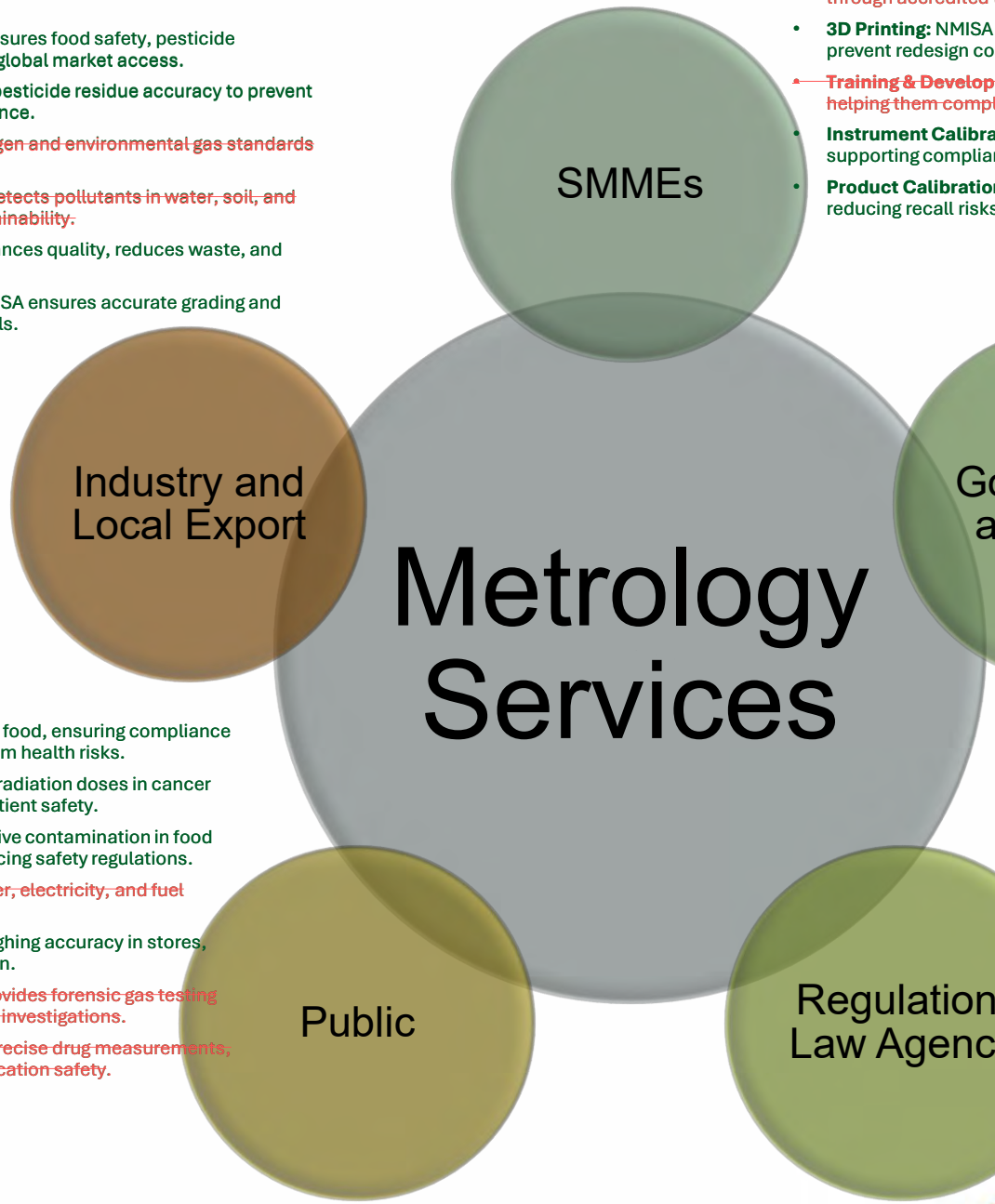
Unsustainability due to Funding Restrictions

Transfer received and projected (R'000)





Metrology Services



SMMEs

- **Essential Oils:** NMISA ensures essential oils meet global trade standards through accredited testing and certification.
- **3D Printing:** NMISA provides calibration services to optimise designs, prevent redesign costs, and enhance product durability.
- **Training & Development:** NMISA trains SMMEs on quality standards, helping them comply with regulations and expand market access.
- **Instrument Calibration:** NMISA ensures accurate trade measurements, supporting compliance, research, and financial transparency.
- **Product Calibration:** NMISA certifies products to meet trade standards, reducing recall risks and boosting consumer confidence.

Government and SOEs

- **Gautrain – Safety & Reliability:** NMISA conducts failure analysis testing on critical components, preventing mechanical failures, ensuring passenger safety, and improving operational efficiency.
- **SAA – Aircraft Safety & Calibration:** NMISA calibrates aviation instruments, ensuring compliance with international safety standards and strengthening South Africa's aircraft maintenance industry.
- **Eskom & Koeberg – Power Generation Safety:** NMISA supplies gas measurement standards for emissions control and ensures precise calibration of safety instruments at Koeberg Nuclear Power Station.
- **Council for Geoscience – Asbestos Monitoring:** NMISA analyses samples from derelict mines to detect asbestos contamination, supporting environmental risk assessments and remediation efforts.

Regulation/ Law Agency

- **Legal Compliance & Enforcement:** NMISA provides measurement standards for regulatory and law enforcement agencies, ensuring legal compliance in key sectors.
- **Proficiency Testing:** NMISA verifies private laboratory accuracy, ensuring compliance with food safety, chemical, and microbiological standards.
- **Forensic Calibration:** NMISA calibrates breathalysers, speed cameras, and drug tests, ensuring reliable measurements for law enforcement.
- **Emissions Monitoring:** NMISA provides reference standards for emissions control, supporting air pollution regulation and environmental protection.
- **Imported Products & Services:** NMISA ensures imported medical, electronic, and food products meet national safety and quality standards.

Public

- **Food Safety:** NMISA tests for contaminants in food, ensuring compliance with safety laws and protecting consumers from health risks.
- **Medical Radiation:** NMISA ensures accurate radiation doses in cancer treatment, preventing errors and improving patient safety.
- **Radioactive Testing:** NMISA detects radioactive contamination in food imports, safeguarding public health and enforcing safety regulations.
- **Utility Meter Calibration:** NMISA verifies water, electricity, and fuel meters for fair billing and trade compliance.
- **Retail Scale Calibration:** NMISA ensures weighing accuracy in stores, promoting fair pricing and consumer protection.
- **Methane Poisoning Investigation:** NMISA provides forensic gas testing to support law enforcement and public health investigations.
- **Pharmaceutical Accuracy:** NMISA ensures precise drug measurements, preventing dosage errors and enhancing medication safety.

Industry and Local Export

- **Export Quality Assurance:** NMISA ensures food safety, pesticide compliance, and residue analysis for global market access.
- **Agricultural Testing:** NMISA verifies pesticide residue accuracy to prevent trade disruptions and ensure compliance.
- **Gas Standards:** NMISA develops oxygen and environmental gas standards for safety and regulation.
- **Environmental Monitoring:** NMISA detects pollutants in water, soil, and mining sites for compliance and sustainability.
- **Manufacturing Support:** NMISA enhances quality, reduces waste, and ensures compliance in key industries.
- **Diamond & Mineral Calibration:** NMISA ensures accurate grading and compliance for diamonds and minerals.

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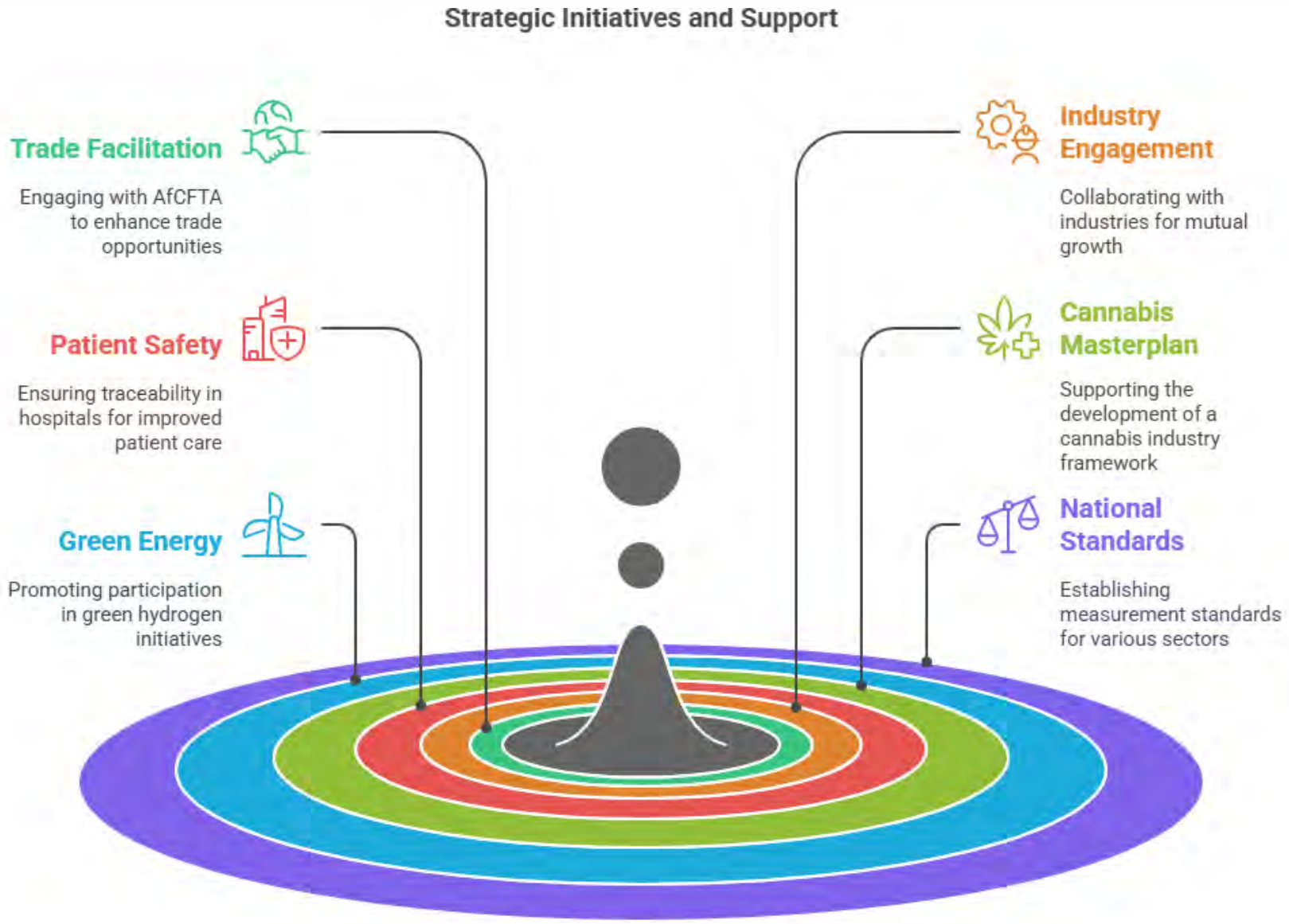
DTIC Support and Collaboration: Short Term



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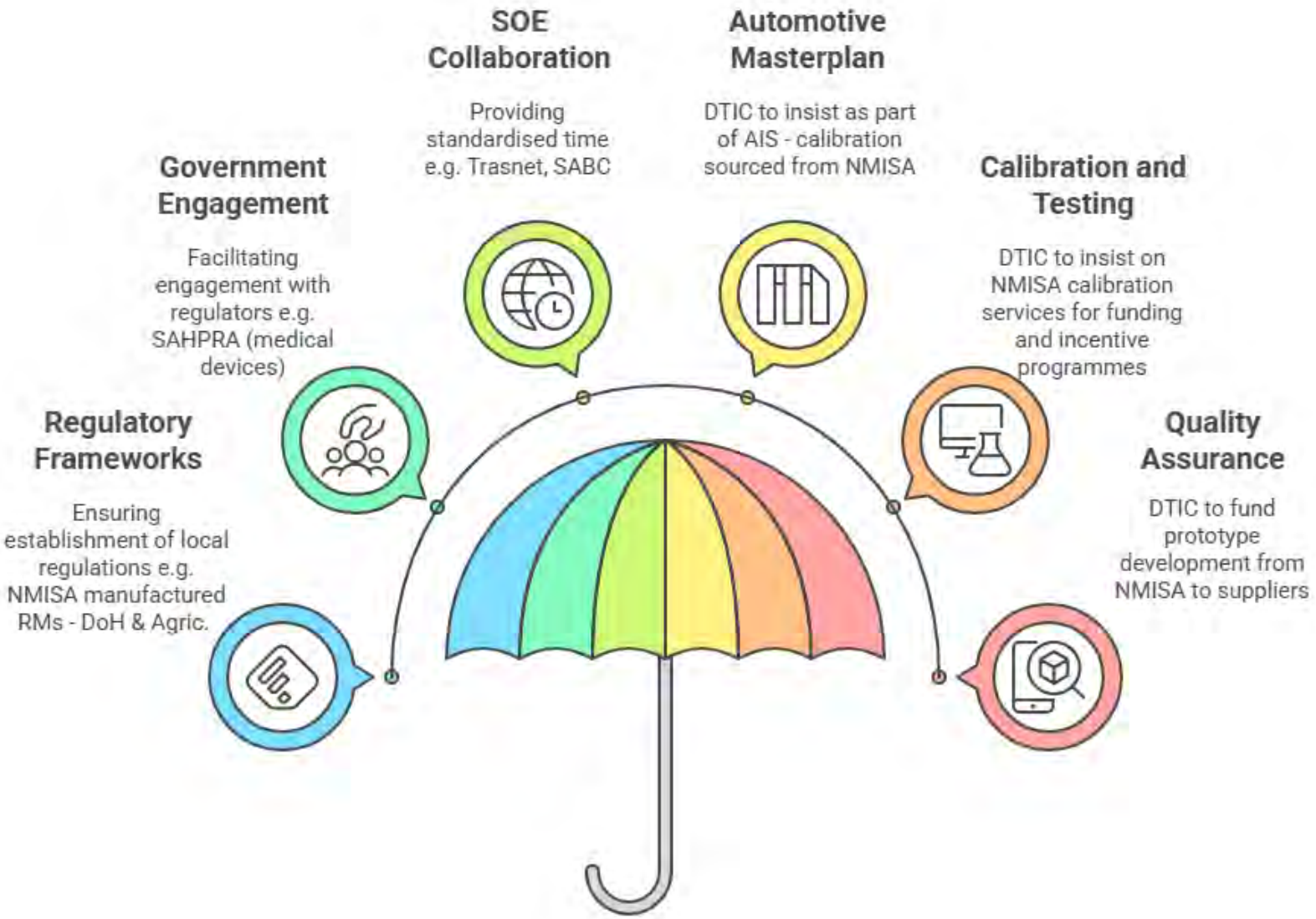
DTIC Support and Collaboration: Medium to Long Term



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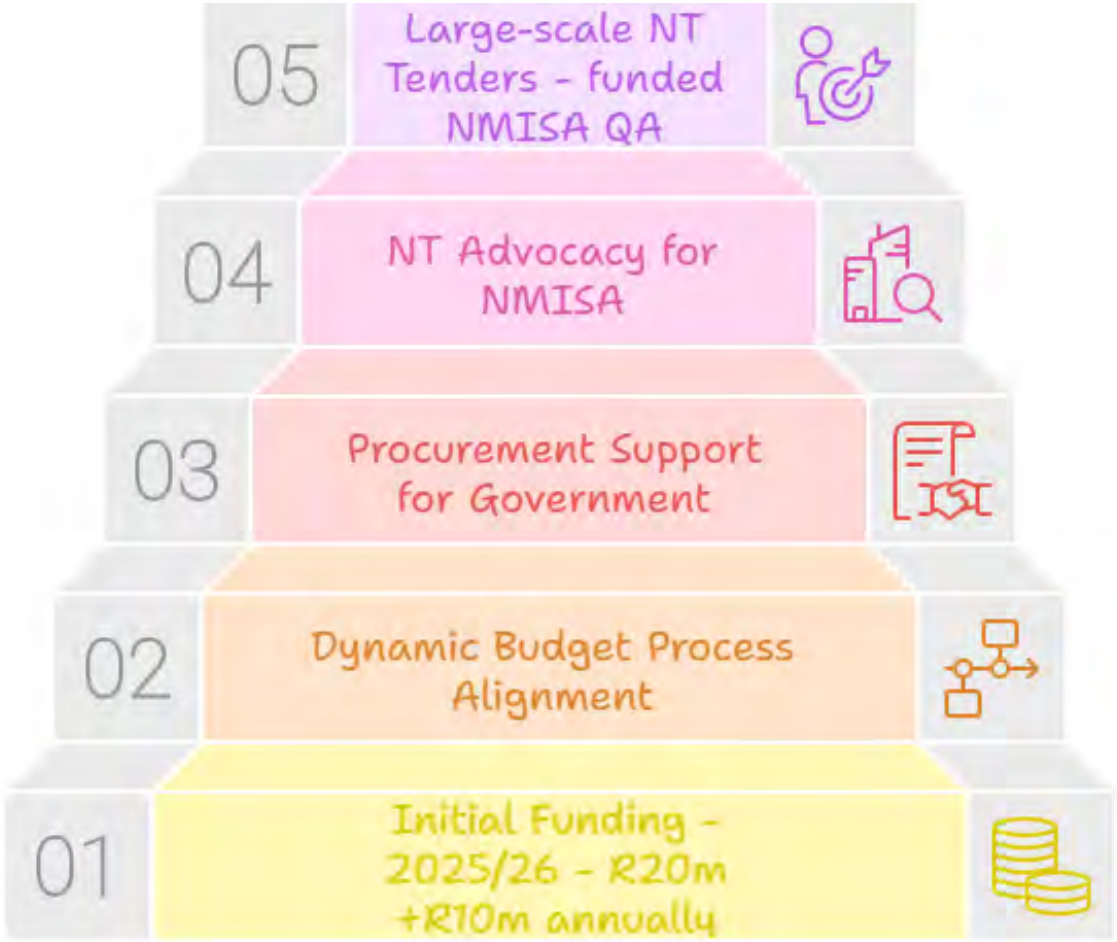
National Treasury Support



- Funding of NMISA operations
  - 2025/26 – R20m increasing R10m over the next 5 years.
- NT to dynamic budgeting processes and non-aligned delivery processes.
- Support in procurement for services where NMISA is a sole supplier (municipalities paying 5x the price for subcontracting to NMISA)
- NT to advocate for Quality Infrastructure expanding to more than SABS and SANAS.
- Funded NMISA involvement in large scale NT Tenders dependant on measurement capabilities
  - E.g. DOH medical gas requirements. Testing and assurance of purity levels procured.

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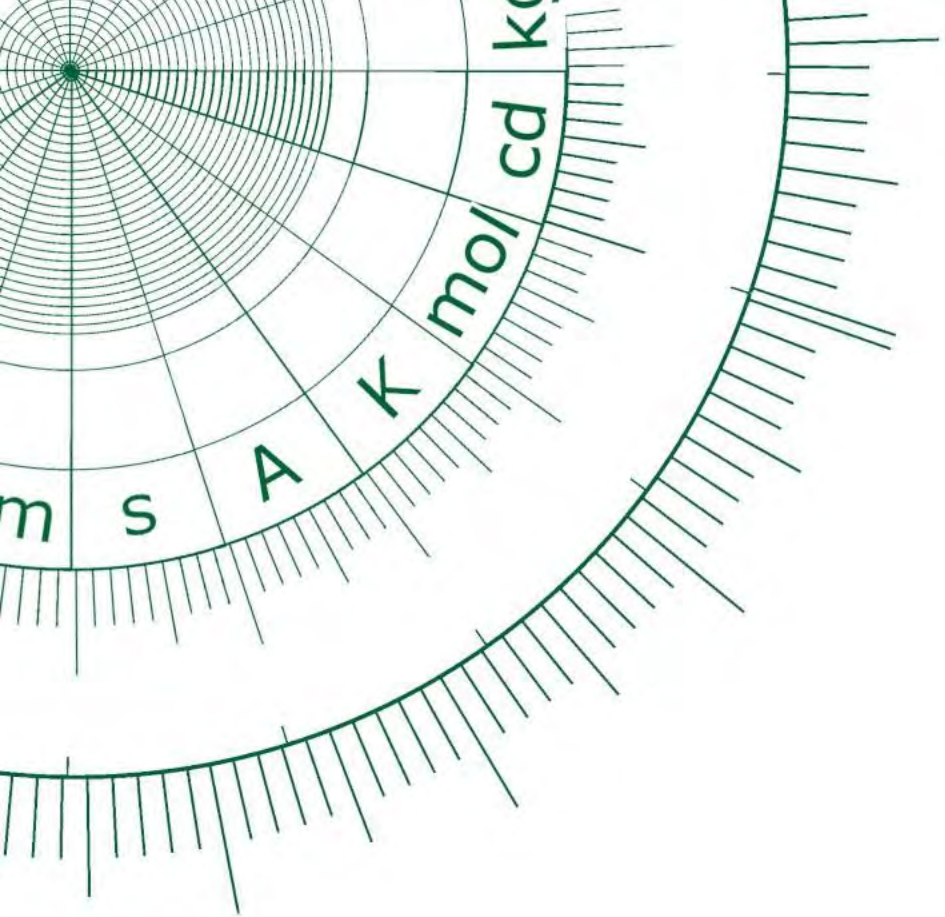

nmisa

National Metrology Institute of South Africa

Thank You

We measure what matters