

**QUALITY FOR AFRICA**



# **PAN-AFRICAN QUALITY INFRASTRUCTURE**

**Structure – Function – Impact**

## ACKNOWLEDGEMENTS

This background document is a result of an iterative structural process. The cornerstone has been laid in Nairobi, April 2011, when the Chairpersons and Secretaries of the Pan-African Quality Infrastructure (PAQI) institutions met the first time. At that meeting the four institutions

- African Accreditation Cooperation, AFRAC
- Intra-African Metrology System, AFRIMETS
- African Electro-technical Standardization Commission, AFSEC, and
- African Organisation for Standardization, ARSO

agreed to cooperate by regularly sharing information on each other's activities and whenever possible participating at each other's annual general assembly and other key events. The four institutions of the PAQI produced a document that has been presented to the African Union Commission (AUC) as a basis for engaging the latter to formalize the relationship between the African Union and the PAQI. Based on the document and various other engagement efforts, discussions took place between the AUC, PAQI and New Partnership African Development (NEPAD) representatives between April 2011 and November 2012. The PAQI institutions continued to engage AUC officials in further developing the 'PAQI recognition by the African Union, (AU). The PAQI institutions developed two key documents over a series of meetings;

- Pan-African Quality Infrastructure Document and
- Integrated Pan-African Quality Infrastructure – Memorandum of Understanding concerning Standardisation, Accreditation and Metrology which had been prepared as part of the formal development of the PAQI structures and also as a basis for future cooperation.

In February 2013, Pretoria, Republic of South Africa the Integrated Pan-African Quality Infrastructure Memorandum of Understanding concerning Standardisation, Accreditation and Metrology was signed. This event is considered as an institutional milestone for the improvement of quality for Africa.

The contributions of the Regional Economic Communities (RECs) and Member States in the achievement of the key milestone is also well acknowledged.

The hard work of guiding and facilitating the process and drafting the Pan African Quality Infrastructure Document by a team of experts from AUC, AUDA-NEPAD, PAQI institutions and PTB is duly acknowledged.

For the sake of sustainability and continued collaboration, PAQI has established a PAQI Joint Committee (JC). The members of the Joint Committee consist of the Chairperson and nominated representatives of each PAQI institution. Further, PAQI acknowledges the need to be inclusive in its operations, hence, a PAQI Forum comprising PAQI Institutions and some stakeholder representatives from AUC, AfCFTA Secretariat, RECs, NEPAD, ICPs has been put in place. The Chairperson of the Joint Committee is elected from the PAQI Institutions Chairpersons or its nominated representatives on a two-year rotational basis renewable once. The Secretariat, headed by the Secretary General is permanently hosted by ARSO for consistency in managing necessary resources for the operations of the Joint Committee Secretariat/ Liaison office.

PAQI Institutions have established Terms of Reference (ToRs) which define the formal structures and rules of procedure to be followed so that the objectives of the PAQI as defined in section 3 of the PAQI Memorandum of Understanding are fulfilled.

PAQI institutions join their efforts to undertake projects to showcase that QI infrastructure contribute in boosting intra-Africa trade.

Special thanks go to the PAQI Institutions, the African Union Commission (AUC), African Continental Free Trade Area (AfCFTA) Secretariat representatives, development partners who financially and technically support PAQI projects namely among others, the Physikalisch-Technische Bundesanstalt (PTB), African Export–Import Bank (AFREXIMBANK) and United Nations Economic Commission for Africa (UNECA).

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## LIST OF ACRONYMS

ACAP	ARSO conformity Assessment program	IGAD	Inter-Governmental Authority on Development
ACS	ARSO Central Secretariat	ILAC	International laboratory Accreditation Cooperation
AEC	African Economic Community	ISO	International Organisation for Standardisation
AfCFTA	African Continental Free Trade Area	JAG	Joint Advisory Committee
AFRAC	African Accreditation Cooperation	MDGs	Millennium Development Goals
AFREC	African Energy Commission	MLA	Multilateral Recognition Arrangement
AFRIMETS	Intra-African Metrology System	MoU	Memorandum of Understanding
AFSEC	African Electro-technical Standardization Commission	MRA	Mutual Recognition Arrangements
AMCEN	African Ministerial Conference on Environment	NAFP	National Accreditation Focal Points
AMU	Arab Maghreb Union	NEC	National Electro Technical Committee
AMV	African Mining Vision	NEPAD	New Partnership African Development
AQP	Africa Quality Policy	NLMBs	National Legal Metrology Bodies
ARS	African Standards	NMI	National Metrology Institute
ARSO	African Organisation for Standardization	NSBs	National Standards Bodies
ASHAM	African Standards Harmonization Model	OAU	Organisation of African Unity
AU	African Union	OIML	Organisation Internationale de Métrologie Légale
AUC	African Union Commission	PIDA	Programme for Infrastructure Development in Africa
AUDA-NEPAD	African Union Development Agency	PAQI	Pan-African Quality Infrastructure
BIAT	Boosting Intra-Africa Trade	PTB	Physikalisch-Technische Bundesanstalt
BIPM	Bureau International des Poids et Mesures	RECs	Regional Economic Communities
CAADP	Comprehensive African Agricultural Development Programme	RT	Regional Trade
CAB	Conformity Assessment Bodies	RMO	Regional Metrology Organisation
CACO	Conformity Assessment Committee	SADC	Southern African Development Community
CAMI	Conference of African Ministers of Industrialization	SDGs	Sustainable Development Goals
CAMT	Conference of African Ministers of Trade	SI	International system of units
CIPM	Comité International des Poids et Mesures	SMC	Standards Management Committee
COCO	Consumer Committee	SPS	Sanitary & Phytosanitary Measures
COMESA	Common Market for Eastern and Southern Africa	THC	Technical Harmonization Committee
EAC	East African Community	TBT	Technical Barriers to Trade
ECA	Economic Commission for Africa	UNECA	United Nations Economic Commission for Africa
ECOWAS	Economic Community of West African States	WTO	World Trade Organisation
EPA	Economic Partnership Agreement		
IAF	International Accreditation Forum		
ICPs	International Cooperating Partners		
ICT	Information and Communication Technology		
IEC	International Electro-technical Commission		

# 1. PREAMBLE

There is urgent need for a strong, sustainable and integrated approach to the continent's quality infrastructure, encompassing metrology, standards, accreditation and quality assurance. In order to

- boost intra-Africa trade,
- lay the basis for Africa's effective participation in global trade,
- strengthen her negotiating position with her major trading partners,
- ensure the acceptance of Africa's goods and services in export countries,
- provide for recognition of Africa's conformity assessment infrastructures as equivalent to those in the importing country, and
- ensuring public health, safety and the protection of the environment;

This is the essence for the establishment of a Pan-African Quality Infrastructure (PAQI) that is recognised by and integrated with the policy making bodies of the African Union (AU). Ultimately, this will ensure that the economic integration of Africa fully utilizes the potentials that quality brings in improving the competitiveness of African goods and services. A well-coordinated PAQI contributes towards regional economic integration and buttresses market access of African goods and services in order to improve the current global market share of trade of Africa. It also promotes continent-wide industrial development by having an integrated framework for utilization of standards, measurement, conformity assessment and accreditation as foundations for conversion of primary products into value added goods that meet the requirements of global markets.

PAQI contributes to the achievement of the objectives of the **African Continental Free Trade Area (AfCFTA)** which include the establishment of a single continental market for goods and services with the free movement of business-people and investment, the growth of intra-Africa trade and the upgrading of the competitiveness of industries and enterprises. It is noted that these objectives are aligned with the targets for the **Sustainable Development Goals (SDGs)**, including poverty alleviation, food security and addressing inequality through industrial development and the flow of benefits to small-scale producers and informal cross-border traders due to improved access to inputs, infrastructure, information and markets.

## 1.1 Background

The World Trade Organization (WTO) estimates the intra-African trade to average 15 per cent of total African exports, and Africa represents 6 per cent of developing economies' total merchandise exports. Over half of the region's exports are estimated to be fuel and mining products; about a quarter of them, manufactured goods; and 15 per cent, agricultural products. About 40 per cent of intra-African exports consists of manufactured goods, a large part of which are iron and steel, chemicals, and other semi-manufactured goods.

In the recent time the Covid 19 pandemic that started in China and spread throughout the globe has impacted world economies in various ways. In Africa like others the Tourism, air transport, and the oil sector have been visibly impacted. Further, supply chains of commodities were disrupted leading to shortages and in some cases shut down/downsizing of companies. As the situation gets back to normal with reduction in cases and a resolve to change and adapt living with the pandemic, a lot of work needs to be done to rebuild the economy.

Developing countries are therefore called upon to address trade related challenges, develop supply capacity, strengthen compliance related infrastructures and facilitate cross-border flows of goods and services.

In no continent is this call more relevant today than in Africa. This, it is argued, will put African goods and services at a competitive level against goods and services in the global market. There is therefore no doubt that regional integration, with a view to creating viable and sustainable markets, and availing wider economic space, remains a key strategy for Africa to transform itself from a continent of least developed and developing countries to a strong united block of developed nations. It is imperative that the region's economic space is widened to generate economies of scale for production and trade and to maximize on welfare functions.

Africa must protect its interests, hence, an integrated continental quality infrastructure with strong institutions for standardization, metrology, conformity assessment and accreditation cannot be over emphasized. A functional Pan-African quality infrastructure must have strong linkages with the Regional Economic Communities (RECs) in Africa.

The RECs in Africa have each established their own standards, measurement, conformity and accreditation systems, linking them to the national systems which is commendable as it helps to bring all systems together for better coordination.

African political leadership has, on a number of occasions, pronounced itself on the need for Africa to put in place national standards bodies, national measurement and accreditation institutions, with strong voice and membership to international quality infrastructure institutions.

The Lagos plan of Action of 1980 was as a result of the African leadership's decision for the OAU and ECA to develop a framework detailing the roadmap for the attainment of an African Common Market.

In 1991, the Abuja Treaty, creating the African Economic Community (AEC), was signed, fulfilling one of the major requirements of the Lagos Plan of Action. The Treaty recognizes the important role of quality infrastructure in the economic development of the continent.

Chapter XI, Article 67 of the **Abuja Treaty** lays out a common Policy on Standardization and Measurement Systems. In this article:

“1. Member States agree to:

- a) Adopt a common policy on standardisation and quality assurance of goods and services among member states; and
- b) Undertake such other related activities in standardisation and measurement systems that are likely to promote trade, economic development and integration within the Community; and strengthen African national and continental organisations operating in this field.

For the purposes of this Chapter, Member States agree to cooperate in accordance with the provisions of the Protocol concerning Standardisation, Quality Assurance and Measurement System.”

This forms the basis for the (PAQI).

Since the signing of the Abuja Treaty, there has been significant progress in the establishment of national and regional quality infrastructure systems across the continent. At the continental level, progress has been witnessed in the development of PAQI bodies, which currently consist of the African Organization for Standardisation (ARSO), the African Electrotechnical Standardisation Commission (AFSEC), the Intra-Africa Metrology System (AFRIMETS), and the African Accreditation Cooperation (AFRAC). These now form the main institutions of the PAQI (PAQI) architecture, with the ultimate purpose of benefiting national, regional and continental economies, through their collaboration and synergy.

According to UNECA's 2008 report on Africa's integration, lack of adequate quality infrastructure in roads, railways, electricity and other forms of energy, water, ICT and plant and equipment technology severely hampers production and sale of goods. To attain acceptable levels of quality, concerted efforts are needed to integrate the role of PAQI within the economic integration activities in order to improve the quality of the physical infrastructure aforementioned. The PAQI, when properly integrated and coordinated, strengthens Africa's ability to achieve continental socio-economic goals in:

- a) intra-Africa trade;
- b) regional integration;
- c) Africa's trade with other countries and regions;
- d) industrial development;
- e) promotion of sustainable green economy;
- f) value addition and natural resource management;
- g) infrastructure development;
- h) improvement of the competitiveness of African goods and services;
- i) diversification of economies; and
- j) protection of public health, safety and the environment



## 1.2 Need for an Integrated Pan-African Quality Infrastructure

The aspirations of the Agenda 2063 of the African Union which is a shared framework for inclusive growth and sustainable development for Africa to be realized in the next fifty years builds on, and seeks to accelerate the implementation of past and existing continental initiatives for growth and sustainable development. Agenda 2063 was agreed upon by the African leaders in 2013 through the 50th Anniversary Solemn Declaration during the commemoration of the fiftieth Anniversary of the Organization of African Unity (OAU).

In line with the aspirations of Agenda 2063 and in an effort to accelerate its implementation, AUDA-NEPAD developed Strategic Plan 2020-2023 which is guided by mega trends globally and within the African continent. These call for urgent and concerted action in order to show development results in the implementation of Africa's Agenda 2063 – The Africa We Want. The continent is on a path to sustained long-term transformation, with a growing youthful population, vast mineral resource endowments, significant improvements in the governance and business environments, a growing middle class, private sector investment growth and progress in accessing and adapting Fourth Industrial Revolution (4IR) technologies.

The successful implementation of Agenda 2063, AUDA-NEPAD Strategic Plan including the AfCFTA Agreement among all the other integration initiatives will need to be supported with quality infrastructure that will provide the necessary underpinning that enable African businesses to compete nationally, regionally and internationally, meet customer requirements and manage risks. To further support the integration initiatives and in particular development of the quality infrastructure on the continent, the African Union adopted the Africa Quality Policy (AQP) in September 2021.

The **Africa Quality Policy (AQP)** is the result of efforts by African quality professionals and stakeholders to produce a policy that will ensure that the standards and quality requirements of flagship programmes such as the African Continental Free Trade Area (AfCFTA) and Boosting Intra-African Trade (BIAT), Accelerated Industrial Development for Africa (AIDA), Africa Mining Vision (AMV), Comprehensive Africa Agriculture Development Programme (CAADP), Programme for Infrastructure Development in Africa (PIDA) and many others are met. The policy highlights the institutional, structural and collaboration requirements for the existence of a robust quality infrastructure in Africa that would adequately support industrial development, trade liberalization and other African socio-economic endeavours. The AQP aims at providing guidance to Member States, who retain their sovereignty in all matters of policy regarding their national quality infrastructures. The AU will use the AQP to support quality initiatives in its flagship programmes

## 1.3 Benefits of a Pan-African Quality Infrastructure

An integrated PAQI will have the following benefits as outlined in Chapter XI, Article 67 of the Abuja Treaty:

- a) Capacity Development of relevant bodies in standardisation, measurement, conformity assessment and accreditation in a more unified way;
- b) Enhancement of consumer protection and improvement of living standards of the citizens of Africa in line with MDGs;
- c) Support of African technical regulatory framework with a view to removing unnecessary technical barriers to trade;
- d) A common quality policy and quality infrastructure was realized at a continental level to facilitate economic integration of Africa;
- e) Cost effective standards, measurement, conformity assessment and accreditation services in Africa will be realized;

- f) It provides a platform for the participation of African countries in quality infrastructure activities and exchange of knowledge in the fields of interest to boost inter-Africa and intra-African industrialization and trade;
- g) Fast tracking the adoption and implementation of common policies on measurement, standardization, conformity assessment and accreditation among Member States to promote industrialisation and trade in Africa;
- h) Harmonization of Regional Economic Community standards and conformity assessment procedures as well as accreditation to enhance market access and global trade around the WTO procedures;
- i) Support programmes for infrastructure development in Africa such as PIDA;
- j) Support to SPS programs where they interface with TBT issues.

## 2. THE PAN-AFRICAN QUALITY INFRASTRUCTURE (PAQI)

### 2.1 Vision

To be an efficient, effective, sustainable and internationally recognized PAQI contributing towards achievement of African socioeconomic goals.

### 2.2 Mission

To strengthen the regional and global competitiveness of Africa's goods and services and contribute towards an improved quality of life for the African people through prudent use of standards, measurements, conformity assessment and accreditation.

### 2.3 Objectives

- a) To promote the development of a coherent PAQI supporting the objectives of African integration in accordance with the Abuja Treaty;
- b) To strengthen the development and implementation of African policies on Standards, Measurement, Conformity Assessment and Accreditation that supports the realization of Africa's Economic integration and environmental sustainability;
- c) To provide timely Standards, Measurement, Conformity Assessment and Accreditation solutions to the region whilst upholding the values of openness, transparency and consensus;
- d) To develop effective relations with the AU and RECs in order to promote and reinforce the role of PAQI as a tool for supporting AU policies that enhance intra-African and global trade to improve quality of life;
- e) To represent Africa on all matters pertaining to standards, metrology, conformity assessment and accreditation; and
- f) To secure adequate funding for the PAQI to support capacity development in Standards, Measurement, Conformity Assessment and Accreditation in close collaboration with international partner organizations.
- g) To promote relationship with the Private Sector Organisations noting that they are the key beneficiaries of the services that the Quality Infra Structure Institutions provide.



### 3. STRUCTURE

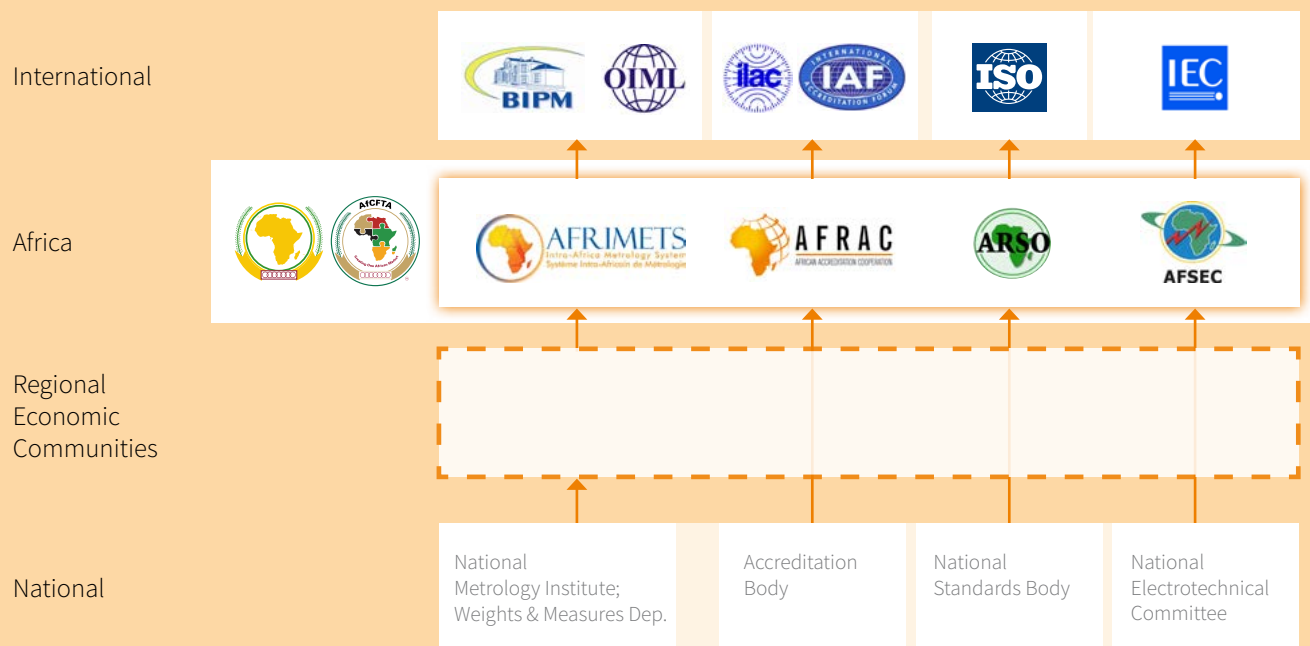


Figure 1: International quality infrastructure

The global architecture of quality infrastructure talks to the following components: metrology, standardization and accreditation and the way they are interrelated. At the international level metrology is represented by BIPM and OIML, standardization is represented by ISO and IEC, and accreditation is represented by IAF and ILAC as depicted in Figure 1.

#### 3.1 Structure of the Pan-African Quality Infrastructure

Based on the existing PAQI bodies (ARSO, AFRAC, AFRIMETS, and AFSEC), and in accordance with international norms and best practices, the structure is as indicated in Figure 2.

#### 3.2 The PAQI Joint Committee

In order to further the cooperation objectives of the PAQI a joint PAQI committee called the Joint Committee is in place. The members of the Joint Committee consist of the Chairperson or nominated representatives of each PAQI institution and some stakeholder representatives (RECs, AUC, AfCFTA secretariat, ICPs) participate as observers by invitation. The Chairperson of the Joint Committee is elected from the PAQI Institutions Chairpersons or its nominated representative on a two-year rotational basis; renewable once. The Secretariat, headed by Secretary General is permanently hosted by ARSO for

consistency in managing necessary resources for the operations of the Joint Committee Secretariat/ Liaison office.

The Secretariat is both a PAQI Joint Committee of office as well as the liaison between the Joint Committee and the stakeholders, AU and others.

The Secretariat works with the four institutions (AFRAC, AFRIMETS, AFSEC, and ARSO) through the PAQI Joint Committee in formulating policies that use standards, measurements, conformity assessment and accreditation to drive infrastructure development and sustainable exploitation of African resources.

#### 3.3 The PAQI Forum

In line with the aspirations of African Economic integration PAQI JC established a PAQI Forum. The PAQI Forum draws its membership from PAQI JC, the representatives of the AU recognised RECs responsible for matters relating to quality infrastructure, AFREX-IMBANK, and Cooperating partners as appropriate. The PAQI Forum which meets once a year is chaired by the PAQI Chairperson.

The key objective of the PAQI Forum among others is to ensure alignment of quality infrastructure activities to the same integration objectives, avoid unnecessary duplication and ensure prudent use of resources in the implementation of quality infrastructure activities.



Figure 2: Integrated PAQI Structure

### 3.4 Relationship between the PAQI Joint Committee and the AUC and the AfCFTA TBT Subcommittee

Issues of standards, measurement, conformity assessment and accreditation are crosscutting and span all departments of the AUC including the AfCFTA Secretariat, in Accra, Ghana. It is envisaged that the PAQI Secretariat would serve as the liaison office between the PAQI Joint Committee and the AUC via the Trade and Industry Commission as well as the AfCFTA Secretariat. The PAQI Secretariat will work very closely with the AfCFTA Secretariat to realize the objectives of the TBT Annex of the AfCFTA Agreement. Thus, the PAQI Pillars will participate and make their contributions to the AfCFTA subcommittees on Technical Barriers to Trade (TBT) as required in the AfCFTA TBT annex. The PAQI Pillars will also provide technical support in the implementation of Policy decisions on matters relating to Quality Infrastructure as assigned.

### 3.5 Functions of the Liaison Office/PAQI Secretariat

The Liaison Office shall be responsible for:

- Collating the proposals from PAQI bodies regarding policy directions on Quality Infrastructure in Africa;
- Providing logistic and administrative services to the Joint Committee; and
- Maintaining close working relationships with the leadership and technical levels of AUC organs to ensure quality infrastructure policies are submitted for consideration at the Executive Council and the AU Summit.

### 3.6 Financing of the Liaison Office/PAQI Joint Committee Secretariat

The organisation hosting the Chairmanship will provide the necessary resources for the operations of the Joint Committee Secretariat/Liaison office.

#### African Continental Free Trade Agreement- Protocol on Trade in Goods: Annex 6 -Technical Barriers to Trade

Annex 6 applies to **Standards, Technical Regulations, Conformity Assessment Procedures, Accreditation and Metrology** in the State Parties.

The objectives of the annex include trade facilitation by elimination of TBTs, establishment of mechanisms and structures to enhance transparency, development and implementation of capacity building programs & promotion of mutual recognition of results of conformity assessment.

Articles 6, 7, 8, 9 & 10 stipulate cooperation areas in Standardisation, Technical Regulations, Conformity

Assessment, Metrology and Accreditation respectively were State Parties are called to participate in the activities of the PAQI institutions as appropriate. In line with the annex, the AfCFTA Secretariat has established **Sub-Committees** on Non-Tariff Barriers (NTB), Sanitary and Phytosanitary (SPS) measures and Technical Barriers to Trade (TBT). The subcommittees are responsible for the effective implementation of the AfCFTA TBT Annex. Further, the National Quality Infrastructure and Pan African Quality Infrastructure institutions have an important role to play in the implementation of the Annex. In this regard PAQI Institutions are required to share information on their activities with the TBT Sub-Committee as required in article 13(K).

## 4. FUNCTIONS OF THE PAN-AFRICAN QUALITY INFRA-STRUCTURE-ORGANIZATIONS AND CURRENT STATUS

### 4.1 The African Accreditation Cooperation (AFRAC)

The African Accreditation Cooperation (AFRAC) was launched on 29 September 2010 in Cairo, Egypt. The establishment of AFRAC Africa provided a united African voice on accreditation in the international accreditation arena.

AFRAC is a cooperation of accreditation bodies (national and multi-economy), National Accreditation Focal Points (NAFP), sub-regional accreditation co-operations and stakeholders whose objective is to provide an internationally recognized Mutual Recognition Arrangement (MRA) for the national, regional and international acceptance of conformity assessment results (i.e. test, calibration, inspection, certification, reference materials, proficiency testing, verification and validation results), to contribute to the protection of health and safety of the public and the protection of the environment, thereby facilitating trade and contributing to the improvement of Africa's competitiveness.

The AFRAC Mutual Recognition Arrangement (MRA), which was launched in 2014, achieved recognition status to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) and the International Accreditation Forum (IAF) Multi-Lateral Arrangement (MLA) on 22 May 2018. This international recognition of AFRAC is a key enabler of Africa into the world trading system and acceleration of economic growth within the continent, promoting confidence and acceptance of results generated by accredited laboratories, inspection bodies, verification and validation bodies, proficiency testing providers, reference materials producers, and certification bodies.

The mission of AFRAC is to facilitate the use of accreditation as a tool to support trade and industrial development, improve competitiveness of African products and enhance the protection of the health and safety of the public and the environment.

AFRAC's policy mandate is to enable and promote the mutual acceptance of conformity assessment data produced by accredited conformity assessment bodies as a basis confirming compliance to the relevant standards, technical regulations and the importing country's specific requirements.

#### 4.1.1 Objectives and Programmatic Thrust

The objectives of the African Accreditation Cooperation are to:

- a) Establish, manage and maintain an MRA for the mutual acceptance of conformity assessment data in the region and globally within the framework of, and consistent with the global MRA's;
- b) Encourage and facilitate effective collaboration, cooperation and mutual assistance among Members;
- c) Raise the awareness of Members and potential members on matters relating to accreditation;
- d) Harmonise the criteria for the operation of member Accreditation Bodies, based on the relevant international standards and/or guides, AFRAC, IAF and ILAC mandatory documents and other applicable regional accreditation cooperation's guidance documents;
- e) Develop and maintain confidence amongst Accreditation Bodies in Africa and internationally;
- f) Achieve and maintain uniformity of accreditation activities in Africa and internationally;
- g) Promote and facilitate the use of accreditation as a tool in the removal of technical barriers to trade and the protection of health, safety and the environment;
- h) Ensure the provision of services that are independent, impartial, transparent, non-discriminatory and achieve and maintain a high level of integrity and confidentiality whilst ensuring ethical operations;
- i) Facilitate access to current databases of recognised Accreditation Bodies within Africa and internationally;
- j) Coordinate AFRAC projects on accreditation;
- k) Participate in activities of and liaise with regional, continental and international bodies with interest in accreditation;
- l) Promote cooperation and exchanges with other bodies with similar objectives to accreditation;

- m) Build the capacity of AFRAC and facilitate capacity development of its members;
- n) Establish linkages with relevant regional and international organisations;
- o) Promote the international acceptance of certificates and results issued by duly accredited Conformity Assessment Bodies (CABs);
- p) Encourage and facilitate the adoption and implementation of accreditation standards, guidelines and application of documents developed by relevant international bodies;
- q) Encourage and support the development of accreditation bodies in Africa towards the achievement of international recognition;
- r) Seek ways and means of making AFRAC financially sustainable; and
- s) Be the voice of Africa in matters of accreditation in the international fora.

#### 4.1.2 Financing

AFRAC's operations are funded from the following sources:

- a) Funds allocated by the Member State who holds the Secretariat
- b) Development partner's funding support (e.g. PTB, Germany) for various projects and international liaison.

AFRAC's strategic objective is to become appropriately self-sustainable in terms of the costs for its day-to-day operational activities. AFRAC currently relies on financial support from its Development Partners to function effectively in representing the AUC in matters of accreditation within international fora e.g. participation in the ILAC and IAF meetings and also for specific projects required to assist Member States in developing their accreditation infrastructure.

## 4.2 The Intra-Africa Metrology System (AFRIMETS)

The Intra-Africa Metrology System (AFRIMETS) was formed in the year 2006 with membership drawn from Subregional Metrology Organizations (SRMOs). The Principal members of AFRIMETS are the 6 subregional metrology organizations, CEMACMET (CEMAC), EAMET (EAC), MAGMET (AMU), NEWMET (COMESA and two countries from ECOWAS), SADC MET/MEL (SADC) and ECOMET (ECOWAS).

The major mandates of AFRIMETS are:

- a) to promote harmonisation of scientific, industrial and legal metrology issues across Africa and to operate as a fully-fledged RMO, in accordance to the Mutual Recognition Arrangement of the International Committee for Weights and Measures, the CIPM MRA; and
- b) to facilitate inter and intra Africa trade through use of accurate measurements and ensuring safety, health of consumers and environmental protection.

Accurate, internationally acceptable measurement is crucial to ensure competitive manufacturing, to foster trade and to protect the consumer. The collective term for the process to establish traceability to the international system of units (SI), disseminate this traceability to industry (manufacturing and service), the health sector, law enforcement and environmental monitoring, and to enforce accurate measurement where it impacts consumer health or safety, is called metrology.

Metrology has two components:

- a) Scientific and Industrial Metrology realisation of the measurement units, develop and maintain physical national measurement standards and determine their comparability to other national (or international) measurement standards. This is then disseminated to customers through calibration of reference standards of calibration laboratories, or directly to measurement facilities in industry. For chemical measurements, certified reference materials, traceable to national standards, are produced. Scientific and industrial metrology is undertaken by Metrology Institutes either as stand-alone bodies, part of science councils or in many countries in Africa, by a Metrology section within National Standards Bodies.

- b) Legal Metrology (Weights and Measures) – inspects the measurement community for compliance to technical regulations that stipulates measurement requirements for legal purposes. This assesses the validity of measurements for use in trade within a country or a region. It forms a basis for common trade between individuals and facilitates consumer protection. In Africa Legal metrology is represented mostly by departments of Weights and Measures in governments, or in some countries by National Legal Metrology Bodies.

Prior to 2006 there was no pan-African organization to improve the accuracy of measurement and ultimately the acceptance of test results generated in Africa. This changed with the establishment of AFRIMETS, which currently has 49 member countries that are participating through their NMIs and National Legal Metrology Bodies (NLMBs). AFRIMETS is internationally recognized as the regional metrology organization (RMO) for Africa by the International Committee for Weights and Measures (CIPM) through the International Bureau of Weights and Measures (BIPM) and the International Organisation of Legal Metrology (OIML).

#### 4.2.1 Objectives and Programme Thrust

The overall objectives of AFRIMETS are to:

- a) Create awareness in Metrology in Africa at all levels of society and government;
- b) Assist in the development and/or strengthening of the metrology infrastructure in each country/subregion on the continent;
- c) Contribute to the development of a conformity assessment and regulatory infrastructure as required and to promote equity in trade;
- d) Contribute to the development of the metrological infrastructure required to protect the environment and to promote the general well-being of the population, including its health, safety and the protection of consumers from fraudulent dealings where measurements are used as the basis for the transaction;
- e) Improve the traceability of measurement standards within Africa to the International System of units (SI), establish comparability with other na-

tional measurement standards (especially with the main trading partners) and to generally promote the International Committee of Weights and Measure's Mutual Recognition Arrangement (CIPM MRA) and the objectives of the Metre Convention;

- f) Encourage measurement traceability in Africa through recognised calibration services; and
- g) Promote the adoption of International Organisation of Legal Metrology (OIML) technical recommendations or other relevant international standards as technical regulations wherever possible and harmonise technical regulations in Africa in order to minimise technical barriers to trade.

#### 4.2.2 Financing

The budgetary requirements to support the AFRIMETS Secretariat are mostly met by member countries. Due to the technical nature of metrology, pan-African representation at international level is done by metrology experts from the member countries and is sponsored by the national metrology bodies.

AFRIMETS operations will be funded from the following sources:

- a) For the Secretariat: A combination of funding allocated by Member States who host the Secretariat (South-Africa has been hosting since 2006), and Developing partner funding;
- b) For benchmarking exercises: Members State NMIs that pilots the exercise, and Developing partner or AU funding for the discussion meetings and for transport of artefacts. Proficiency testing schemes aim to be self-sustainable;
- c) For Technical infrastructure in Member States: Allocations for Metrology from Member States and Developing partner funding;
- d) For pan-African exercises such as attendance of Quality Infrastructure meetings: AU or Developing partner funding; and
- e) A membership fee introduced in 2022/23 to assist with the operation of the Secretariat and to hold the annual GA.

### 4.3 The African Electrotechnical Standardisation Commission (AFSEC)

AFSEC was established in February 2008 as a result of a collaborative effort among stakeholders and underpinned by the Algiers declaration of the Conference of African Ministers of Energy on 17th February 2008, wherein member states were encouraged to support the operationalization of AFSEC as a subsidiary body of the African Energy Commission (AFREC). AFREC reports to the Commissioner for Infrastructure and Energy.

With the support of the African Energy Commission (AFREC), the African electrotechnical Commission (AFSEC) was established.

The AFSEC Secretariat was located in South Africa until 2018. Since 2019, it has been transferred to Cairo Egypt, where the permanent HQ is hosted by the Egyptian Ministry of Electricity and Renewable Energy.

African infrastructure and especially electrotechnical standards and conformity assessment systems are in developing stage in most countries in Africa and consequently will have a multiplier effect especially in electricity generation and transmission (power pools and common manufacturing facilities) and trading in electrical systems, and in support of universal access to electricity.

#### 4.3.1 Objectives and Programme Thrust

Offering an efficient African infrastructure for the improvement, maintenance, and distribution of an appropriate range of standards will improve the wellbeing of the African Populations and accordingly will contribute in achieving the following AFSEC's objectives:

- a) Improve cost effective sustainable access to electricity.
- b) Improve technical skills covering electro technical fields.
- c) Develop informed users of electro technical Standards.
- d) Increase the efficiency of the industrial processes achieving considerable savings in the design and improving quality of products and services.

- e) Support conformity systems for improved quality of products.
- f) Facilitate the trade on the African continent by removing the different technical barriers thus opening up new markets and furthering economic integration and economic growth within AfCFTA (annex 6 TBT).
- g) Provide the framework to promote harmonization; through collective cooperation among IEC full members and IEC affiliates in Africa.
- h) Contribute to the improvement of the health and safety of persons and to the protection of the environment in Africa.

Accordingly, AFSEC Roadmap was set-up based on these objectives to:

- i) Enhance the recognition of AFSEC as the preeminent authority in electro technical standardization.
- j) Provide a harmonized standardization platform connecting all key stakeholders.
- k) Foster the involvement of all African stakeholders through their National Electro technical Committee (NEC)/Standardization Body.
- l) Increase the Statutory Membership, encouraging their involvement in technical work of AFSEC.
- m) Develop mechanisms for focused technical collaboration among technical committees (TCs).
- n) Foster involvement of Academia in standardization with Young Professionals providing a system that can attract and increase industry participation.
- o) Promote Conformity Assessment.
- p) Develop AFSEC Guides.

#### 4.3.2 Financing

AFSEC is funded in part by membership fees, with contributions from supporting organizations. A five-point scale of fees based on the GDP of the member's country has been agreed. The costs of running the secretariat are currently partly subsidized by the Egyptian Ministry of Electricity and Renewable Energy under an interim arrangement with AFSEC for a part-time Secretariat during the start-up phase.



## 4.4 The African Organisation for Standardisation (ARSO)

The African Organisation for Standardisation (ARSO) is Africa's intergovernmental standards body formed by OAU (currently AU) and UNECA in 1977 in Accra Ghana. The fundamental mandate of ARSO is to develop tools for standards development, standards harmonization and implementation of a conformity Assessment system to enhance Africa's internal trading capacity, increase Africa's product and service competitiveness globally, and uplift the welfare of African consumers creating a continental standardization forum to influence future prospects in international trade referencing for Africa's benefit and advantage.

ARSO Members are: (1) Algeria, (2) Benin, (3) Burkina Faso, (4) Burundi, (5) Botswana, (6) Cameroon, (7) Chad, (8) Congo Brazzaville, (9) Cote d'Ivoire, (10) Democratic Republic of Congo, (11) Djibouti, (12) Egypt, (13) Ethiopia, (14) Gabon, (15) Ghana, (16) Guinea, (17) Guinea Bissau, (18) Kenya, (19) Liberia, (20) Madagascar, (21) Malawi, (22) Mauritius, (23) Morocco, (24) Namibia, (25) Niger, (26) Nigeria, (27) Rwanda, (28) Senegal, (29) Seychelles, (30) Sierra Leone, (31) Somalia, (32) South Africa, (33) South Sudan, (34) Sudan, (35) State of Libya, (36) Swaziland, (37) Tanzania, (38) Togo, (39) Tunisia, (40) Uganda, (41) Zambia and (42) Zimbabwe and Zanzibar as an Observer Member.

ARSO has a strong cooperation with Regional Economic Communities (RECs) through signed Memorandum of Understanding (MoUs) to support and promote activities with regard to development, harmonisation and implementation of standards for identified priority products being traded under the AfCFTA as per the projected standards to be harmonised by ARSO in the context of the 4,547 HS6 Tariff lines for the AfCFTA.

ARSO and RECS are collaborating through ARSO Joint Advisory Group (JAG) and Standards Management Committee (SMC) activities and priorities. As a result of this collaboration, the African Standards Harmonisation Model (ASHAM) was revised and the 13 former Technical Harmonisation Committees (THCs) were revised to form 15 priority Sectors of Africa Trade and economic growth with 84 Technical Committees.

### 4.4.1 Objectives

There are four Strategic Goals and nine strategic objectives of ARSO as given in the ARSO Strategic Plan 2022 – 2027:

Strategic Goal 1: Build a quality culture and contribute to industrialization of Africa

Strategic Goal 2: Stakeholders value ARS and have easy access to standardization information

Strategic Goal 3: Develop and implement a robust and integrated African standardization

Strategic Goal 4: Ensure ARSO Sustainability.

### 4.4.2 Programme Thrust

In carrying out its mandate, ARSO seeks to:

- a) Harmonise national and/or sub-regional standards as African Standards and issue necessary recommendations to member bodies for this purpose;
- b) Initiate and coordinate the development of African Standards (ARS) with references to products which are of unique and advantageous interest to Africa;
- c) Encourage and facilitate adoption of relevant international standards by member bodies;
- d) Promote and facilitate exchange of experts, information and cooperation in training of personnel in standardisation knowledge and implementation methodologies(activities);
- e) Coordinate the views of its members at the international standardization forums such as ISO, IEC, Codex and other international Organisations concerned with Standardization activities; and
- f) Create appropriate bodies in addition to the organs of the organisation for the purposes of fulfilling its objectives.

As part of its mandate and in line with the Strategic Objectives, ARSO performs the following activities:

- **Conformity Assessment activities** through its Conformity Assessment Committee known as ARSO CACO. This committee has been established to supervise the African Certification System/Programme. It is open to all ARSO members and currently has 26 members. It is made up so far of two Sub-Committees, namely: Sub-Committee on Standards Implementation (SI) and Sub-Committee on Technical regulations (TR).

The CACO has established 10 Working Groups with four WGs under each Subcommittee and 2 WGs directly under the whole CACO. These are SI- WG 1: Policy and Governance, SI- WG 2: Products and Sustainability Certification Schemes, SI-WG 3: Services, SI- WG 4: African Traditional Medicine, TR-WG 1: Crops and plant protection, TR-WG 2: Animal resources, TR-WG 3: Infrastructure, TR-WG 4: Building and construction. The two WGs under the main CACO are Market Surveillance and the Mutual Recognition Agreement.

ARSO Conformity Assessment system also known as the African Conformity Assessment Programme (ACAP) was developed to increase the use of African standards and build confidence among ARSO members, in order to facilitate intra-Africa and global trade. The system also promotes risk-based conformity assessment options for technical regulations and mutual recognition agreements.

- **Consumer issues** through its Consumer Committee known as ARSO COCO. It was established to address the various consumer issues within the member states This is undertaken through identifying the issues and raising awareness and fostering interest in consumer issues and through consumer participation in African standardization work by providing a platform where they can participate. Consumer participation in the context of ARSO COCO means the process of involving consumers in decision making about African Standardization processes from the perspective of the consumers as a means of promoting consumer protection. COCO membership is open to all ARSO members and currently has 14 members.

The COCO has established the following 9 Working Groups to address consumer issues with the relevant sectors:

**WG 1** – Child product safety,

**WG 2** – Food safety

**WG 3** – Household appliances

**WG 4** – Environmental protection and eco-labelling

**WG 5** – Cosmetic & Cosmetology product safety

**WG 6** – Medical products safety

**WG 7** – Automotive parts

**WG 8** – Digital &Data protection

**WG 9** – Paints

#### 4.4.3 Financing

ARSO is funded mainly by membership fees, with contributions from National Standards Bodies. This funding meets the costs of running the Central Secretariat but does not adequately cover its programmes.

The budget deficit for programmes is partly funded through support of development partners.

## 5. IMPACT OF THE PAN-AFRICAN QUALITY INFRASTRUCTURE BEING RECOGNISED BY THE AU

Having an integrated PAQI that is recognised at the AU/AUC level has the following benefits in a common Policy on Quality Infrastructure and implementation mechanisms at a continental level;

- a) Guide the policy on quality infrastructure at continental level leading to better utilization of quality infrastructure resources available on the continent;
- b) Speed up the adoption of common policies on standardization and quality assurance of goods and services among African countries and promote industrialisation and trade in Africa;
- c) Enable Africa to have a common regulatory objective and therefore a common reference system and voice in determining trends that affect African economies and interests globally;
- d) Facilitate harmonization of African, Regional Economic Community and National standards and conformity assessment procedures;
- e) Facilitate Capacity Development of African quality infrastructure institutions in a more unified way;
- f) Lead to reduction of the risk for business and its customers by assuring them that accredited Conformity Assessment Bodies (CABs) in Africa are competent to carry out the work they undertake thus giving overall assurance in quality of products and services;
- g) Underpin Multilateral Trade agreements with internationally recognised quality infrastructure policies and harmonized standards, technical regulations and conformity assessment procedures;
- h) Leverage funding for metrology, standardization, conformity assessment and accreditation activities at the national and continental levels, and motivate for donor funding in support of African quality infrastructure programs;
- i) Enable Multilateral Recognition Arrangements (MLA) between accreditation body members in order to contribute to common conformity assessment procedures that promote intra-African and global trade; and
- j) To facilitate protection of consumers in Africa

## 6. CONCLUSION

The PAQI institutions actively participate in the AfCFTA SC on TBT meetings, COMESA-EAC-SADC-Tripartite-Standards, Metrology, Conformity Assessment and Accreditation Experts Meetings. This direction and mode of working is envisaged to spread to cover the other regions of the continent and should be given support.

PAQI was recognized by the 20th Conference of African Ministers of Industry, CAMI, held in June 2013 in Nairobi, Kenya as the continental platform for all matters related to standardization, metrology and accreditation in order to strengthen the competitiveness of Africa's goods and services and contribute towards the industrialization of the continent and its sustainability is a milestone.

PAQI was officially launched in August 2013 by the Director of Trade and Industry, African Union Commission (AUC). As part of the African Union family, PAQI has the responsibility to contribute its expertise to improve the quality of products and services in Africa in order to increase regional integration as well as promote intra-Africa trade.

This recognition enables PAQI to actively support the AU prioritised economic development programmes as an integral organ of the Union. This goes a long way in capitalising on the pool of knowledge available within the continent and tooling it to best serve the continent. It also empowers and strengthens the institutions in their operations and endeavours, as they represent the continent and advocate on its vision, mission and core values in international meetings.

ARSO, AFSEC, AFRIMETS and AFRAC have worked hard and are already recognised by the relevant international organisations in their fields of operation. ARSO is recognised by the International Standards Organisation (ISO); AFSEC is recognised by the International Electrotechnical Commission (IEC); AFRIMETS is recognised by the Bureau International des Poids et Mesures (BIPM) and the Organisation Internationale de Métrologie Légale (OIML); and AFRAC is recognised by the International Laboratory Accreditation Cooperation (ILAC) and the International Accreditation Forum (IAF). These institutions form the basic framework of the PAQI architecture.

The recognition and full utilisation of the latent potential in PAQI not only enhances the negotiating power of the African Leadership in international trade negotiations, like Economic Partnership Agreements (EPAs), bilateral and multi-lateral agreements, but also ensures that the product and service supply chain is well developed, in terms of sustainable capacity for meaningful trade. PAQI has the capacity and network to handle and sort out compliance related infrastructure and service bottlenecks and facilitate cross-border flows of goods and services and their entry into the competitive international market. PAQI will speed up the drive towards regional integration and regional trade and hence be pivotal in the creation of sustainable and viable markets. It is a tool to fight poverty, create jobs and wealth.



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