STANDARDIZATION AND CONFORMITY ASSESSMENT IN THE RESEARCH AND INNOVATION ECOSYSTEM IN GHANA



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1. INTRODUCTION

1.1 Purpose and Scope of the Charter

Ghana's research and innovation ecosystem is vital in driving economic growth, creating jobs, and improving the quality of life of Ghanaians. However, to realise its full potential, the ecosystem must be supported by a robust standardisation and conformity assessment system. Standardisation ensures that products, services, and processes are consistent and of high quality, while and conformity assessment ensure that they meet national and international standards.

The Ghanaian government recognises the importance of standardization and conformity assessment in the research and innovation ecosystem; and has recently strengthened the national standardisation system, including the establishment of the Ghana National Accreditation Service (GNAS). However, more needs to be done to ensure that the system is effective, efficient, and responsive to the needs of stakeholders.

This Charter aims to establish a standardization and conformity assessment framework and will guide key stakeholders, including researchers, innovators, industry representatives, and government agencies, in the discharge of their respective mandates. The Charter is based on national and international best practices and reflects the unique needs and circumstances of the Ghanaian research and innovation ecosystem. The Charter was developed through a consultative process involving a range of stakeholders in the research and innovation ecosystem and hence reflected the needs and priorities of stakeholders and is aligned with national policies and strategies.

1.2 BACKGROUND AND CONTEXT OF THE RESEARCH AND INNOVATION ECOSYSTEM IN GHANA

In recent years, Ghana has made significant strides toward building a vibrant research and innovation ecosystem that supports the development of globally competitive products, services, and processes. This has been made possible by various government policies and initiatives, including the Ghana National Science, Technology, and Innovation Policy (2010-2015) and the Ghana Shared Growth and Development Agenda (2010-2013).

Ghana's research and innovation ecosystem is characterised by various actors, including researchers, innovators, industry players, consumers, and government agencies. These actors operate within a complex web of policies, regulations, and standards that govern the country's research and innovation activities. Despite the progress made in recent years, Ghana's research and innovation ecosystem still faces several challenges. These include, limited access to funding, inadequate infrastructure, limited capacity, and a lack of coordination among stakeholders. To address these challenges, there is a need for a comprehensive framework that guides the standardization and conformity assessment process in the research and innovation ecosystem in Ghana. This framework is aligned with international best practices and will promote transparency, inclusivity, and accountability.

2. OBJECTIVES

The objectives of the Charter are as follows:

1. Develop and implement a comprehensive standardisation framework that meets national and international best practices and ensures that products and services in Ghana's research and innovation ecosystem are of high-quality, safe, and fit for their intended purpose.
2. Establish a conformity assessment process that promotes transparency, fairness, and impartiality in assessing products and services in Ghana's research and innovation ecosystem.
3. Provide guidelines for the accreditation of conformity assessment bodies that ensure they have the necessary technical competence, impartiality, and independence to perform their tasks effectively.
4. Set up a governing body that effectively implements the standardisation and conformity assessment process in Ghana's research and innovation ecosystem.
5. Ensure stakeholders involved in the standardization and conformity assessment process in Ghana's research and innovation ecosystem clearly understand their roles and responsibilities.
6. Promote the use of standards and certification in Ghana's research and innovation ecosystem to enhance market access, increase competitiveness, and facilitate trade.
7. Provide a framework for monitoring and evaluating Ghana's research and innovation ecosystem's standardization and conformity assessment to ensure its continuous improvement and effectiveness.

3. DEFINITIONS

For the purposes of this Charter, the following terms shall have the following meanings:

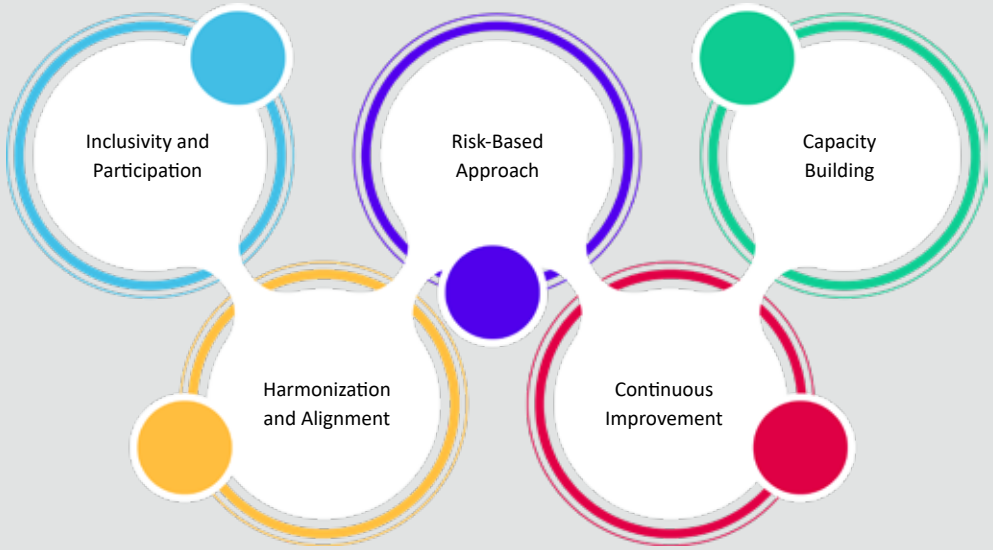
- **Charter:** Charter on Standardisation and Conformity Assessment in the Research and Innovation Ecosystem in Ghana
- **Certification:** the provision by an independent body of a written assurance (a certificate) that a product, process, service or sytem in question meets specific requirements.
- **Conformity assessment:** the demonstration that a product, process, system, person, or organization meets specific requirements
- **Standardisation:** The process of developing and implementing technical specifications agreed upon by all stakeholders involved.



4. GUIDING PRINCIPLES

The following guiding principles have been established to ensure that Ghana's research and innovation ecosystem's standardization and conformity assessment process is effective, efficient, and aligned with international best practices.

Figure 1: Guiding Prinicples for the Ghana's Reseach and Innovation Landscape









Transparency and Accountability:
All standardization and conformity assessment activities shall be conducted in a transparent manner and in accordance with established policies, procedures, and standards. The process shall be accountable to all stakeholders, and the results of the process shall be made available to the public.

Inclusivity and Participation:
The standardization and conformity assessment process shall be inclusive of all stakeholders, including researchers, innovators, industry, consumers, and government agencies. Stakeholder participation shall be encouraged and facilitated throughout the process.

Harmonisation and Alignment:
The standardisation and conformity assessment process shall be harmonised and aligned with international best practices, including ISO standards, to ensure that products, services, and processes conform to established standards and are internationally competitive.



Risk-Based Approach:

The standardisation and conformity assessment process shall take a risk-based approach, which considers the level of risk associated with the product, service, or process being assessed. This approach shall ensure that resources are allocated efficiently, and the process effectively manages risks.



Capacity Building:

Capacity building shall be an integral part of the standardisation and conformity assessment process aimed at developing the necessary skills and expertise in the ecosystem. This shall include training researchers, innovators, industry, and government agencies in the standardisation and conformity assessment process.



Continual Improvement:

The standardization and conformity assessment process shall be continuously reviewed and improved to ensure that it remains effective, efficient, and aligned with international best practices. Feedback from stakeholders shall be sought and used to improve the process.

5. GOVERNANCE AND MANAGEMENT

5.1 Roles and Responsibilities of Stakeholders

Stakeholders involved in the standardisation and conformity assessment process in the research and innovation ecosystem in Ghana have the following roles and responsibilities:

The Ministry of Environment, Science, Technology, and Innovation (MESTI) is responsible for providing policy direction and oversight for research and innovation activities in Ghana.

The Ghana National Accreditation Service (GNAS) is responsible for accrediting Conformity Assessment Bodies (CABs) in Ghana.

The Ghana Standards Authority (GSA) is responsible for developing, promoting, and enforcing standards and conformity assesment in Ghana.

The Ghana Export Promotion Authority (GEPA) is responsible for promoting Ghanaian products and services in international markets.

The Food and Drugs Authority (FDA) will work with stakeholders, especially GSA, to develop and enforce standards for food, drugs, and medical devices in accordance with international best practices. It will also ensure that conformity assessment bodies are accredited and monitor compliance through regular inspections to promote the safety and quality of Ghana's food, drugs, and medical devices.

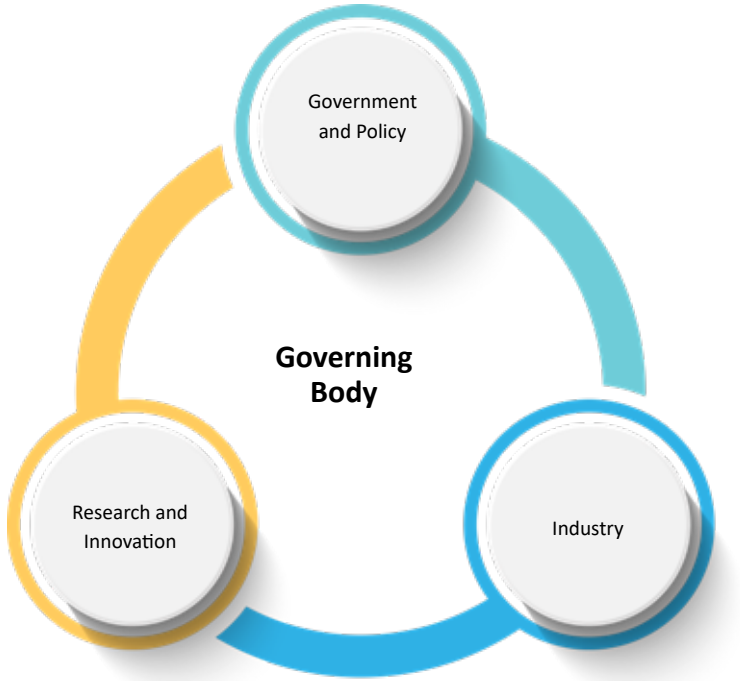
Research and innovation institutions, academia, industry, and other stakeholders are responsible for adhering to the standardisation and conformity assessment process in their activities.

5.2 Formation of a Governing Body

A governing body shall be formed to oversee the standardisation and conformity assessment process in Ghana's research and innovation ecosystem in Ghana. The governing body shall be responsible for:

1. Providing strategic direction for the standardisation and conformity assessment process in Ghana's research and innovation ecosystem.
2. Ensuring the standardisation and conformity assessment process aligns with national and international best practices.
3. Ensuring the standardisation and conformity assessment process is transparent, fair, and impartial.
4. Ensuring that the standardisation and conformity assessment process is continuously improved to meet the evolving needs of Ghana's research and innovation ecosystem.

Figure 2: Governing Body for the Administration of the Charter



The governing body shall consist of representatives from MESTI, GSA, FDA, GNAS, GEPA, Council for Scientific and Industrial Research (CSIR), academia, industry, and other relevant stakeholders. The Governing Body shall be chaired by a representative from MESTI.

6. STANDARDS DEVELOPMENT PROCESS

The standards development process in the research and innovation eco-system in Ghana as used by the GSA follow the following six (6) steps:



Figure 3: The Standards Development Process

1. Proposal stage

Standard development can involve developing a new work item, revision of an existing outdated standard or adoption/adaption of other national/ international standards roposals can come from other directorates within GSA, Individuals, Organizations or Associations in Ghana.

Management of the Directorate will review/assess the proposal based on established criteria and determine if the proposal to develop the standard(s) is necessary and should be considered as a New work item. The feedback is consequently sent to the proposer if approval for the work is given. A Technical Secretary will then be assigned to undertake the correspondence.

2. Preparatory Stage

The document at this stage is registered as a working draft (WD). A working draft is prepared by a working group led by the Technical Committee Secretary.

3. Committee stage

The document at this stage is registered as a Committee draft (CD). The TC Secretary organizes a Technical Committee meeting to conduct a thorough discussion of the working draft in order to take into consideration inputs based on available scientific evidence and current market and industry trends.

4. Public enquiry or review

The document at this stage is registered as a Draft Ghana Standard DGS. The Draft Ghana Standard is circulated to a larger stakeholder group for review and then- comments and inputs over 60 days.

5. Approval Stage

The collated comments received from stakeholders after the Public Enquiry stage are considered by the Technical Committee and if accepted, they are incorporated into the draft standard. The draft standard is then considered for approval by the Technical Committee. The document at this stage is registered as a Final Draft Ghana Standard FDGS

6. Publication and Gazetting Stage

The approved Final Draft Ghana Standard (FDGS) is forwarded to the Standards Desk for final editing. After the final editing of the FDGS, the standard is deemed completed and ready for publication.

The list of standards due for gazetting is consequently compiled and processed. The standard number and title are published in the Ghana Gazette as a notification to the public for information and to give legal backing.

Once the standards are gazetted, clients can purchase either hard copies or soft copies via online platform or physically by visiting the GSA Library.

ADDITIONAL INFORMATION

Standards monitoring

GSA has a five-year Systemic review of its Standards policy and hence published standards needs to be monitored to ensure that they are up to date.

Sale of standards

Standards are either sold as hard copies or soft copies (pdf) via an online platform or can be accessed physically by visiting the GSA Library. Soft (pdf) copies are secured adequately and watermarked as and when appropriate to maintain copyright and limit unwarranted distribution of the standards.



7. CONFORMITY ASSESSMENT PROCESS

7.1 Requirements for Conformity Assessment

The first step in the conformity assessment process is identifying the relevant standards and requirements. This will be based on national and international best practices, as well as the needs of the Ghanaian research and innovation ecosystem. The Ghana Standards Authority will develop and maintain the relevant standards and requirements for conformity assessment in the research and innovation ecosystem.



7.2 Accreditation of Conformity Assessment Bodies

Accreditation bodies will be established in accordance with ISO 17065:2012, to oversee the conformity assessment process. These bodies will be independent, impartial, and competent. The Ghana National Accreditation Service will be responsible for accrediting and regulating conformity assessment bodies. GNAS will ensure that these bodies meet the relevant national and international standards (ISO 17065:2012) and have the necessary expertise, resources, and facilities to carry out their duties effectively.

7.3 Procedure for Conformity Assessment

Conformity assessment shall be carried out in accordance with the following procedure:

Figure 4: Procedure for Conformtiy Assessment



7.4. ROLE OF STAKEHOLDERS IN THE PROCESS

Stakeholders involved in the certification and conformity assessment process in the research and innovation ecosystem in Ghana shall have the following roles and responsibilities:

- The Ghana National Accreditation Service shall accredit conformity assessment bodies as per the to ISO 17065:2012 - Conformity assessment- Requirements for bodies certifying products, processes and services
- The Ghana Standards Authority shall be responsible for issuing the certification mark.
- The Ghana Standards Authority, Food and Drugs Authority, Ghana Export Promotion Authority and other Agencies mandated by law shall conduct surveillance activities.
- Conformity assessment bodies shall assess products and services against the relevant standards and issue certificates or licences.
- The public shall access certified products and services information through a publicly accessible database.

7.5 Recognition

Certified products, services, and processes will be recognised by relevant stakeholders, including consumers, industry representatives, and government agencies. This will ensure that the products, services, or processes meet the relevant standards and requirements and help promote confidence in Ghana's research and innovation ecosystem. The Ministry of Trade and Industry and the Ministry of Environment, Science, Technology, and Innovation will promote the recognition and acceptance of certified products, services, and processes.



8. IMPLEMENTATION AND MONITORING

8.1 Procedures for Implementation

The Ghana Standards Authority will develop and implement procedures for the standardisation process, which will include the establishment of technical committees and the development of standards in line with national and international best practices as per their manadate. At the same time, the GNAS shall be responsible for accrediting conformity assessment bodies. These institutions shall work closely with relevant stakeholders, including industry associations, academia, research institutions, private laboratories, government agencies etc to develop and implement national standards that meet international best practices. Both institutions shall also provide training and capacity-building programmes to ensure stakeholders have the necessary skills and knowledge to participate in the standardisation process. Other relevant institutions, such as the Ghana Export Promotion Authority, shall also play a role in implementing the standardisation, and conformity assessment process. The GEPA shall promote the export of Ghanaian products and services by ensuring they meet relevant international standards and regulations.

8.2 Monitoring and Evaluation

The monitoring and evaluation of the process will be the responsibility of the GSA, in collaboration with other relevant bodies such as the Ghana National Accreditation Service, the Ghana Export Promotion Authority, and the Food and Drugs Authority. The FDA will play a key role in monitoring compliance with standards and regulations related to food, drugs, medical devices and other products and services as per their mandate through regular inspections. The GNAS will conduct regular reviews and audits of conformity assessment bodies other than those established by law such as FDA and GSA to ensure they adhere to the relevant standards and procedures.

The GSA, FDA and GNAS shall also establish a complaint and appeal mechanism to address grievances related to the standardisation and conformity assessment process as applicable to their institutions. Other relevant institutions, such as the Consumer Protection Agency (CPA), shall also play a role in addressing consumer complaints about the quality of products and services.

8.3 Enforcement and Penalties

The FDA will be responsible for enforcing compliance with standards, regulations and enforcing sanctions related to food, drugs, medical devices and other products and services as per their mandate.

Other national regulatory agencies as per their mandate will apply the necessary sanctions to companies and institutions who fail to meet the required standards. Penalties will be imposed on individuals or organisations that fail to comply with national standards and regulations by the relevant national authrorities as mandated by law.



9. FINANCING AND RESOURCE MOBILISATION

9.1 Funding Sources

The implementation of the Charter will require significant funding, and various institutions will play a crucial role in providing financial resources to support the standardisation and conformity assessment processes. Through the Ministry of Trade and Industry and the Ministry of Science, Technology, and Innovation, the government of Ghana will provide financial support. The private sector can contribute through financial resources, technical expertise, and equipment for testing and certification, and the Ghana Export Promotion Authority can mobilise resources from the private sector. Development partners such as the African Development Bank, World Bank, United Nations Development Programme, and other international organisations can provide funding and technical support. The Ghana National Accreditation Service can liaise between the government and development partners to secure funding. The Food and Drugs Authority will also play a crucial role in the governance and management of the Charter.

9.2 Resource Mobilisation Strategies

Various resource mobilisation strategies shall be employed to ensure the successful implementation of the Charter. These include the development of a resource mobilisation plan, public-private partnerships, and donor conferences. The GSA and GNAS shall explore cost recovery mechanisms to generate revenue to support the implementation of the Charter. This can be done by imposing fees for certification, testing, and other conformity assessment services. The Ghana Standards Authority, Ghana Export Promotion Authority, Ghana National Accreditation Service, Ministry of Trade and Industry, and other relevant stakeholders will collaborate to mobilise financial and technical resources for the process.



10. REVIEW AND REVISION

10.1 Periodic Review of the Charter

The Charter shall be reviewed periodically, at least once every five years, to ensure its relevance and effectiveness in achieving its objectives. The review process shall involve all stakeholders and consider any changes in Ghana's research and innovation ecosystem and any emerging trends in international standardisation, certification, and conformity assessment.

10.2 Revision and Amendment of the Charter

The Charter may be revised and amended to reflect changes in Ghana's research and innovation ecosystem or align with emerging international standardisation and conformity assessment trends. The revision and amendment process shall involve all stakeholders and be carried out transparently and in a consultative manner. The governing body (committee) shall approve the revised Charter before it takes effect.

11. INCENTIVES FOR INDUSTRY AND INNOVATORS

Recognizing the importance of industry and innovators' voluntary compliance with standardisation and certification processes, this Charter encourages the adoption of various incentives to promote their participation and adherence.



Figure 5: Incentives for Innovators to Adhere to Guedlines in the Charter

The following incentives are outlined:

11.1 Market Access and Competitiveness:





Access to Markets:

Complying with standardization and certification requirements can provide industry and innovators with easier access to domestic and international markets, enabling them to expand their customer base and compete effectively.

Enhanced Reputation:

Adhering to recognized standards and holding valid certifications can enhance the reputation of industry and innovators, instilling trust and confidence among consumers, partners, and investors.

11.2 Regulatory Benefits:





Regulatory Support:

Industry and innovators that comply with standardization and certification requirements may receive regulatory support, including simplified administrative processes, expedited approvals, and reduced regulatory burdens.

Preferential Treatment:

Governments may provide preferential treatment, such as tax incentives, grants, and funding opportunities, to incentivize compliance with standards and certifications.

11.3 Business Development Opportunities:





Funding and Investment:

Industry and innovators that demonstrate compliance with standards and certifications may be eligible for funding and investment opportunities from government agencies, financial institutions, and venture capitalists.

Collaboration and Partnerships:

Compliance can open doors to collaboration and partnership opportunities with research institutions, industry associations, and other stakeholders,

11.4 Capacity Building and Technical Assistance:





Training and Support:

Governments and relevant organizations can provide industry and innovators with training programs, capacity-building initiatives, and technical assistance to help them understand and meet standardization and certification requirements effectively.

Access to Resources:

Industry and innovators may gain access to technical resources, testing facilities, and expert guidance through partnerships with standardisation bodies, research institutions, and accredited conformity assessment bodies.

11.5 Recognition and Awards:



Industry Recognition:

Governments and industry associations can establish recognition programs, awards, and certifications to acknowledge and celebrate the achievements of industry and innovators in meeting and exceeding standardization and certification standards.



Publicity and Marketing:

Compliance with standards and certifications can be highlighted through marketing materials, promotional activities, and public relations efforts, showcasing industry and innovators' commitment to quality and safety.

These incentives aim to encourage industry and innovators to proactively engage in standardization and certification processes, fostering a culture of quality, innovation, and continuous improvement. By voluntarily complying with standards and certifications, industry and innovators can unlock numerous benefits, enhance their market presence, and contribute to the overall growth and competitiveness of the research and innovation ecosystem in Ghana.

12 COMMITMENT OF INDUSTRY AND INNOVATORS

Recognizing the critical role of industry and innovators in driving research and innovation in Ghana, this Charter on Standardisation and Conformity Assessment establishes a framework for their active participation and commitment.

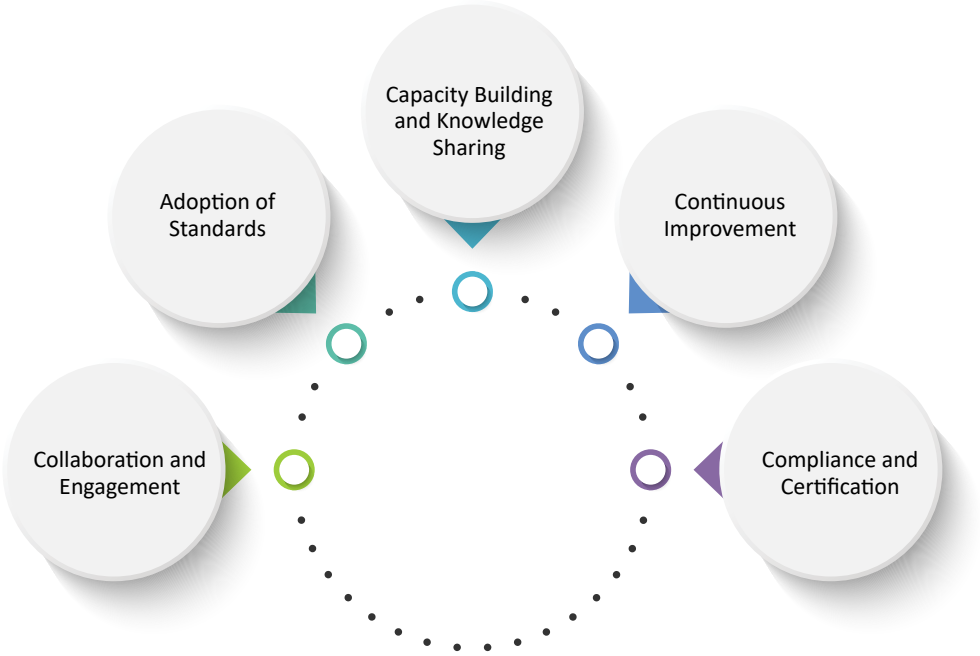


Figure 6: The Role of Industry and Innovators

12.1 Adoption of Standards:

- Commit to adopting and implementing relevant standards and best practices in their respective sectors, ensuring the quality, safety, and efficiency of their products, services, and innovations.
- Promote a culture of continuous improvement by staying abreast of evolving standards and incorporating them into their operations.

12.2 Collaboration and Engagement:

- Collaborate with relevant stakeholders, including regulatory bodies, research institutions, and standardization organizations, to contribute to the development and review of standards and certification processes.
- Actively participate in industry-led initiatives, working groups, and research projects that aim to enhance standardization and conformity assessment practices.

12.3 Compliance and Certification:

- Comply with the established standards, regulations, and certification requirements applicable to their specific industry or innovation sector.
- Seek appropriate certifications and undergo conformity assessment processes to validate their adherence to the prescribed standards and practices.

12.4 Continuous Improvement:

- Invest in research and development activities to drive innovation and advancements within their industries.
- Embrace emerging technologies, methodologies, and sustainable practices that align with international best practices and contribute to the growth of the research and innovation ecosystem.

12.5 Capacity Building and Knowledge Sharing:

- Support initiatives that enhance the skills and capabilities of their workforce in relation to standardisation, certification, and conformity assessment.
- Promote knowledge sharing within the industry and innovator community, fostering a culture of learning and continuous professional development.



By committing to these actions, industry and innovators demonstrate their dedication to excellence, innovation, and responsible business practices. Their active involvement in the implementation of the charter will contribute significantly to the growth and competitiveness of the research and innovation ecosystem in Ghana.

13 COMMITMENT OF REGULATORS AND GOVERNMENT

Recognizing the crucial role of regulators and government agencies in fostering an enabling environment for standardisation and conformity assessment in the research and innovation ecosystem in Ghana, this Charter emphasizes their commitment to the following:

13.1 Supportive Policy Framework:

- Develop and implement policies, laws, and regulations that facilitate the adoption, implementation, and enforcement of standards and certification requirements.
- Continuously review and update the regulatory framework to align with international best practices and emerging trends in research and innovation.

13.2 Institutional Strengthening:

- Allocate adequate resources, both financial and human, to build the capacity of regulatory bodies responsible for standardisation and conformity assessment.
- Establish and enhance coordination mechanisms among relevant government agencies to ensure effective and efficient implementation of the charter.

13.3 Simplified Procedures:

- Streamline administrative procedures related to standardisation and conformity assessment to reduce unnecessary bureaucratic barriers and promote ease of doing business.
- Develop user-friendly guidelines and online platforms to facilitate the application, evaluation, and issuance of certifications.



13.4 Collaboration and Partnership:

- Foster collaboration among regulators, industry, research institutions, and other stakeholders to develop and review standards, certification criteria, and conformity assessment methodologies.
- Partner with international standardisation bodies, development partners, and other countries to exchange knowledge, share best practices, and leverage technical expertise.

13.5 Enforcement and Monitoring:

- Establish effective enforcement mechanisms to ensure compliance with standards, regulations, and certification requirements.
- Implement robust monitoring and surveillance systems to detect non-compliance, assess risks, and take appropriate actions to safeguard the interests of consumers, industry, and the public.

13.6 Awareness and Capacity Building:

- Conduct awareness campaigns and training programs to enhance stakeholders' understanding of the importance of standardisation and conformity assessment.
- Provide technical assistance and capacity-building support to industry, research institutions, and conformity assessment bodies to meet international standards and improve competitiveness.

By committing to these actions, regulators and government agencies demonstrate their dedication to creating an enabling environment that promotes quality, safety, and innovation in Ghana's research and innovation ecosystem. Their commitment ensures the effective implementation of the Charter on Standardisation and Conformity Assessment, leading to sustainable development, enhanced trade, and increased competitiveness of Ghana's research and innovation sector.

14 Procedure for Endorsement of the Charter

This Charter may be endorsed by signing an endorsement letter or submitting an official statement of support

15 CONCLUSION

This Charter on Standardisation and Conformity Assessment in Ghana's Research and Innovation Ecosystem provides a framework for developing and implementing a robust system for ensuring quality and conformity in research and innovation activities. The Charter outlines the roles and responsibilities of stakeholders in the standardisation, certification, and conformity assessment process, as well as the principles that will guide the process.

All stakeholders in Ghana's research and innovation ecosystem must adhere to this Charter's provisions to enhance the quality and competitiveness of Ghanaian products and services in the global market.

