

THE MARK OF QUALITY

Opening Doors to Trade through Conformity Assessment

The Heads of SIRIM Subsidiaries

**CREATE A UNIVERSE OF EXCELLENCE
IN THE CONFORMITY ECOSYSTEM**



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As Malaysia seeks to increase its volume of exports, it is vital for Malaysian companies to play a part in ramping up the quality of their products and manufacturing processes. Through certification, they can not only adhere to regulatory requirements in local and international markets, but also effectively brand themselves for excellence. And SIRIM is ready to help them make a mark for themselves.

When a product that is made in Malaysia is certified by SIRIM, it has access to other markets because of mutual recognition and acceptance (MRA) agreements. This is where the standards applied in Malaysia are recognised by bilateral and multilateral partners, which helps to eliminate the need for costly re-testing and re-certification.

Not only does this ensure market access, but it also builds confidence in the product. It is because certification acts as a guarantee that the product has undergone the proper procedures to determine whether it is fit to be sold and used in a particular market. As such, SIRIM plays a vital role in strengthening the credibility of Malaysian manufacturers, and in doing so, helps boost the country's exports.

The Conformity Assessment Ecosystem

To better understand the role that SIRIM plays in conformity assessment (CA), it is important to first understand the CA ecosystem, which comprises Standards, Testing, Inspection and Certification (TIC) and metrology. Each of these play a separate role which, when combined together, make up the entire CA process. For instance, a standard is a set of internationally or industry-wide accepted requirements that guarantee the safety, reliability and quality of a product or service, as well as its interoperability. By benchmarking their products and services against standards, companies can demonstrate that these products and services meet the expected criteria for quality and performance.

The first component of the CA ecosystem is metrology. Defined as the "science of measurements", metrology plays a vital role in the CA process. That being said, all three (standards, TIC and metrology) need to be present. Standards to set the benchmark, TIC to ascertain and attest that the standards are met, and metrology to ensure that the instruments used to carry out tests and inspections are calibrated properly.

Hierarchy of Standards

It should also be noted that there is a hierarchy of standards, and where a standard belongs on that hierarchy is dependent on the level of consensus that it receives. At the very top are International Standards such as those developed by ISO (International Standards Organisation) and IEC (International Electrotechnical Commission). These are standards that are agreed upon by all members of the IAF/ILAC (International Accreditation Forum / International Laboratory Accreditation Cooperation), which are made up of all national Conformity Assessment Bodies (CABs) from around the world. SIRIM is a member of IAF/ILAC. The next rung from the top in the hierarchy of standards are Regional Standards, which are Standards that have been agreed on by members of regional accreditation forums such as the Asia Pacific Accreditation Cooperation (APAC) for Asia-Pacific CABs. Examples of Regional Standards include the European Standards (EN), which have been ratified

by either one of three European Standards organisations – namely CEN (European Committee for Standardisation), CENELEC (European Committee for Electrotechnical Standardisation) and ETSI (European Telecommunications Standards Institute).

After Regional Standards come National Standards, which are developed and/or approved by national standards organisations. In Malaysia, this is undertaken by the Department of Standards Malaysia (STANDARDS MALAYSIA) which develops MS (Malaysian Standards).

Usually, National Standards are in line with International and Regional Standards, albeit with certain modifications to ensure that the standards are in line with national requirements. For example, since different countries use different telecommunications frequencies, it is important that telecommunication devices produced, imported and sold in that country are able to operate within those parameters.

Next are Industry or Association Standards. These are usually developed by associations that represent the industry, and are agreed on by the industry players. One example of this is the Malaysian Criteria and Indicators abbreviated as MC & I 2002, a standard for forest management which was developed by the Malaysian Timber Certification Council (MTCC) comprising stakeholders from the Malaysian forestry sector.

The Measure of Quality – The National Metrology Institute

"As the National Metrology Institute of Malaysia (NMI), we are the custodians of Malaysia's national measurement system. This means that we are responsible for ensuring that the measures we use in this country are in line with set international standards," NMIM-SIRIM Senior Director, Dr Osman Zakaria, tells *International Business Review*.

The importance of metrology to the CA process cannot be underestimated. As Dr Osman points out, "In testing and inspection, it is absolutely necessary to ensure that measurements are accurate. For example, for certain medical devices, even the smallest deviation can cause a device to give out incorrect readings that will compromise its efficacy and cause serious problems."

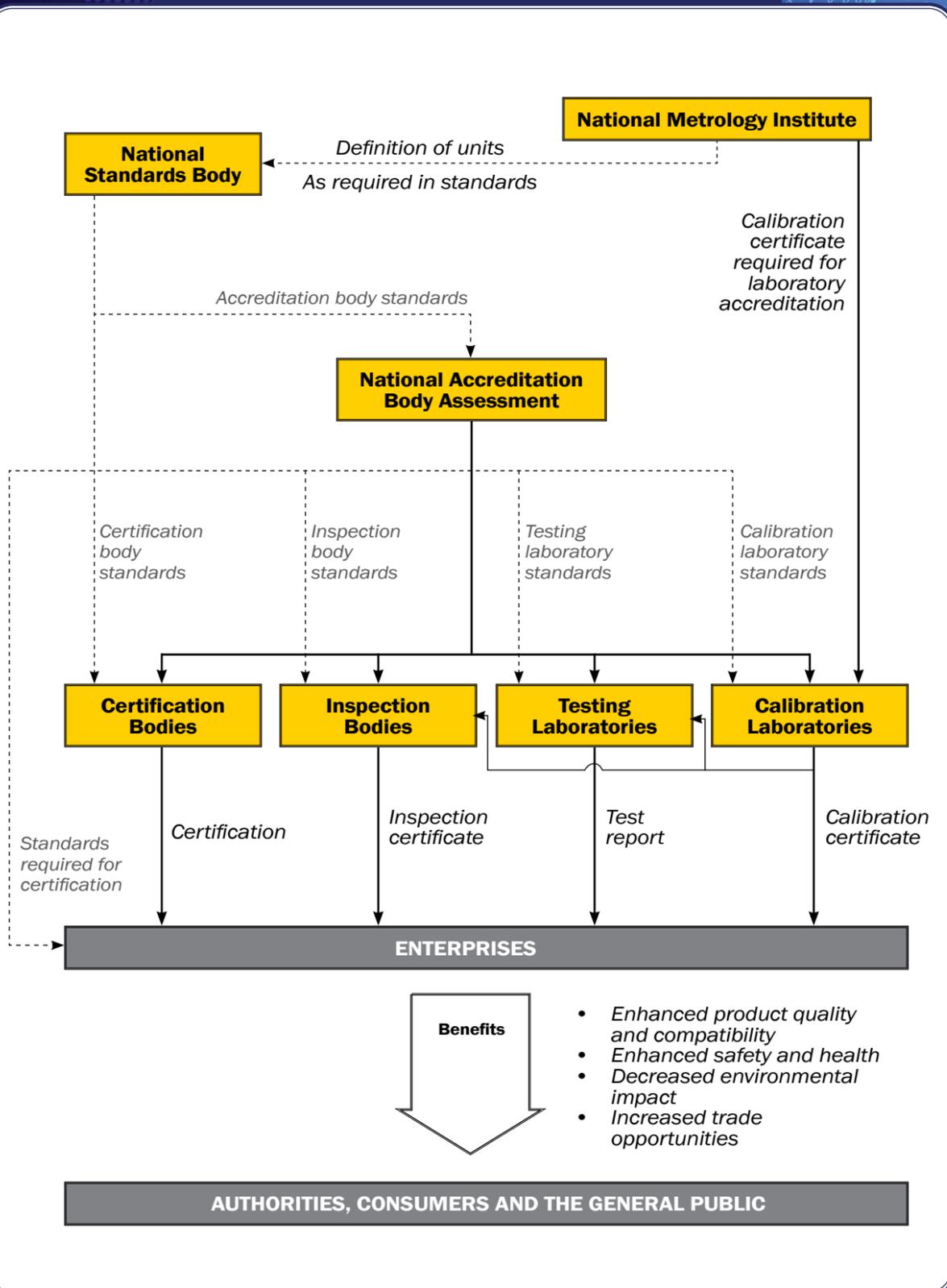
NMIM-SIRIM's position is reinforced by its membership in a number of international metrology organisations. These include the International Bureau of Weights and Measures (BIPM), the International Organisation of Legal Metrology (OIML), the Asia Pacific Metrology Programme (APMP), the Asia-Pacific Legal Metrology Forum (APLMF) and NCSL International.

"We are also a signatory to the CIPM-MRA (International Council of Weights and Measures – Mutual Recognition Agreement)." Dr Osman reveals. "This means that our certificates of measurement and calibration are recognised around the world. This helps break down barriers to trade as it ensures that Malaysian-made products that have undergone testing and inspection in the country can access overseas markets without having to go through the same tests with instruments calibrated in export markets."



The National Metrology Institute of Malaysia (NMIM) ensures that all measuring equipment are properly calibrated thereby ensuring precision in testing and conformity assessment.

CONFORMITY ASSESSMENT ECOSYSTEM



SIRIM Standards Technology (SST) has one of the largest calibration laboratories in Malaysia, and provides vital services to a wide range of sectors.



Last but not least, are organisation or company standards, which are developed by individual companies to ensure that their operations and processes are up to mark. Sometimes, these standards are then adopted by other members of the industry without going through official ratification by an industry association. For example, the Boeing Aircraft Company (BAC) has developed standards for the aeronautics industry, which have since been taken up by other industry players.

The development and acceptance of standards is just one part of the CA process. In order for an organisation to demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements, they need to undergo an outlined process-based method, strong customer focus, and involvement of upper-level company leadership.

The Measure of Quality

When it comes to CA, being precise is not an option, it is an absolute must. The measurement tools or devices used to carry out testing and inspection need to be calibrated properly in order to ensure the results are obtained with known accuracy and traceable to the International System of Units (SI) or other appropriate measurement standards. And this is where the National Metrology Institute of Malaysia (NMIM-SIRIM) comes in.

While SIRIM STS offers services in the development of SIRIM Industry Standards

Calibrations & Measurement – SIRIM Standards Technology Sdn. Bhd.

SIRIM Standards Technology Sdn. Bhd. (SST) provides a wide range of services with full traceability to National and International Standards to cater for a complete range of calibration and measurement across six fields: Radio Frequency (RF), Electrical (DCLF & Time Frequency), Force and Pressure, Temperature, Dimensional, Mass and Volumetric.

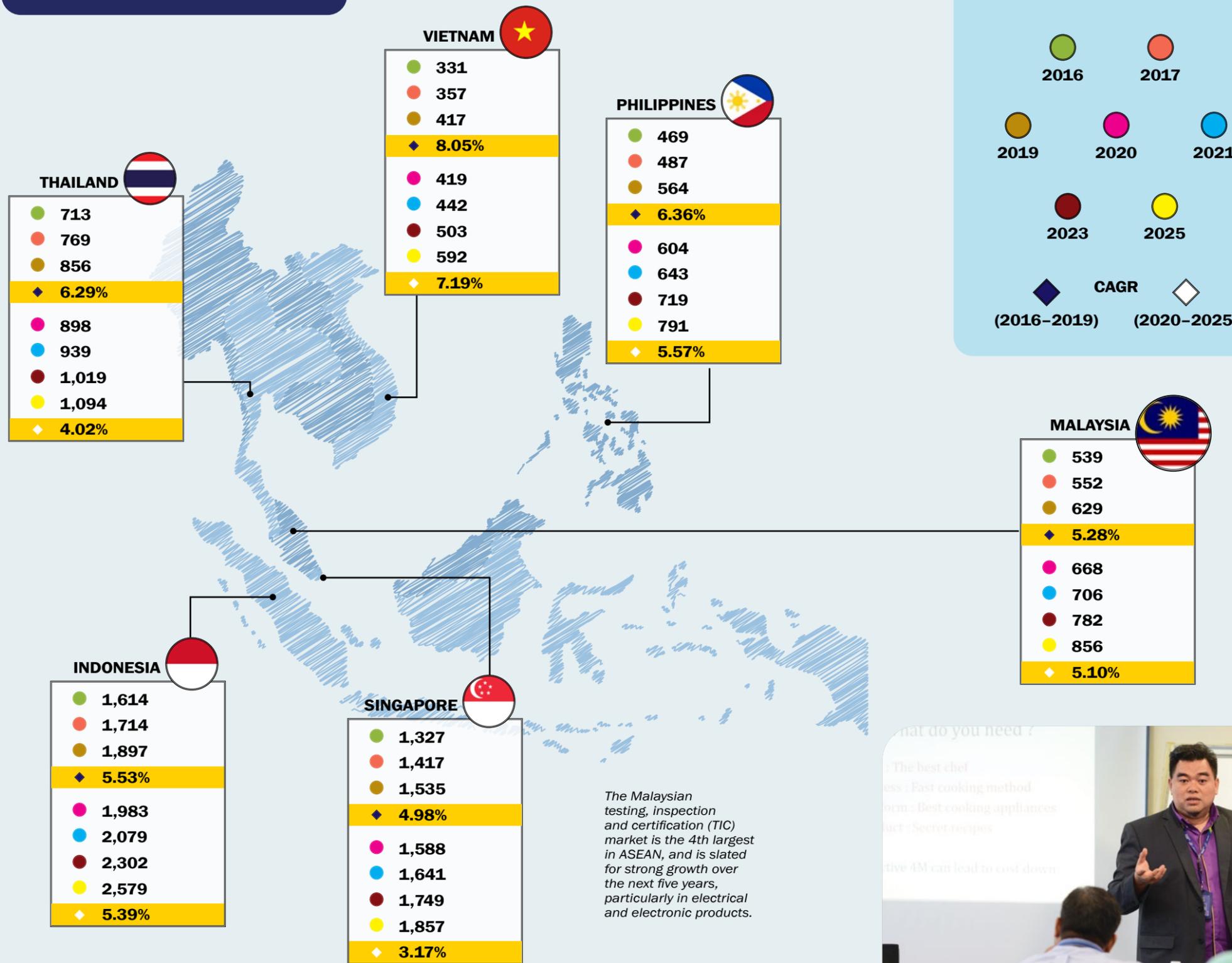
Chief Executive Officer Abdul Ghani Abdul Rahman reveals that SST has offices and laboratories located at five different regions: Central (Selangor), Northern (Penang), Southern (Johor) and the East Coast (Pahang) of Peninsular Malaysia, as well as East Malaysia (Sarawak).

“All of our laboratories are ISO 17025-accredited to serve diversified market sectors, which include Oil and Gas, Manufacturing, Aviation, Semiconductors, Electrical & Electronics, Utilities, Education, Defence, Automotive, Telecommunications, Agriculture, Healthcare, Government Agencies and Construction,” he says.

Since its inception in 1994, over 1.2 million calibration certificates have been issued and more than 10,000 companies have been served, both locally and internationally. This achievement is testament to SST’s Value Proposition in providing ‘Trusted and Reliable High Quality Measurement Services.’

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TIC MARKET IN ASEAN, BY COUNTRY, 2016 - 2025 (USD MILLION)



The Malaysian testing, inspection and certification (TIC) market is the 4th largest in ASEAN, and is slated for strong growth over the next five years, particularly in electrical and electronic products.



SIRIM STS carries out training programmes to help participants from industries understand how to implement standards in their organisations.

Setting the Standards – SIRIM STS

Standards are a fundamental part of the CA ecosystem, and within the SIRIM family, the vital role of developing standards and conducting the training for them falls on SIRIM STS Sdn Bhd. Speaking to *International Business Review*, SIRIM STS CEO Raja Yahya Raja Ariffin explains that the company plays different yet important roles in CA.

“We develop SIRIM Industry Standards and also provide consultancy services on the development of standards to industry associations and organisations. In addition to that, we carry out training on various standards including MS, SIRIM Industry Standards as well as international and industry standards,” he says.

By developing standards, SIRIM STS helps organisations and industry associations set the framework that will enable them to implement best practices in their production and organisational processes, and improve their productivity and bottom line.

One example of a standard which SIRIM STS has developed is the SIRIM Eco-Labeling Scheme. Raja Yahya reveals that the impetus for doing so was the increased market demand for environmentally friendly products. By developing the SIRIM Eco-Labeling Scheme, SIRIM STS provided organisations with the benchmarks that they can follow and receive certification for, which proves that they are environmentally conscious.

“This opens up a lot of markets and increase their sales positions, as our scheme is recognised by other members of the Global Ecolabelling Network (GEN),” Raja Yahya states. “Also, by getting certified under the SIRIM Eco-Labeling scheme, they qualify to be suppliers under the Malaysian government’s Green Government Procurement (GGP) programme. So this increases their business opportunities,” he says.

Furthermore, aside from developing standards, SIRIM STS also offers training courses for organisations seeking certification. “Through our training courses, organisations can strengthen their products and processes that will help them through the TIC exercise and get certified accordingly,” Raja Yahya states.



As the leading testing, inspection and certification (TIC) provider in Malaysia, SIRIM QAS International helps ascertain the quality of goods, processes and services.

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and document standards in nature, SIRIM's National Metrology Institute of Malaysia (NMIM) deals with physical standards that provide traceability through calibration of measuring equipment. NMIM is the custodian for the national weights and measures governed by the Weights and Measures Act 1972 and the National Measurement Systems Act 2007.

The SIRIM Advantage

While there are a number of organisations that provide one or more of the services necessary in the CA process, SIRIM has a unique advantage. It is one-stop centre for conformity assessment through our various subsidiaries, and is able to provide the entire range of conformity assessment services from development of standards, to TIC to calibration and metrology.

To illustrate, SIRIM QAS International is the leading provider of TIC services in Malaysia and offers product testing, product certification and management system certifications for a diverse range of industries. It is also an accredited testing, inspection and certification services provider under numerous bodies, specifically the National Accreditation Body, the Department of Standards Malaysia (STANDARDS MALAYSIA) and the United Kingdom Accreditation Service (UKAS) among others. These are testaments to its capabilities and qualities.

Addressing Challenges

Over the course of more than 40 years, SIRIM QAS International has managed to establish itself as a trusted Certification Body (CB) in Malaysia, thanks to its wide range of services and reputation for excellence. However, the organisation faces a number of challenges. For instance, while certain certifications are mandatory in order to ensure that a product or service is able to be sold and used either in Malaysia or globally, others are not. As such, there is a reluctance among companies to take up these voluntary certifications as they are not mandated by law to do so.

Future Proofing SIRIM and the Nation

Although, or perhaps more accurately, because it is a leader in conformity assessment in Malaysia. SIRIM knows that it cannot afford to rest on its laurels but instead continuously find ways to improve in order to maintain its position. And one way that SIRIM has been doing so is by increasing focus on digitalisation and sustainability. The impetus to do so stems from the fact that digitalisation and sustainability have become increasingly vital in business growth.

Digitalisation will help companies optimise their processes and workflows, which will result in better efficiencies, productivity and quality. At a time when Industry 4.0 (I4.0) has become the buzzword of industrialisation and the worldwide digital economy is valued at US\$3 trillion, it is important that SIRIM does not get left behind.

“ One of our goals is to get more companies to take up these voluntary certifications. As Malaysia's national certification body, we aim to help strengthen Malaysian companies so that they will be able to increase their exports and in turn help the country grow. And the best way to do that is by being certified as being compliant with standards. ”

- Nur Fadhilah Muhammad, CEO, SIRIM QAS International

At the same time, getting certified as being sustainable improves companies' market share as there is a greater demand that products meet environmental, social and governance (ESG) standards.

SIRIM is driven to help Malaysian companies improve in these areas. Doing so will enhance their access to overseas markets and improve the country's trade. That being said, SIRIM understands that some organisations, especially SMEs, may be hesitant to embrace digitalisation and sustainability, mostly because of costs and lack of skills.

SIRIM has the necessary solutions to help companies, particularly SMEs, overcome these barriers at SIRIM. For instance, SIRIM Training Services provides digitalisation training programmes, while SIRIM Industrial Research offers digital technology solutions. Then there is the SIRIM-Fraunhofer programme, which helps manufacturers implement innovation and technology into their processes.

As for sustainability, SIRIM is playing an important role in raising the levels and capacity of Malaysian organisations in that area. By doing so, not only is it helping Malaysian companies strengthen their market value, it

is also contributing to the country's mission of achieving the UN Sustainable Development Goals.

Incidentally, there are 17 SDGs in total, and the ISO has published a total of 22,467 standards to be used in line with them. SIRIM, through SIRIM QAS International, offers testing, inspection and certification programmes for a number of them.

This includes offering management system certification against ISO 14001, which covers environmental. It also has ISO 14067, which enables organisations to measure the carbon footprint during the lifecycle of their products, and ISO 50001, which certifies an organisation's success in reducing energy consumption and greenhouse gas emissions.

Aside from ISO management certifications, SIRIM has also developed and offers product certifications against standards related to sustainability. These include SIRIM Eco- Labelling, which is a scheme that ascertains the environmental benefits of products, Photovoltaic Module Certification for the reliability and safety of PV modules, and Modular Coordination Verification for Industrial Building Systems (IBS) that are being used to help reduce waste and energy consumption in construction.

SIRIM's commitment to helping organisations in Malaysia improve their sustainability and digitalisation efforts is a testament to its commitment to the nation. Thanks to its efforts, the term 'Made in Malaysia' can truly be seen as a Mark of Quality.

