

Targeting gaps in the South African product testing market: Results from a new dataset

OVERVIEW

This policy brief attempts to draw some initial conclusions on the state of the testing infrastructure for South African National Standards (SANS). The analysis draws on a new database developed by TIPS, which individually codes some 550 SANAS testing laboratory accreditation reports. It identifies four important trends in the South African testing space: the rapid growth of private testing providers, the growing role of the big three private testers, the growth of small specialist testing firms, and – most importantly – the bifurcation of the South African testing space, and the subsequent need for a deeper, more targeted role for the South African Bureau of Standards. Finally, the policy brief recommends a new approach to monitoring and evaluation of standards, quality, and accreditation (SQAM) in South Africa, with the aim of facilitating more targeted policy interventions.

INTRODUCTION

SQAM issues are among a basket of challenges that are easy to identify, but difficult to grapple with. With standards and testing, the central challenge is coping with complexity. While it is possible to talk generally about standards and testing facilities, in practice there is an immense diversity of individual standards, each of which has a differentiated impact, and requires different support. South Africa alone has just under 7 000 standards, with regional neighbours like Zambia and Tanzania having 1 800 and 1 500 respectively, and international trading partners like China having more than 21 000.

This complexity is rapidly accelerating as the state's role in developing standards diminishes, and a plethora of private standards take their place. These standards can rapidly take on the status of de facto technical regulations, as lead firms in value chains require compliance with stringent standards that smaller firms may struggle meet.

Relative to the complexity of the standards and testing space, even the best capacitated national SQAM agencies still struggle. Around the world, the realisation of the growth in complexity has triggered a shift towards a more market-centric model for standards organisations, in which national standards bodies are one among many

standards creators and testing centres. While this removes some of the pressure on national standards bodies to keep pace with developments in the standards market, it puts pressure on them to take on a range of new tasks, such as supporting firms that cannot achieve compliance with standards, or offering tests that are essential for the local economy but are not viable for private testers. Perversely, a more private-sector driven standards marketplace therefore demands deeper oversight from the standards body, which needs comprehensive monitoring and evaluation systems that guide their activities towards gaps and problem areas.

A DATABASE OF SANS ACCREDITATIONS

South Africa's SQAM space has gone through a number of reforms, many stemming from the 2001 SQAM review. This was undertaken in an attempt to bring South Africa into alignment with international approaches. In practise, this meant a fragmentation of standards functions across a number of institutions, and the opening up of the testing market to greater participation from private testers.

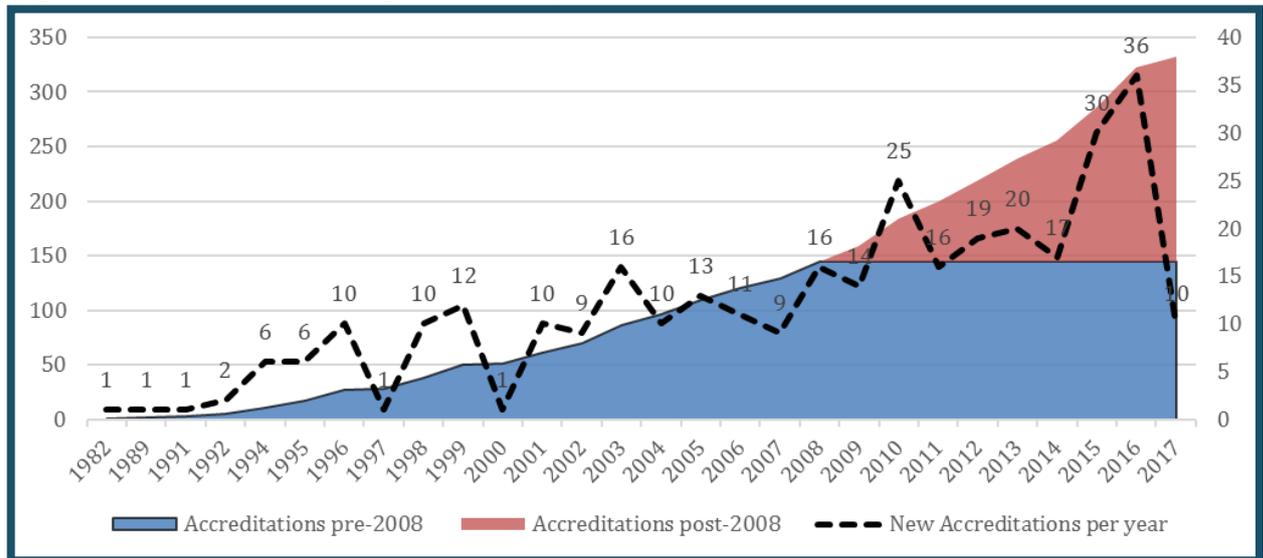
Under the current system, SANS are created by the South African Bureau of Standards (SABS), but can be tested by any organisation accredited by the South African National Accreditation Service (SANAS).

Trade & Industrial Policy Strategies (TIPS) is a research organisation that facilitates policy development and dialogue across three focus areas: trade and industrial policy, inequality and economic inclusion, and sustainable growth

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Figure 1: Growth in SANAS testing accreditations, 1982-2017



Source: TIPS accreditation database, based on SANAS accreditation reports, http://home.sanas.co.za/?page_id=38

While SANS, like all national standards, are increasingly seen as less important than international and private standards, they continue to play an important role for smaller firms achieving their first certification, or for firms that do not target international markets and value chains. SANS also remain important from a regulatory standpoint, with these standards forming the basis for compulsory specifications enforced by the National Regulatory for Compulsory Specifications (NRCS), and often being required for government procurement.

There is no comprehensive data on the use of SANS and related testing activities, and while some survey data is available, it is mainly outdated. More systematic information is, however, available for laboratory accreditations. SANAS publishes a database of every SANS accredited laboratory in South Africa, providing some overview information, and more detailed testing reports at the laboratory level. The TIPS database converts these laboratory reports into a set of data points that allow for deeper analysis. Each laboratory report was reviewed by a TIPS researcher, who captured the information based on an interpretation of the available information. This does, however, require a degree of judgement. A single accreditation may, for example, focus primarily on water testing, but may also offer related tests in the agricultural industry. Such a report would then be captured as a water laboratory, with this necessary simplification serving as one of the main limitations of the database.

A further limitation is that of using SANS accreditations, and in particular only using laboratory reports classified under “testing”. These accreditations are not necessarily those sought by all industries, nor the prime certifications offered by private testers. However, they may serve as a limited sample of the broader testing space, and could offer

some insights into the way South Africa’s testing infrastructure is evolving.

THREE TRENDS IN THE TESTING MARKET

An initial overview of the database can be seen in Figure 1, which shows rapid and ongoing growth in the number of testing accreditations issued by SANAS. Growth speeds up after 2008, the year of significant reforms to the SQAM space, and to the Standards Act governing the South African Bureau of Standards specifically. While the regulatory changes of 2008 did not technically change the market for testing in South Africa, they did place the SABS on a more commercially-focused footing, perhaps removing some of SABS’s market dominance in the process.

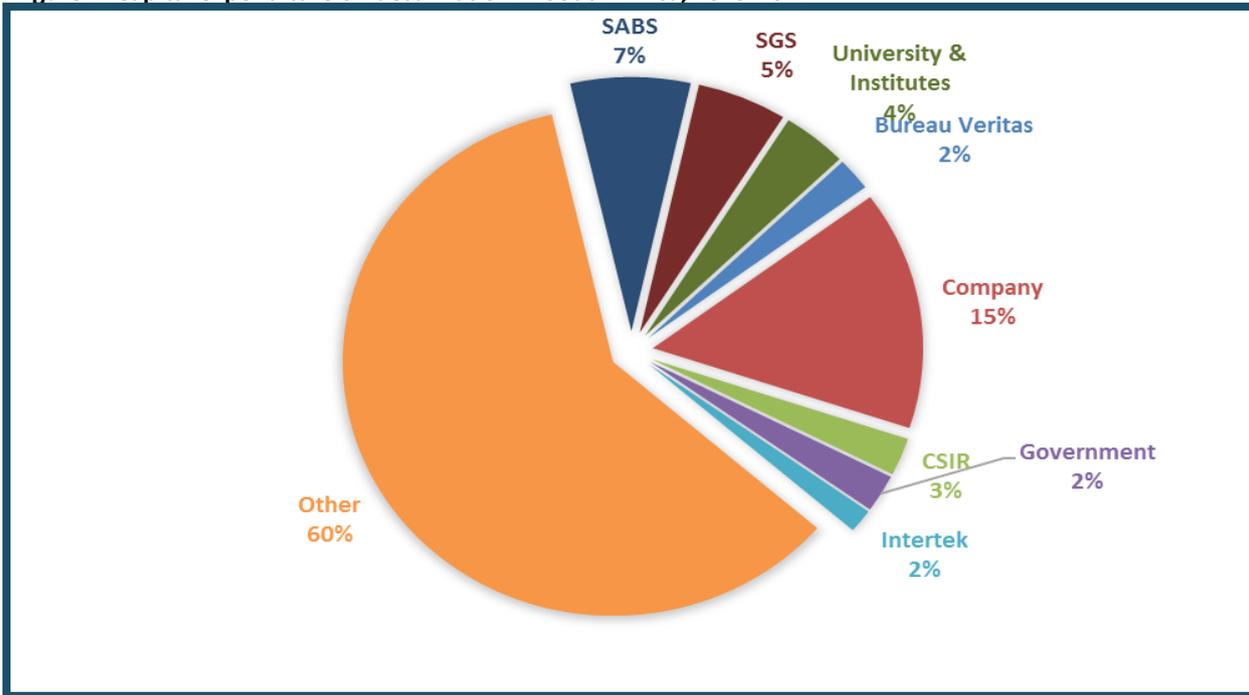
Three major trends are notable after 2008.

First, has been aggressive growth in accreditations obtained by the big three international testing providers: France’s Bureau Veritas, Swiss SGS, and Britain’s Intertek. The three held 10 accreditations at the start of reforms in 2008, and ramped up to 30 by 2017. The companies tend to be clustered around testing for major commodities; most prominently coal, but with a strong presence in metals and petroleum as well.

As can be seen in Figure 2 (see page 3), the three account for 9% of total testing accreditations issued by SANAS.

The major role played by the big three is common in countries around the world and in the region. All three benefit from their international standing and a large network of laboratories, which gives them the flexibility to deliver many of the most pressing testing needs that firms may have. Their expansion is therefore generally to be expected, given growth in the South African market, an increased role for international standards in many sectors, and the ongoing expansion of private testing providers

Figure 2: Capital expenditure on desalination in South Africa, 2015-2022



Source: TIPS accreditation database, based on SANAS accreditation reports, http://home.sanas.co.za/?page_id=38

generally. Despite the growth of the big three, SABS remains the individual tester with the most SANAS accreditations, followed by SGS and Bureau Veritas.

Second is the rapid growth of accreditation among firm's own labs, which accounts for 15% of total accreditations in 2017. This growth has been particularly strong in the metals industry, which accounts for 41% of own-company testing accreditations. But emergent growth can be seen in the food and beverages sector, and in water testing accreditations. Unsurprisingly, larger firms play a prominent role, with major companies like Anglo American, Glencore, Sasol, and Eskom having a number of testing accreditations.

The development is good for these big firms, but has a questionable impact on the health of the testing space more broadly. Small firms generally always struggle to compete with the demanding testing requirements and substantial financial commitments needed to comply with certain standards, and these barriers become substantially worse if they are reliant on private for-profit testing, while large firms benefit from integrated in-house testing facilities.

Third is the growth of a number of small testing firms, many of which are highly specialised, providing only a handful of tests for a handful of standards. These small firms dominate in the number of accreditations, accounting for 60% of total issued accreditations. Nevertheless, it remains difficult to understand their role, with the scope of testing services offered and the extent of their customer base both impossible to gauge using the available data.

The growth of these firms seems to reflect a fragmentation of the testing space, which will require

new monitoring mechanisms to empower policymakers to actively grapple with this large and rapidly growing segment of the testing environment.

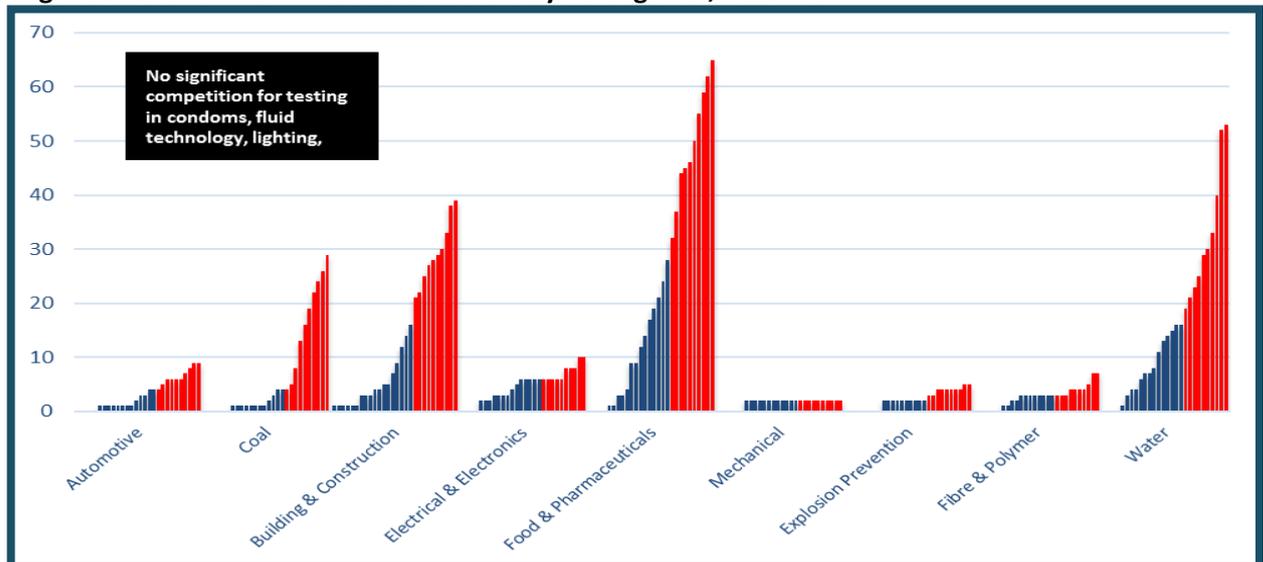
BIFURCATION OF TESTING BY SECTOR

While the evolution in testing firms is an important trend for the South African testing space, perhaps the most pressing challenge is the divergent growth paths taken by different test types. As can be seen in Figure 3 (see page 4) there are effectively two tracks of growth by sector. The one involves rapid growth in key sectors such as water, food, coal, and construction. The second is a generally flat path of growth, which is most seriously pounced among a cluster of products for which there is no major competition and very little testing capacity – such as in testing for condoms, fluid technology, lighting, and some specialist machinery.

The divergence in the number of accreditations issued does not necessarily point to a divergence in testing capacity. Accredited laboratories differ substantially in size and efficiency, and one large lab in a concentrated polymer testing space may well be able to handle greater volumes of testing than a dozen food testing laboratories.

Nevertheless, within the confines of limited data, the growth is deserving of attention. In particular, the bifurcation seems to suggest there are limits to the capacity of the private sector to fully meet the demands of the full array of tests required by South African firms. While some sectors clearly have the underlying strength to attract investment that meets their testing needs, smaller and newly developed sectors may have niche requirements that are either

Figure 3: Growth in SANAS accreditations by testing area, 1989-2017



Source: TIPS accreditation database, based on SANAS accreditation reports, http://home.sanas.co.za/?page_id=38

not met, or are met only by one or two providers, creating competition concerns. These testing areas may need state support, including a continued presence for SABS in testing these less demanded, but strategically important, offerings. Failure to do so could see fragile and still developing industries failing to access the certifications they need to reach markets or develop new products.

NEW MONITORING REGIMES FOR THE SQAM SPACE

Analysing accreditations can give only a partial picture of the South African testing space. But what it can tell points clearly to the need to reinforce the systems used to more rigorously monitor the space and identify appropriate interventions. Evidence from firm accreditations points to an increasingly fragmented testing space, in which larger firms that can afford in-house testing or to contract large international testers will likely have greater access to competitive standards testing than smaller firms or new entrants. Evidence from accreditations by industry shows that the private sector may be ill-suited to meet the needs of niche testers or smaller industries, again creating imbalances.

Both point to a strong role for government, and the SABS in particular. SABS fills gaps in the private sector testing space, and acts as a bridge for new entrants to gain access to the type of certification that can unlock markets. But given limited resources, this will only be possible if an organisation like SABS can accurately target the gaps that exist. That will require a new monitoring regime for the SQAM space.

Monitoring interventions can take a number of approaches, of which three are notable. First, as part of SANAS's accreditation policy, the organisation

should require **ongoing data disclosures** by accredited laboratories. This can include data on the types of tests undertaken, the types of clients they interact with, and broad data on the lab itself. All of this data can be anonymised and reported with respect for client confidentiality, but the underlying figures would allow for a more complete picture of the testing space.

Second, ongoing and in-depth **engagement with industry**, to better understand their needs. There are no short cuts for this, with ad hoc engagements not adequate to gain a systematic picture of testing needs. Outsourcing this function to market research firms may be needed, and while not a particularly exciting investment, funds should be made available to facilitate such studies on an ongoing basis.

Finally, work should be conducted at the Southern African Development Community (SADC) level to promote a system of **import rejection** reporting, in which goods that are turned away at the border because of technical regulations are recorded. This is a standard system among more developed customs agencies, and allows for early warning signs of where standards and regulations are serving as barriers to trade. Building such a system in SADC would allow for more accurate targeting by standards bodies of the of the most serious barriers to trade that their firms face.

Building monitoring mechanisms isn't glamorous but can serve as the underpinning or evidence base for a range of more high-impact interventions. Without such systems, SABS and other SQAM policymakers will be making policy in the dark – and with an ever more complex testing market, this is a daunting prospect.