
c) Physical metrology

- After examining a broad range of options for the best future positioning of the National Metrology Laboratory (NML), the Review concluded that on balance, it would be appropriate for it to remain in CSIR, provided a number of internal structural changes were effected within CSIR. These are considered essential for the NML to achieve a suitable national identity in its own right and have that identity as a national interest organisation, clearly differentiated from the roles of CSIR in general. To achieve this a number of actions have been recommended, including the following:
 - Having the NML not operate within a Division of CSIR but having the status of a separate Division or equivalent.
 - The establishment of an NML Management Board with a combination of CSIR, DTI and industry, with accountability to the Minister for Trade and Industry for national interest activities and associated funding.
 - The establishment of an NML Advisory Board with a combination of SQAM and industry representatives, to provide views on strategic requirements for metrology to the NML Management Board, and to be accountable to the Minister for Trade and Industry for maintaining a national overview of metrology needs in South Africa.

The above arrangements will also help to allay concerns about multiple layers of overhead costs for the NML and ensure a greater level of stakeholder inputs to the NML's strategic direction combined with a process for direct oversight from the NML's major funding organisation. The objectives of the Board are described in detail in the Report.

- The Review has found a need for The Measuring Units and National Measuring Act to be amended to accept legal traceability to foreign measurement standards under strict conditions. This should facilitate South Africa's global trade and underpin the principles of the Global MRA between NMIs and complement other global MRAs in which South Africa participates, such as the newly concluded ILAC MLA.
- Maintenance of funding from government at levels at least equivalent to the international norms identified during the Review, have been recommended to ensure that South Africa retains credibility for its metrology capability both domestically, regionally within SADC and globally. Assisted by the inputs from the proposed NML Management Board and, industry and government need to set priorities for the NML to increase selectively its research and

development capabilities in measurement sciences. These priority areas should also target opportunities to extend the NML's participation in key Consultative Committees of the CIPM and in areas where technology transfer to industry will be of maximum benefit.

- There are also clear needs for development of new skills and new generations of measurement scientists in the NML and this has ramifications for funding and cooperation with other parties which are elaborated in the Report. The NML provides essential training and skills development in industry and also provides support for SANAS and the national measurement system through the provision of technical assessors. There is concern in some areas that the skill level at the NML is not sufficient to satisfy the present needs of industry and that it might decline further. This has ramifications for funding and the national measurement system, which are also elaborated in the Report.
- International acceptance of the national standards, measurement traceability and testing in South Africa requires that the NML's capabilities be recognised through the metrology Global MRA at a level comparable to South Africa's major trading partners. This is important not only for South Africa but also for the SADC Region where the NML provides a vital link into the international system.
- To maintain the standards at an appropriate level and to gain access to the international Consultative Committees on metrology requires an on-going program of R&D to contribute to and participate in developments in fundamental metrology. It is important that R&D is recognised as an essential activity within the NML.

d) Accreditation

- SANAS has achieved a high level of domestic acceptance and comprehensive recognition in formal international mutual recognition agreements for its laboratory and certification body accreditation programs. This is despite a relatively short history in its current form, although some of its success is undoubtedly related to the work and reputation of its earlier subset, the National Calibration Service.

There are questions arising out of SANAS' current corporate status, as a not-for-profit Section 21 company. Under its current status, can it act in a national interest capacity; can it act on behalf of regulators; can it provide government with trade negotiation support; and can it adequately control abuses by unethical conformity assessment bodies? One potential answer for these concerns is to establish an Accreditation Act - an issue set as a term of reference for this Review.

An examination of international practice confirmed that many national accreditation bodies have the same corporate status as SANAS and are able to act effectively on behalf of government without enabling legislation. The great benefit of this arrangement is that the accreditation body is able to act in both the voluntary and regulatory sectors and thus more impartially than a government body.

SANAS is already acting on behalf of regulators quite successfully, so there are precedents to be built on with other regulators. Another recommendation in this Report proposes that a “Regulatory Reform Act” include powers to deal with abuses of certification and accreditation marks, which otherwise might have been incorporated in an Accreditation Act. One of the major obstacles to SANAS acting on behalf of the Government generally is that its current recognition through a Memorandum of Agreement with a single Government Department rather than a whole of government recognition.

On balance, and after consideration of a number of positioning options, the Review has concluded that SANAS is best placed to provide a comprehensive national accreditation program under its current corporate status. However, to ensure whole of government recognition, the Review has also concluded that this would, in the longer term, be best guaranteed through enabling SANAS’ government support activities through an Accreditation Act, while maintaining the flexibility of operation as a Section 21 Company. It has also raised questions of means to protect SANAS against costly litigation when it acts on behalf of regulators and the Review has recommended that the Government pursue the possibility to provide SANAS with indemnity or other form of protection when it acts on behalf of Government.

- Internationally (but with some notable exceptions) there has been a tendency to create a single national body for accreditation functions. This facilitates establishment of MRAs and concentrates national expertise for a quite complex activity, that is costly and inefficient to duplicate. While SANAS is nominally the national accreditation body through an Memorandum of Agreement (MOA) with the South African government the text of the agreement does not strongly convey that it is a whole of government recognition of SANAS. Recognising that a long lead time may occur before finalising an Accreditation Act, the Review has recommended that, in the short term, a whole of government MOA should be pursued with some priority and a strengthened Agreement should have formal endorsement by Cabinet to give it maximum effect.
- Revisions to the Standards Act and the CSIR Act, and transfer of some remnant accreditation activities of SABS to SANAS, should reinforce the national interest role of SANAS.

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- In response to a specific Term of Reference for the Review, and based on the advantages of a competitive market for conformity assessment services, a recommendation has been made to open up the regime for demonstrating compliance with compulsory specifications to suitably accredited bodies. This could be administered through SANAS accredited organisations and those of its MRA partners, under the scrutiny of the proposed Office of Regulatory Reform.
 - SANAS' national interest funding needs to be maintained at sufficient levels for it to continue to develop and maintain its comprehensive MRA networks; to maintain high level representation in its international and regional bodies; to underwrite development of new accreditation programs deemed to be in the national interest but unlikely to be self sustaining; to continue to operate a comprehensive national proficiency testing program (in cooperation with the NML); and to provide advice and other direct assistance to the South African Government in relevant trade negotiations and related policy development. As with other SQAM institutions, three year rolling fund commitments should be provided to SANAS, who in turn should provide forward business and resource needs plans to its funding agency. Its funding agency, the DTI, should also accept a position on the Board of SANAS where provision has now been made for such representation.
 - A majority of SANAS' client base is SMMEs and there is a strong case for government to support the development of additional SMMEs to a stage where they can also achieve accreditation status. The Report recommends accordingly.

e) Legal and trade metrology

- There is concern that the trade measurement system in South Africa is in imminent danger of collapse, certainly in some provincial areas. There is a desperate need for increased skills and resources backed up with effective sanctions.
- The trade measurement system is a distributed system with responsibility largely vested in the Provinces, but with training, pattern approval and measurement traceability provided centrally within the SABS. Sensitivities over Provincial rights and responsibilities under the Constitution are adding to the difficulties.
- Trade metrology is inextricably linked to the regulatory system, and the need for broad regulatory reform, addressed in the report, impacts on trade metrology.

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- There is a need for a broader range of legal metrology to address the present and future needs of society in South Africa, particularly in the areas of health, safety and the environment.
 - The review recommends that a Trade Metrology Unit be established within the DTI to take responsibility for coordination of the national system for trade metrology, including the overall administration of trade metrology. The Review emphasises that the enforcement of trade metrology be returned to central Government, and the function not be devolved to provincial level until such time as they have the necessary resources to address the responsibilities. Government should immediately allocate sufficient funds in order to re-establish the function under central control. An overall increase in resources is necessary to address the fundamental issues, and particularly in the inspection activities of the system
 - In anticipation that South Africa will eventually adopt a legal metrology framework (of which trade metrology will be a part), proposals have been made which will eventually create a system that will cater for the broader and longer term needs of South Africa. The system would have the following characteristics: (i) policy, formulation of regulations, inspections and sanctions , which need the authority of the Government, are implemented by Government; (ii) pattern approval and accreditation of laboratories, which fit into the core competencies of NML and SANAS respectively, are administered by these SQAM institutions; and (iii) services that can be provided by the private sector, such as calibration, are opened to contestable delivery with independent overview.

f) Quality and business excellence promotion

- The South African landscape for quality awareness and business excellence promotion is not dissimilar to a number of economies where there often tends to be a number of competing bodies, normally outside the public sector, providing various quality-related services, ranging from professional qualification providers, training and seminar services, quality and business development tools, consultancies, benchmarking services etc. This diversity is less prevalent among the business excellence promotion organisations and their associated achievement awards programs. In some countries, however, there are competing national award programs, with some being provided in both the private and public sector.
- In South Africa there has been very limited success to date to coordinate the various providers of quality related services. It could be argued that it would be advantageous for the community to have a variety of distinct services available to help organisations with differing needs. There is, however, a potential for greater confusion in the marketplace with competing claims on the values of different services.

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- Governments can not mandate quality development but they can encourage its adoption and specify quality characteristics as part of their purchasing and other needs from suppliers. In many developing countries Governments actively set quality improvement as a high level government objective and set strategies and development assistance programs to support those national initiatives.
 - The Review has been advised that a government quality policy is currently under development. It is considered that such a policy must have accompanying strategies, action plans and review mechanisms to ensure that government's objectives are achieved. It is difficult for government to identify quality needs and opportunities in isolation from other stakeholders including the potential beneficiaries of any government support programs.

The Review has therefore recommended that the SQAM Advisory Forum proposed as a high level cooperation and policy advice forum for Government, also be used as a platform to advise government on priority areas and projects that might assist implementation of a quality policy and associated development strategies.

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