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LEADING THE **CHANGE** FOR A BETTER **TOMORROW**

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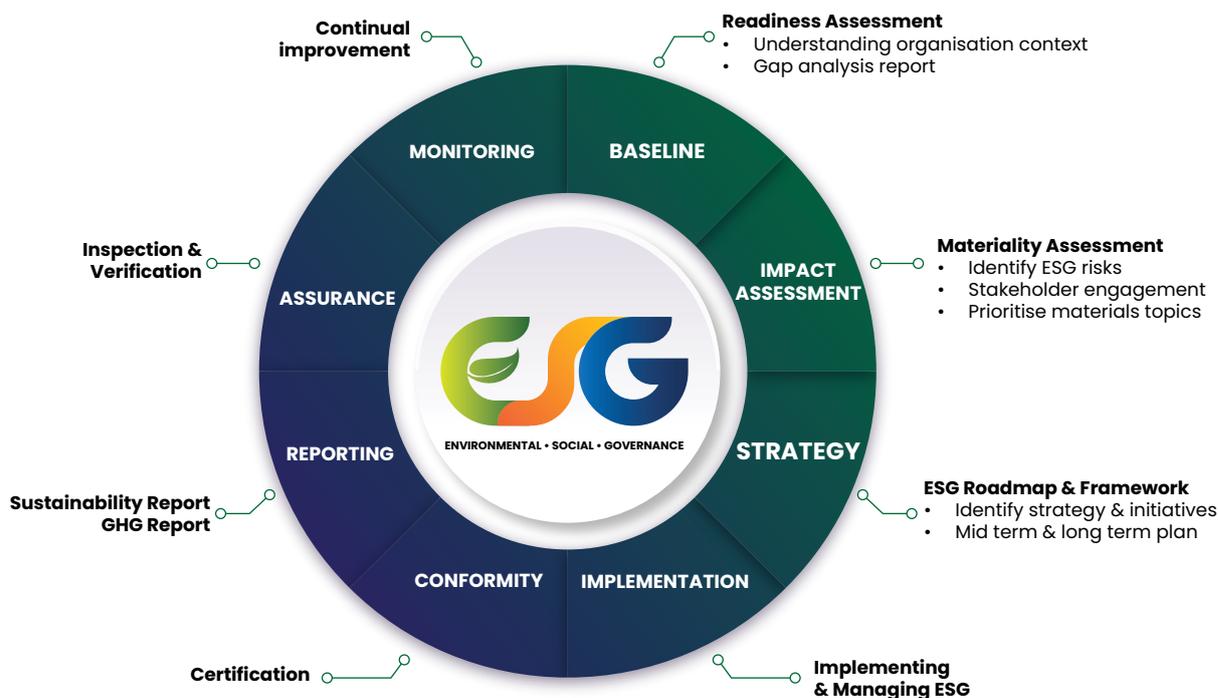
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SIRIM

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ESG Ecosystem *(client requirements)*



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ADVISOR

Nik Sazali Nik Hussin

CHAIRPERSON

Hasmafatiha Harun

MEMBERS

Ahmad Yani Ahmad Ridzuan

Aliza Zainal Munir

Irene Safinaz Hassan

Mohd Zurani Abdul Wahab

Nurazlina Ismail

Roslina Harun

Sarasufia Hamdan

Syazrie Adley Nor Azman

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For further information on the articles featured in this magazine, please contact:

Corporate Relations Department
SIRIM Berhad

Tel: 03-5544 6000

E-mail: publications@sirim.my

SIRIM is embracing a vision: to be a game-changer in shaping Malaysia's industrial and economic landscape. Backed by decades of expertise, we are aligning our core capabilities with forward-thinking strategies across the Group to unlock new value, drive innovation and support national aspirations.

Among our key priorities is to elevate SIRIM's visibility and impact across diverse industries. Through strategic communications and targeted engagement, we aim to amplify our role as a trusted partner in the areas of quality, standards and innovation.

In addition to these overarching efforts, our focus extends to strengthening core capabilities across the Group. This includes initiatives to enhance Malaysia's manufacturing competitiveness through high-precision services and advanced technologies. We are also expanding and refining our Testing, Inspection and Certification (TIC) services to deliver high-impact, customer-centric solutions.

At the same time, we are committed to supporting local businesses in safeguarding their products and brand integrity. Meanwhile, our commitment to national capacity-building is demonstrated through specialised training and consultancy services. Additionally, we continue to strengthen our metrological capabilities, reaffirming our dedication to measurement science, precision and international alignment.

Together, these initiatives form a robust ecosystem that positions SIRIM as a catalyst for national progress. As we move forward, our integrated services, technologies and expertise will continue to support Malaysia's journey toward industrial excellence, sustainable development and global competitiveness.



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PACKAGING TRUST, SECURING FUTURES



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*Chief Executive Officer,
Packaging and Security Design Centre (PSDC), SIRIM*

Shifts in the business landscape have made it essential for organisations to evolve the way they operate. With its finger on the pulse of government, industry and consumer trends, SIRIM's Group Marketing division is ready to unveil its game plan to meet emerging challenges and reach higher.

Building on the solid foundation of the Group, this new phase will position us as a key player on the global stage. We want to move from just being recognised for our offerings to gaining prominence as an industry leader.

POWERING SIRIM'S NEXT GROWTH CHAPTER

by
 Mohd Faisal Abdul Shukor
 Group Chief Marketing Officer, SIRIM

In a rapidly evolving world, SIRIM occupies a unique and strategic position, balancing the diverse interests of government, industry, statutory bodies and consumers. Navigating these interconnected spheres is an interesting and challenging task, requiring thoughtful alignment on structural, developmental and commercial fronts.

Armed with deep insight and broad engagement, SIRIM is well-positioned to adapt, influence and lead amidst shifting priorities and expectations. Spearheading its evolution to becoming a national innovation catalyst and business enabler, the Group Marketing Division hopes to intensify its efforts to drive growth and foster impactful change.

"Building on the solid foundation of the Group, this new phase will position us as a key player on the global stage. We want to move from just being recognised for our offerings to gaining prominence as an industry leader," said Mohd Faisal Abdul Shukor, Group Chief Marketing Officer of SIRIM.



powering
 SIRIM's
 next growth
 chapter



UNITY AS A GROWTH MULTIPLIER

SIRIM is a multifaceted organisation made up of numerous subsidiaries and business units. As such, a key aspect of the Group's marketing initiatives is the presentation of a unified brand identity that turns internal cohesion into external strength.

For instance, the manpower and resources there can be leveraged to elevate the Group's revenue, productivity and financial standing.

"The key challenge lies in merging our various disciplines and divisions seamlessly. To achieve this, everyone will need to optimise their skills and strategies. Our aim is to move forward as one entity, where the distinction between different websites or representatives disappears. Whether you are in Malaysia or elsewhere, we want the world to see us as 'one SIRIM'," explained Mohd Faisal.

In other words, no matter which division, subsidiary or company one is engaging with, as long as these are under the SIRIM banner, there will be one seamless SIRIM experience.

By giving SIRIM a cohesive voice, delivering a consistent message and positioning the entire Group as a synergised force, it is expected to drive the growth of partnerships, strengthen international market penetration and enhance responsiveness to national policies.

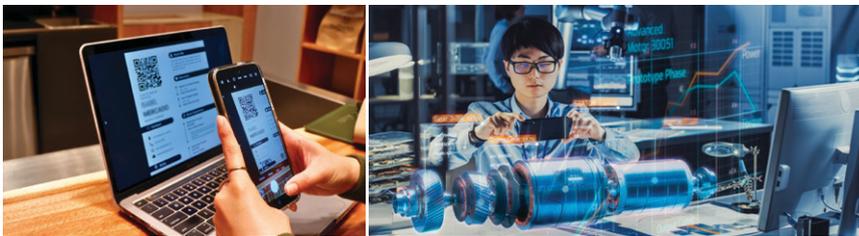
“This synergy, where every individual at SIRIM communicates a single vision, will build a uniform language and identity system.

While each business unit retains its operational role, they will all communicate with shared visuals, tone and messaging rooted in the same brand promise,” expounded Mohd Faisal.

The result? Stronger brand recall, clearer value propositions and faster client onboarding. What used to be seen as disconnected entities will be recognised as one trusted innovation enabler, leading to growing cross-selling opportunities, where local and international partners view SIRIM through a single, credible lens.

“It is about efficiency and consistency,” he added. “We want to shift mindsets and give SIRIM a set personality, reputation and promise that goes beyond our SIRIM quality mark, and ensure that the market knows who we really are and what we can really do!”

As SIRIM sets its sights on ASEAN and global growth, the unified brand also becomes its platform for expansion into new territories and new technologies.



SIRIM’S GROUP MARKETING ENDEAVOURS INCORPORATE:

- A unified SIRIM brand identity
- Integration of new divisions like Intelligence Management and International Business
- A shift to business-led marketing focused on top-line impact

STRATEGIC BUSINESS DRIVER

As the only revenue-generating government agency under Malaysia’s Ministry of Investment, Trade and Industry (MITI), SIRIM, via its Group Marketing division, places strong emphasis on top-line growth. This focus is driven by a commitment to accountability, measurability and sustainability.

“Marketing is all about driving the top line. We have to ensure that our costing and pricing structures are competitive. More importantly, we cannot afford to be followers. We must be able to lead the charge,” shared Mohd Faisal.

To maximise business impact, the Group Marketing division encompasses four integral arms: New Business Development to unlock revenue streams, Enterprise Marketing for small and medium enterprises (SMEs) and public sector support, International Business Marketing to drive

FROM BRAND UNITY TO BUSINESS IMPACT

- Faster onboarding for clients and partners
- Stronger storytelling across sectors
- Improved international visibility and recall
- Greater internal alignment and morale

This synergy, where every individual at SIRIM communicates a single vision, will build a uniform language and identity system. While each business unit retains its operational role, they will all communicate with shared visuals, tone and messaging rooted in the same brand promise.

THE RESULTS

STRONGER brand recall, CLEARER value propositions, and FASTER client onboarding, with formerly disconnected entities now seen as a unified, trusted innovation partner, driving cross-selling opportunities and positioning SIRIM as a credible force for both local and international partners.

It is about efficiency and consistency. We want to shift mindsets and give SIRIM a set personality, reputation and promise that goes beyond our SIRIM quality mark, and ensure that the market knows who we really are and what we can really do!

ITEX 2025 ACHIEVEMENTS



6 gold medals



4 silver medals



Best Green Invention award



Best Invention award

As part of MITI, we align with governmental goals to focus on key industries that will drive growth in gross domestic product (GDP), productivity and services both locally and globally. Currently, we are leading efforts under the New Industrial Master Plan (NIMP) through the Smart Tech Up programme, aiming to accelerate transformation and impact at both the national and international levels.

We look forward to 'SIRIMising' beyond borders. To achieve this, we must focus on improving key areas such as delivery speed, managing business channels and ensuring that everybody, both within SIRIM and outside, is equipped to effectively communicate the full range of products and services that we offer.

global partnerships, and Intelligence Management for research and foresight.

With this forward-looking direction, the division is looking into actively repositioning SIRIM to become a tech-driven national innovation engine with a global imprint.

“As part of MITI, we align with governmental goals to focus on key industries that will drive growth in gross domestic product (GDP), productivity and services both locally and globally. Currently, we are leading efforts under the New Industrial Master Plan (NIMP) through the Smart Tech Up programme, aiming to accelerate transformation and impact at both the national and international levels,” Mohd Faisal said.

The Smart Tech Up channels financial support to industry players, enabling their transition to Industry 4.0 technologies. The development of new innovations is another avenue that SIRIM leverages.

The Group Marketing division drives SIRIM's shift to a ROI focus by:

- Translating technical specs into value-driven messaging
- Crafting real-world case studies to showcase impact
- Highlighting cost-benefit outcomes for decision-makers
- Promoting innovations via digital media, roadshows and partners

GOAL – TURN SCIENCE INTO SOLUTIONS AND SOLUTIONS INTO STRATEGIC ADVANTAGE

“Just this year, we received six gold and four silver medals as well as Best Green Invention and Best Invention awards at the International Invention, Innovation and Technology Exhibition (ITEX) 2025,” declared Mohd Faisal. “With the developmental capacity, we can grow alongside our commercial teams, where we can innovate, sell or protect our intellectual property.”

EMBRACING EXPANSION

This national alignment has also unlocked new opportunities. In ASEAN and emerging markets, governments are seeking both technology and trust, and SIRIM delivers both. Its blend of research and development capabilities and standards expertise gives it an edge. Countries like Laos and Timor-Leste are opening their arms to SIRIM's role as an innovation partner.

Meanwhile, fresh from an exhibition in Osaka, Japan, SIRIM is exploring the potential for collaborations with the Japanese government to promote a more halal-friendly environment.

“The Nippon Muslim Association Corporation approached us to look into the possibility of establishing a halal certification body in Japan. This is a mega-dollar industry globally; in addition to the religion aspect, certain markets recognise that quality, standards and hygiene are crucial factors. As such, the focus on halal standards presents a significant opportunity for the country,” explained Mohd Faisal.

This redefined credibility fuels a new narrative.

“We look forward to 'SIRIMising' beyond borders,” he quipped. “To achieve this, we must focus on improving key areas such as delivery speed, managing business channels and ensuring that everybody, both

within SIRIM and outside, is equipped to effectively communicate the full range of products and services that we offer.”

Emerging trends like digitalisation, especially in the context of artificial intelligence (AI), has rapidly become a force that can disrupt entire industries. The speed at which it evolves makes it a powerful tool.

“AI is one of the most significant disruptors we face today. Whether it is through tools like generative AI or other AI-driven technologies, the potential for change is vast. These innovations bring new ways of thinking and interacting, which can drastically alter perceptions, market dynamics and even competition. If businesses are not quick enough, strategic enough or aware enough of these shifts, they risk being left behind,” said Mohd Faisal.

SIRIM has a dedicated AI centre focused on facilitating navigation and controlling the influence of AI, especially within the Malaysian context. In today’s landscape, where digital information is pervasive, being able to control and filter out inaccuracies is crucial.

“One of our key priorities is developing the ability to identify and address issues like fake content or misinformation. With the right tools and strategies, we can ensure that our use of AI benefits us while minimising potential risks,” he noted.

Mandating standards and certifications is another area that can be looked into. In Malaysia, businesses currently still have the option to choose whether they want to subscribe to certain standards and quality certifications based on their specific needs and industry requirements.

However, the situation is different in other parts of the world. For example, in countries like South Korea, quality standards and certifications are mandated by the government.

“By following suit and requiring adherence to standards, we can ensure a uniform level of quality and reliability across all businesses within the sector, raising the bar for industry practices,” explained Mohd Faisal.

At the core of this momentum is a reimagined marketing approach that views engagement as ecosystem-building. Through a demand-led model, the Group Marketing division aims to connect with real market needs, build co-branded campaigns and forge partnerships with multinational corporations (MNCs), SMEs, universities and government agencies to generate mutual value.

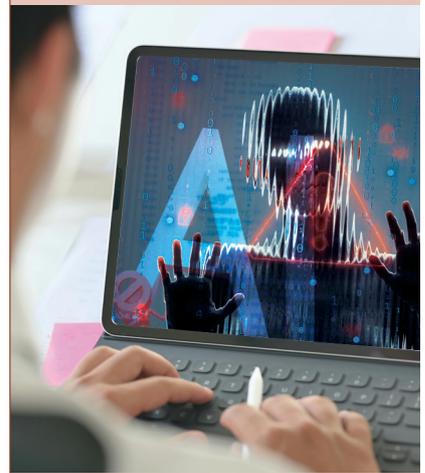
THE NEXT LEAP

This new phase in SIRIM’s journey marks a significant evolution, repositioning the Group as a key strategic business enabler capable of driving change and creating value for the broader ecosystem.

“We are leading by design, not just tradition; actively shaping the future through innovation, forward-planning and a proactive approach to evolving market dynamics,” pointed out Mohd Faisal.

This commitment to future-readiness ensures that SIRIM will continue to drive change, positioning itself at the forefront of industry leadership.

One of our key priorities is developing the ability to identify and address issues like fake content or misinformation. With the right tools and strategies, we can ensure that our use of AI benefits us while minimising potential risks.



We are leading by design, not just tradition; actively shaping the future through innovation, forward-planning and a proactive approach to evolving market dynamics.



Scan to watch the exclusive interview

Industries are moving at a breakneck pace, driven by digitalisation, globalisation and increasingly stringent regulatory requirements. As a result, the demand for testing, inspection and certification (TIC) services has never been greater.

THE DEMAND FOR TIC SERVICES IS EVOLVING DUE TO

- Digital transformation
- Drive for global market share
- Stricter global compliance

Amidst the increasing demand for high-precision services across sectors including semiconductors, automotive, green energy, construction and consumer products, we are positioning our services closer to industry hubs while expanding our scope into diverse specialised areas.

SEALING TRUST AND DRIVING TRADE

by
Azmi Musa
Senior General Manager, SIRIM QAS International Sdn Bhd

The testing, inspection and certification (TIC) sector has evolved from a behind-the-scenes technical function into a decisive factor in global trade. Once regarded as a formality to satisfy specific regulations, they are now viewed upon as a passport to new markets.

For manufacturers, the stakes are high. Export opportunities often hinge on how quickly and credibly a product can be tested and certified to meet foreign standards. Delays or the need for re-testing in another country can derail market entry plans.

To stay competitive and compliant, businesses rely on TIC services that not only meet the highest standards but also adapt quickly to emerging challenges and opportunities. With faster turnaround times, cutting-edge facilities and international recognition, SIRIM QAS International Sdn Bhd (SIRIM QAS International) is raising the TIC bar in Malaysia to offer a strategic advantage for the country's industry players.

According to Azmi Musa, Senior General Manager of SIRIM QAS International, the change is driven by three intertwined forces: digital transformation within industries, an aggressive push for international market share and a tightening web of global compliance requirements.

"Amidst the increasing demand for high-precision services across sectors including semiconductors, automotive, green energy, construction and consumer products, we are positioning our services closer to industry hubs while expanding our scope into diverse specialised areas," he explained. These include environmental simulation, photovoltaic electric charging stations, failure analyses, medical device safety and fire resistant testing.



MEETING MARKET DEMANDS

In an era where rapid execution is critical, numerous companies, including Rapiscan, Picosys, Harmrech Pt Ltd, Roland/MI Services, SHARP Manufacturing, Ventionex Innovation and Vita Detection, leveraged SIRIM QAS International's Electromagnetic Compatibility (EMC) and safety testing services to secure Conformité Européenne (CE) and US Federal Communication Commission (FCC) certifications, enabling a faster-than-expected entry into the European and North American markets.

sealing trust and driving trade



“Our ability to deliver internationally recognised results locally played a key role in supporting their export goals and enhancing their global credibility,” said Azmi. “This is why scaling up skilled manpower, investing in modern facilities and streamlining processes are central to our mission.”

A striking example is its new EMC laboratory in Penang. Purpose-built to serve Malaysia’s fast-growing electronics and semiconductor industries, it houses the country’s largest semi-anechoic chamber. Measuring 10 metres, the facility is designed to accommodate testing large, complex systems, instead of just individual components. This is a game-changer for manufacturers whose products are made up of multiple interconnected systems.



“Component testing alone does not guarantee how a full product will behave under electromagnetic conditions. The ability to test entire vehicles, medical equipment or other large assemblies provides a more accurate picture, shortens research and development cycles, and gives companies a faster path to compliance,” explained Azmi.

The Penang location is a strategic choice. As one of Malaysia’s most active manufacturing hubs, it allows SIRIM to be closer to its clients, cutting down logistics costs and speeding up the testing process. For manufacturers, this means reduced expenses and quicker turnaround times.

That was just one of the latest in SIRIM QAS International’s long list of initiatives. When Malaysia’s Fire and Rescue Department mandated cladding tests for building safety, it mobilised facilities and technical expertise to meet the demand. Similarly, it was prepared to test all 34 categories on the mandatory list introduced by the Energy Commission for electrical products, building materials regulated by the Construction Industry Development Board (CIDB) and water and sewerage products overseen by the National Water Services Commission (Suruhanjaya Perkhidmatan Air Negara or SPAN).

GLOBAL RECOGNITION

SIRIM QAS International’s services are recognised by some of the most prestigious international schemes, including the International Laboratory Accreditation Cooperation (ILAC), International Electrotechnical Commission (IEC), International Accreditation Forum (IAF) and other certification bodies. As a result, its test reports are accepted in over 30 countries worldwide.

“Our laboratories are regularly updated and audited to align with international best practices, providing our clients with the assurance that their products meet international standards, as well as facilitating smoother market access and greater acceptance in global markets,” shared Azmi.

Our ability to deliver internationally recognised results locally played a key role in supporting their export goals and enhancing their global credibility,” said Azmi. “This is why scaling up skilled manpower, investing in modern facilities and streamlining processes are central to our mission. ●

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These BOMBA-recognised certifications are key for Certificate of Completion and Compliance (CCC) approvals, giving Bluescope Lysaght a clear edge in project qualification and tender processes. ●

SUPPORTING SAFE, FUTURE-READY CONSTRUCTION

SIRIM QAS International's Fire Protection Section partnered with NS Bluescope Lysaght Malaysia (Bluescope Lysaght), a pioneer in light gauge steel systems, to test and certify products to ensure that they meet safety standards.

These include:

- Composite floor systems such as Bondek® and Smartdek® for fire resistance and structural integrity
- Metal cladding systems according to the BS 8414 façade fire performance standard
- All products listed under BS 476 Part 6 & 7 Class 'O' for Surface Spread of Flame Test and Fire Propagation Test

"These BOMBA-recognised certifications are key for Certificate of Completion and Compliance (CCC) approvals, giving Bluescope Lysaght a clear edge in project qualification and tender processes," said Azmi. For example, the composite floor systems were successfully installed in KL118 (Menara Warisan Merdeka), Malaysia's tallest tower, and TRX106 Tun Razak Exchange, a premier financial hub.

The collaboration extends beyond Malaysia, with SIRIM QAS International also supporting Lysaght ASEAN, enabling faster approval for high-profile projects and enhancing the Group's credibility and competitiveness in both local and regional markets.

"Together, we transformed compliance into a powerful driver of market expansion," continued Azmi.

↓ Fire testing for safety and certification of composite floors and metal cladding



EXPANDING EXCELLENCE

SIRIM QAS International is also expanding its services to offer:

- **Environmental and reliability testing** for components exposed to extreme conditions
- **Biodegradable and eco-label testing** for green products
- **Toy and children's product testing** in accordance with international safety standards
- **Solar photovoltaic panel performance testing** to support Malaysia's transition to clean energy

↓ Solar photovoltaic panel performance testing



EXPANDING INTO NEW FRONTIERS

Digitalisation has become central to SIRIM QAS International's operations, bringing greater transparency, speed and convenience for clients. This led to the introduction of the Customer Analytics and Acknowledgement (CAKNA) portal, which integrates multiple systems into one seamless interface, including the Testing Management System (TMS), SIRIM Certification and Inspection System (eSCIS) and Management System Certification System (eMSC). The platform streamlines the entire client journey, removing the inefficiencies of traditional paper-based processes.

"This centralised system applies, monitors and manages clients' testing and certification processes, allowing them to track their progress and retrieve reports online. We are also working with SIRIM Industrial Research to automate and improve on certain routine tests to optimise efficiency," Azmi highlighted.

SIRIM QAS International is fully aligned with the digital evolution, positioning itself at the forefront by future-proofing its laboratories and expanding its offerings with a stronger focus on Environmental, Social and Governance (ESG) principles.

"In response to these market demands, we are developing our testing services to better support sustainability initiatives. This includes green material analyses, carbon emission testing and waste impact assessments, all designed to help businesses meet the increasingly stringent environmental standards being set globally," elaborated Azmi.



SIRIM QAS International will also be debuting predictive testing methodologies and investing in digital laboratory systems to enhance traceability and long-term data management. These systems will not only streamline the testing process but also ensure that clients have access to more accurate and comprehensive data, enabling them to make informed decisions about product development, market entry and long-term strategies.

In driving forward the evolution of the TIC industry, SIRIM QAS International is committed to helping manufacturers ensure that their products stand out for quality, innovation and sustainability.

"Our aim is to be a strategic partner who supports our clients, not only in meeting regulatory requirements but also improving product reliability, reducing risk and building brand credibility in global markets," concluded Azmi.

Through its ongoing investment in technology, sustainability and international standards, SIRIM QAS International is poised to be a trusted partner for companies seeking to excel in a world that demands speed, reliability and responsibility.

INTRODUCTION OF THE CAKNA PLATFORM

Integrates multiple systems:

- Testing Management System (TMS)
- SIRIM Certification and Inspection System (eSCIS)
- Management System Certification System (eMSC)

Streamlines the client journey

Removes inefficiencies of traditional paper-based processes

This centralised system applies, monitors and manages clients' testing and certification processes, allowing them to track their progress and retrieve reports online. We are also working with SIRIM Industrial Research to automate and improve on certain routine tests to optimise efficiency.

Our aim is to be a strategic partner who supports our clients, not only in meeting regulatory requirements but also improving product reliability, reducing risk and building brand credibility in global markets.



Scan to watch the exclusive interview

Measurement has always been the backbone of progress, constantly evolving as the boundaries of innovation are pushed. As we advance, so too must the tools that measure our growth.

PRECISION AT QUANTUM AND NANOSCALE LEVELS WILL OPEN THE DOOR TO INNOVATIONS WE CAN ONLY BEGIN TO IMAGINE.

Quantum systems, by their very nature, behave in ways that classical instruments and traditional measurement methods cannot fully capture. The need for precision and accuracy becomes even more critical as we explore this unpredictable, yet fascinating, quantum realm.

strengthening
Malaysia's
future

through
precision
in
measurement



STRENGTHENING MALAYSIA'S FUTURE THROUGH PRECISION IN MEASUREMENT

by
Nazri Marzuki
Technical Director, National Metrology Institute of Malaysia (NMIM)

The world of science and technology is brimming with endless possibilities as groundbreaking discoveries and innovations continue to unfold. From artificial intelligence (AI) to renewable energy solutions, each advancement holds the potential to revolutionise industries and reshape our everyday lives.

With every leap forward, it is imperative to ensure that measurement tools and techniques are on the same trajectory of advancement. An example is quantum technology, one of the most promising frontiers in this wave of innovation.

“Quantum systems, by their very nature, behave in ways that classical instruments and traditional measurement methods cannot fully capture. The need for precision and accuracy becomes even more critical as we explore this unpredictable, yet fascinating, quantum realm,” said National Metrology Institute of Malaysia (NMIM) Technical Director, Nazri Marzuki.

This, in turn, has opened doors to nanoscale measurements. With devices like smartphone processors shrinking to just a few nanometres in size and getting more minute by the day, new, specialised methods of measurement are required to ensure quantifiability, repeatability and reliability.



“When we can measure at a nanoscale level and combine it with AI and Internet-of-Things (IoT), the benefits are plenty, ranging from better energy efficiency in microchips, extended battery life and improved device efficiency to faster, smarter calibration services. It is about making technology work harder and smarter for everyone,” Nazri added.

According to him, “These new technologies are not just reshaping measurement itself, but also the way we apply it in industries and daily life. Precision at quantum and nanoscale levels will open the door to innovations we can only begin to imagine.”

MEETING CHALLENGES IN A FAST-CHANGING WORLD

Keeping pace with rapid developments in global trade and technology is no small task. Industries like semiconductors, biotechnology and electrical vehicles (EVs) are evolving rapidly, and NMIM must constantly adapt. With a team of about 123 people, including roughly 85 metrology experts, developing the necessary expertise requires time, international training and advanced research.

“The semiconductor industry is particularly demanding,” Nazri noted. “As chips shrink for maximum energy efficiency, achieving accurate measurements becomes extremely complex. Smaller measurements mean more efficient devices, but they also challenge our metrology capabilities.”

To address this, NMIM invests heavily in its people. Staff members are encouraged to pursue advanced studies, with scholarships available for PhDs and specialised skills.

At the same time, NMIM is gradually shifting to digital calibration, adopting a step-by-step approach that starts with digital certificates and will eventually move to fully secure, automated calibration processes.

“Instead of sending equipment physically for calibration, connected systems can enable remote calibration, saving time, reducing manpower and increasing efficiency. Of course, turning online calibration into reality requires more than just vision. It depends on the right facilities, equipment and skilled personnel,” continued Nazri.

NMIM is already moving in this direction with new instruments being purchased under the 12th Malaysia Plan to support future trials. One exciting development is the use of global positioning system (GPS) satellite connections, which could make calibration accessible even in rural areas like Sabah and Sarawak, where fibre coverage is limited.

While GPS offers flexibility, Nazri cautioned that accuracy and stability remain key factors to balance. With trials planned for next year, NMIM is paving the way for calibration methods that are not only modern and efficient but also more inclusive. Though still in the early testing stage, NMIM has already demonstrated that online calibration via secure digital platforms is feasible.

A three-level committee system that includes the relevant stakeholders ensures that NMIM’s standards remain aligned with Electric Vehicle (EV) industry needs, while maintaining technical rigour. These encompass:

- 1) **National EV Technical Committee:** Industry representatives provide input from the ground.
- 2) **National EV Task Force:** The Ministry of Investment, Trade and Industry (MITI) and industry experts review proposals and feasibility.
- 3) **National EV Steering Committee:** Senior officials and multiple ministries oversee strategy and ensure alignment with national priorities

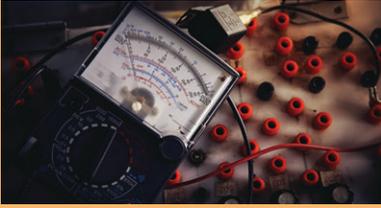
This collaborative model balances accuracy with practicality and helps Malaysia’s industrial development stay competitive.

Strategic investment in research, technology and talent underpins NMIM’s vision. “Through national initiatives like the 12th Malaysia Plan and upcoming 13th Malaysia Plan, NMIM has developed five key capabilities: EVs, high-temperature measurements, dimensional measurement, impedance and time stamp,” explained Nazri.

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NMIM'S FIVE MAIN FOCUS AREAS

To support Malaysia's industries and future growth, NMIM concentrates on five key technical areas that are critical for science, technology and the economy:

EVs – NMIM develops precise measurement capabilities for EV technologies, including charging systems to ensure Malaysia stays aligned with global automotive trends.

High Temperature – From manufacturing to energy production, accurate high-temperature measurements are vital for safety and product quality. NMIM maintains standards to support industries that rely on extreme heat processes.

Dimensional – Precision in length, size and geometry underpins everything from electronics to aerospace. NMIM provides dimensional measurement standards to help industries maintain accuracy in production and design.

Impedance – In advanced electrical and electronics, impedance measurements ensure systems function reliably. NMIM's expertise strengthens Malaysia's role in the fast-growing electrical and semiconductor sectors.

Time Stamp – Time measurement underpins navigation, telecommunications and even financial transactions. NMIM safeguards Malaysia's national time standards, ensuring synchronisation with the global community.

Through national initiatives like the 12th Malaysia Plan and upcoming 13th Malaysia Plan, NMIM has developed five key capabilities: EVs, high-temperature measurements, dimensional measurement, impedance and time stamp.

Industry players adapt cautiously because calibration relates directly to their business risks and costs. Some have already engaged with us voluntarily, but regulatory mandates will likely follow once the market matures.

EMERGING INDUSTRY CONTRIBUTIONS

One of NMIM's current priorities is the development of the EV charger calibration laboratory, developed last year and expected to be fully operational by the end of this year. This facility will support measurement, calibration and patent approval of EV charging stations, ensuring compliance with national regulations and international standards.

The EV ecosystem presents unique challenges. Currently, EV charging stations in Malaysia are not mandated for approval, unlike traditional weights and measures systems. Nevertheless, awareness among industry players is growing, with some taking proactive steps to seek NMIM's patent approval to demonstrate quality and reliability.

"Industry players adapt cautiously because calibration relates directly to their business risks and costs," explained Nazri. "Some have already engaged with us voluntarily, but regulatory mandates will likely follow once the market matures."

MITI has adopted a phased approach. The priority is to expand EV infrastructure first before enforcing mandatory pattern approvals. This careful balance ensures both industry growth and public safety are maintained. Furthermore, the three-level committee system described earlier ensures NMIM's standards remain technically rigorous while supporting Malaysia's growing EV ecosystem.

BEYOND THE LABORATORY

NMIM's responsibilities are not confined to technical services. The institute actively engages with industries through training and capacity-building programmes, helping organisations understand and apply

metrology principles in their operations. These initiatives improve industry competitiveness, reduce errors and build confidence in Malaysian products both locally and internationally.

Equally important is NMIM’s outreach to promote awareness of metrology’s relevance and highlight how measurement science underpins critical areas such as healthcare, transportation and energy. By embedding metrology into national development strategies, NMIM ensures that measurement remains central to Malaysia’s economic and technological progress.

“Our work may seem technical, but at its core, it is about building confidence. When industries and enforcement bodies rely on accurate measurements, it creates trust, not only within Malaysia but also in the international arena,” explained Nazri.

NATIONAL AND INTERNATIONAL CONTRIBUTIONS

NMIM’s influence stretches far beyond Malaysia. Representing the country on global platforms such as the International Bureau of Weights and Measures (BIPM), and regional bodies like the Asia Pacific Metrology Programme (APMP) and the Asia Pacific Legal Metrology Forum (APLMF), NMIM actively shapes international collaboration in metrology.

As the world marks the 150th anniversary of the Metre Convention this year, Nazri acknowledged, “The Metre Convention has not only shaped the scientific landscape but also strengthened industries by building trust through reliable and consistent measurements.

“Metrology is a highly specialised field, and not all countries possess the infrastructure or expertise to cover every parameter of measurement. We step in to fill this gap by offering services and technology transfer to partner national metrology institutes in the Asia Pacific region.”

Besides that, NMIM regularly participates in and hosts international meetings and seminars, providing a platform to exchange knowledge, foster cooperation among other national metrology institutes and reinforce Malaysia’s role in the global measurement landscape. Today, NMIM ranks among the top four in ASEAN Economies and 16th in the APEC Economies, highlighting Malaysia’s growing influence in this specialised field.

VISION FOR THE FUTURE

Looking ahead to the 13th Malaysia Plan, six new projects have been approved, further strengthening NMIM’s measurement capabilities. Talent development remains a priority.

“As technology advances, we must ensure our people grow with it. Investing in skills and knowledge is the only way to ensure Malaysia remains competitive in measurement science,” said Nazri.

He also emphasised the visibility of metrology. As the apex of the traceability pyramid, NMIM must provide information and awareness to stakeholders, complementing other laboratories and industry players rather than competing with them.

“By publishing our capabilities, strengthening our funding and investing in technology and talent, we aim to be the top national metrology institute in the region in the near future,” concluded Nazri.

150 YEARS STRONG

The Metre Convention was signed in 1875 to create a unified system of measurement. Over time, it has become the backbone of scientific discovery, global trade and technological innovation. For science, it enables precision; for industry, it secures quality assurance, compliance and fair trade across borders.

GAINING REGIONAL PROMINENCE

NMIM

- Shares expertise with other national metrology institutes in the Asia Pacific
- Supports countries with limited calibration and measurement capabilities
- Promotes regional cooperation and higher standards in metrology
- Is ranked Top 4 in ASEAN Economies for calibration and measurement capability
- Holds 16th place in the APEC Economies, reflecting Malaysia’s growing influence

Metrology is a highly specialised field, and not all countries possess the infrastructure or expertise to cover every parameter of measurement. We step in to fill this gap by offering services and technology transfer to partner national metrology institutes in the Asia Pacific region.



Scan to watch the exclusive interview

Tools, dies and moulds (TDM) are an essential component to modern manufacturing, enabling diverse industries like automotive, electronics, medical and consumer goods to produce precise, high-quality parts at scale and supporting efficient mass production and product consistency.

THE NPT IS A NATION-BUILDING VEHICLE AIMED AT:

-  REDUCING import dependence
-  UNLOCKING local talent
-  EMPOWERING Malaysia to own its industrial future

At NPT, our core value lies not just in providing high-quality tooling services, but in developing a generation of engineering talents to anchor Malaysia's manufacturing future.

BUILDING MALAYSIA'S TDM ECOSYSTEM

by
Ts. Mohd Fauzi Ismail
Chief Executive Officer, National Precision Tooling Sdn Bhd (NPT)

From automotive parts to medical devices, most mass-produced or precision-manufactured products start with a die, mould or jig. For decades, Malaysia relied heavily on imported tooling. National Precision Tooling Sdn Bhd (NPT) was established to change that.

Formed as a government Special Purpose Vehicle, NPT's mission is to grow the capabilities of bumiputera tools, dies and moulds (TDM) players to promote industrial localisation and inclusive growth through a skilled, resilient local ecosystem.

"At NPT, our core value lies not just in providing high-quality tooling services, but in developing a generation of engineering talents to anchor Malaysia's manufacturing future," said Ts. Mohd Fauzi Ismail, Chief Executive Officer of NPT.

In the automotive industry, tooling alone accounted for nearly 40% of the total model development costs. When Proton first launched, only five percent of tooling was produced locally. Today, that scenario is no longer viable.

"Tooling is the mother of all manufacturing. Without it, we cannot localise, scale and innovate," he added.

NPT addresses this with the provision of end-to-end support: software-based design, computer numerical control (CNC) machining, prototyping, certification and grants. Its TDM 2.0 programme connects nearly 50 companies to collaborate, pool resources and scale up together.

"Our role is to equip them with the tools; not just physical machines, but the technical know-how, design capability and business readiness. Only then can they become serious contenders in industries like automotive, aerospace and medical technology," he said.

building
Malaysia's
TDM
ecosystem



By developing a skilled, interconnected local ecosystem, the programme reduces reliance on imports and prepares local industry to meet the needs of high-growth sectors such as electric vehicles (EVs), aerospace and medical devices.

“More than a technical intervention, NPT is a long-term investment in Malaysia’s future, laying the groundwork for innovation, competitiveness and inclusive industrial development through the very tools that make manufacturing possible,” commented Mohd Fauzi.

EQUIPPING LOCAL PLAYERS WITH END-TO-END CAPABILITIES

Companies enrolled under TDM 2.0 gain access to advanced computer-aided design/computer-aided manufacturing (CAD/CAM) software, simulation tools and design optimisation techniques that improve tool quality and production efficiency. From stress analysis and performance testing to design-for-manufacturing simulations, these tools allow engineers to anticipate weaknesses and fine-tune their output before a single piece of metal is cut.

“Software-based design and simulation are the backbone of modern tooling. If our local companies can master these tools, they can service both local demand and global supply chains!” Mohd Fauzi declared.

Beyond design, NPT provides support for both soft and hard tooling. Soft tooling, including 3D-printed prototypes, allows manufacturers to test and refine concepts quickly and affordably. Hard tooling, made using CNC machines and precision equipment, is intended for mass production, producing up to hundreds of thousands of parts with consistency and minimal waste.

“From software licenses to certification assistance and machine upgrades, we help small and medium enterprises (SMEs) to close the capability gap. This empowers them to become innovation-ready suppliers with long-term growth potential,” said Mohd Fauzi.

In addition to technical aid, NPT provides matching grants that help companies invest in essential upgrades, be it machinery, software or training. To ensure long-term market access, the programme also helps participants pursue industry-specific certifications such as IATF 16949 for automotive, AS9100 for aerospace and ISO 13485 for medical devices. These certifications are critical gateways to contracts, partnerships and international markets.

“Our end-to-end solution gives local players the edge to exceed industry expectations so they can confidently step into regional and global supply chains,” Mohd Fauzi remarked.

REDUCING DEPENDENCY ON IMPORTS

When Malaysia first embarked on its national car project in the 1980s, nearly all high-complexity dies and moulds were outsourced to countries like Japan and South Korea. This is slowly changing.

“The solution lies in working smarter and together. By encouraging partnerships and resource-sharing among local SMEs, we want to create a networked ecosystem that multiplies the individual strengths of each company. Individually, many SMEs have limited capacity; but together, their combined design and machining capabilities is formidable,” said Mohd Fauzi.

This model paves the way for sustainability and long-term industrial resilience. As Malaysia moves deeper into sectors like aerospace, EVs and medical manufacturing, having a trusted network of local tooling

A HELPING HAND

End-to-End Support

NPT provides a full ecosystem for bumiputera TDM companies — covering design, prototyping, testing and production — to compete in high-value industries.

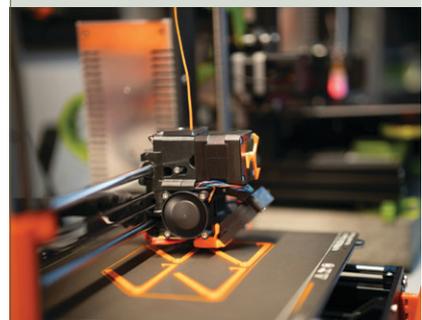
Technology Empowerment

Through CAD/CAM, simulation tools and CNC machining, NPT helps local SMEs enhance tool quality, efficiency and global competitiveness.

Collaborative Growth

The TDM 2.0 programme unites nearly 50 SMEs to share resources, reduce costs and scale up together as innovation-ready manufacturers.

More than a technical intervention, NPT is a long-term investment in Malaysia’s future, laying the groundwork for innovation, competitiveness and inclusive industrial development through the very tools that make manufacturing possible.



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As global OEMs increase their push for localised EV manufacturing, the demand for tooling that can support lightweight components, especially those made from aluminium, composites and polymers, is rising fast.



Digitalisation allows design and manufacturing to happen across borders with greater speed and accuracy, while enhancing collaboration.

experts is essential. NPT is making sure that Malaysian SMEs are ready to rise to the challenge, together.

POSITIONING FOR FUTURE GROWTH

The global shift toward sustainability and electrification is reshaping the manufacturing landscape and Malaysia must evolve with it. As EVs and lightweight materials become the new standard in transportation and mobility, the tooling sector must rapidly adapt to remain relevant and competitive. This is where NPT plays a forward-facing role.

A case in point is Malaysia's automotive industry, which has long been anchored in completely knocked down (CKD) assembly, with limited local content in critical components like body structures and internal systems.

"As global OEMs increase their push for localised EV manufacturing, the demand for tooling that can support lightweight components, especially those made from aluminium, composites and polymers, is rising fast," explained Mohd Fauzi.

Unlike traditional internal combustion engine (ICE) vehicles, EVs require new chassis configurations, lighter bodies and specialised parts that improve battery efficiency. This requires an entirely different set of dies, moulds and jigs that are compatible with modern materials and assembly techniques. For local tooling companies, this presents a major opportunity to move up the value chain.

"We are preparing now so that when EV local manufacturing takes off, our TDM players are ready to deliver," Mohd Fauzi added.

Similar demands are emerging in the aerospace and medical device sectors, both of which rely heavily on precision tooling for lightweight and high-performance parts. NPT's strategic direction ensures that Malaysian tooling companies will not be playing catch-up, but are instead positioned to lead.

As global manufacturing pivots, the question is not if, but when Malaysia's local tooling ecosystem will be ready. With NPT's foresight and investment in future-proof capabilities, that moment is fast approaching.

EMERGING TECHNOLOGIES AND SMART MANUFACTURING

As industries worldwide evolve into smarter, faster and more connected ecosystems, tooling must keep pace. The rise of digital twin technology, advanced simulation and metal 3D printing is transforming how products are developed, tested and manufactured that demands a new level of agility from TDM players.

A key enabler in this transformation is digitalisation. Technologies such as digital twin models, where virtual replicas of tools and components can be tested in real time, enable engineers to simulate stress points, thermal behaviour and design flaws without producing a single prototype. This significantly reduces lead time and waste, while increasing design accuracy.

"Digitalisation allows design and manufacturing to happen across borders with greater speed and accuracy, while enhancing collaboration," Mohd Fauzi noted.

Today, tool designs can be developed in Malaysia, tested virtually against client specifications in Europe, and manufactured with sub-micron precision for delivery anywhere in the world. The integration of computer-aided simulation and smart machining systems ensures that Malaysian SMEs can operate within global supply chains offering faster turnaround times and higher precision than ever before.

Another game-changer is metal additive manufacturing, commonly known as metal 3D printing. This technology is a critical asset in aerospace and medical device production, where custom, lightweight and geometrically complex components are in high demand.

Through workshops, facility upgrades, and cross-industry collaboration, NPT is building not just capacity, but confidence giving Malaysian TDM companies the skills and tools to serve industries operating at the edge of innovation.

“We are introducing these technologies to local TDM players, preparing them to meet the needs of the most advanced sectors. As Industry 4.0 continues to unfold, the line between digital and physical production will only blur further. NPT is ensuring that Malaysian tooling is part of this transformation as a smart manufacturing leader with its eyes on the global stage,” elaborated Mohd Fauzi.

THE HUMAN FACTOR

Behind every machine, mould or part is a mind. While NPT is making significant progress in upgrading equipment and processes, its greatest investment is in people.

“Design engineers are at the front line of localisation, innovation and cost optimisation. They are the key drivers of product innovation and localisation,” acknowledged Mohd Fauzi.

NPT offers structured training, mentorship and exposure for up-and-coming engineers, embedding real-world project experience, simulation-based learning and cross-industry exposure into its programmes.

In partnership with universities, polytechnics and industry players, NPT is also advocating for better career pathways and industry-recognised credentials that match the demands of today’s smart manufacturing landscape.

“Machines can be bought. Software can be licensed. But talent must be built patiently, intentionally and with vision. This is the national agenda for future resilience,” emphasised Mohd Fauzi.

Tooling is the foundation of Malaysia’s high-value manufacturing ambitions. By localising this critical capability, NPT is driving economic resilience, innovation and inclusive industrial growth.

“We don’t just want to meet today’s needs; we want to shape tomorrow’s industrial landscape,” he affirmed.

We are introducing these technologies to local TDM players, preparing them to meet the needs of the most advanced sectors. As Industry 4.0 continues to unfold, the line between digital and physical production will only blur further. NPT is ensuring that Malaysian tooling is part of this transformation as a smart manufacturing leader with its eyes on the global stage.



Design engineers are at the front line of localisation, innovation and cost optimisation. They are the key drivers of product innovation and localisation.



Scan to watch the exclusive interview

Malaysia’s journey of economic ascent is anchored by one critical factor: its talent. As the nation positions itself to move up the global value chain, the need for a highly skilled, adaptable and future-ready workforce becomes increasingly urgent.

SIRIM ACADEMY COVERS THREE COMPLETE YET INTEGRATED ECOSYSTEMS TO SUPPORT LOCAL INDUSTRIES

- Training & Consultancy
- Standards Development
- Technology & TVET Programmes

Our distinction lies in SIRIM’s active involvement in the economic landscape, such as standards development. Our goal is for SIRIM Academy to be recognised as a provider of industry-driven training and consultancy, while leading the way in sustainability reporting by 2030.

INDUSTRY-DRIVEN TRAINING & STANDARDS

by
 Dr. Mohd Bakri Jali
 General Manager, Operations Department, SIRIM Academy Sdn Bhd

In today’s rapidly changing industries, staying competitive requires more than traditional training. Organisations are under pressure to adapt to global demands, sustainability regulations and new technologies. For the workforce, this means that they must not only build technical skills but also ensure that these are recognised both locally and internationally.

Positioned as the training and consultancy arm of SIRIM, SIRIM Academy Sdn Bhd (SIRIM Academy) provides a unique combination of skills development, standards application and technology solutions to facilitate the development, upskilling and reskilling of the local talent pool. As Dr. Mohd Bakri Jali, General Manager of the Operations Department, explained, the Academy is building its niche at the intersection of training, consultancy and standardisation.

“There are around 7,000 training providers offering similar training and consultancy services,” he said. “Our distinction lies in SIRIM’s active involvement in the economic landscape, such as standards development. Our goal is for SIRIM Academy to be recognised as a provider of industry-driven training and consultancy, while leading the way in sustainability reporting by 2030.”



**industry-driven
 training
 & standards**



COMPREHENSIVE ECOSYSTEM

As part of SIRIM, the Academy has access to technology centres that can serve as one-stop hubs for industry-focused training. For example, the Smart Manufacturing Centre (SMC) under SIRIM Industrial Research (SIRIM IR) equips industry players with the knowledge to adopt automation and digitalisation, while the facilities in Rasa, Hulu Selangor, focuses on precision engineering like machine design, foundry and tooling skills.

Looking ahead, SIRIM Academy is focused on boosting Malaysia’s industry for export markets with support from the Ministry of Investment, Trade and Industry (MITI) and in alignment with related government policies. Dr. Mohd Bakri says this can only happen by embracing new technologies.



“Without technology, we will be left behind. We cannot keep doing things the old way. The good news is that we are ready with the facilities and expertise,” he explained.

NURTURING SKILLED OPERATORS

To meet the talent demands of current industrial needs, SIRIM Academy introduced its TVET programme, which focuses on competency and quality control. The programme is designed to upskill operators and technicians.

Through its Recognition of Prior Achievements (Pengiktirafan Penilaian Terdahulu or PPT) approach, experienced operators without formal certification can still be recognised for their skills.

“This is how our operators and technicians can be recognised as a skilled workforce, earn higher salaries and help the nation build a capable and competent workforce that attracts foreign investment,” commented Dr. Mohd Bakri.

ENCOURAGING ETHICAL EXCELLENCE

In an era where AI is transforming industries, issues regarding ethics and accountability are becoming critical. SIRIM Academy is the first in Malaysia to offer the IEEE CertifAIED auditor training, developed in collaboration with IEEE Standards Association in the US. This certification assesses the ethical development of Autonomous Intelligence Systems (AIS), ensuring they are designed responsibly and transparently.

“We are licensed to conduct training in Malaysia and collaborate with IEEE to deliver specialised programmes, which are officially recognised by the Ministry of Science, Technology and Innovation,” Dr. Mohd Bakri elaborated.

The Technology Section of SIRIM Academy is responsible for managing activities related to technology, which are:

TVET	includes non-destructive testing (NDT), IECEx, Industrial Quality Control (PPA-PPT) and welding training
Technology Training	focusing on Industry 4.0, digitalisation, CompTIA+ and Cloud+, and smart manufacturing

STRATEGIES FOR A FUTURE-READY WORKFORCE

SIRIM Academy possesses the expertise to develop industry standards that are tailored to the specific needs of organisations. Consequently, it

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We are licensed to conduct training in Malaysia and collaborate with IEEE to deliver specialised programmes, which are officially recognised by the Ministry of Science, Technology and Innovation.

We are constantly introducing new programmes, particularly in standard-based management systems. This year alone, we launched initiatives aligned with emerging standards, including ISO 42001 – Artificial Intelligence Management System and ISO 56001 – Innovation Management System. These programmes are designed to equip professionals with the skills needed to meet evolving industry demands.

Through these new standards, we aim to foster greater industry participation and enhance awareness of best practices.



With ISO 17024 accreditation, our personnel certification programmes are no longer just SIRIM-designed. They are nationally recognised and globally trusted.

SETTING BENCHMARKS

First introduced in 2014, SIRIM Industry Standards underpin workplace practices, helping organisations to gain a competitive edge, drive down costs, boost productivity and improve profits.

Example of the industry standards developed include:

- **SIRIM 55** – ESG Management System - Requirements
- **SIRIM 56** – ESG - Reporting
- **SIRIM 12** – Lean Management
- **SIRIM 8** – Guidance towards becoming an innovative organisation
- **SIRIM 7** – Total Quality Fast Track Model
- **SIRIM 5** – Green 5S – for creating an excellent workplace
- **Halal Standards** – in collaboration with the Department of Islamic Development Malaysia (Jabatan Kemajuan Islam Malaysia or JAKIM)

is well-positioned to conceive training programmes that align with these standards and meet the unique requirements of each organisation.

“We are constantly introducing new programmes, particularly in standard-based management systems. This year alone, we launched initiatives aligned with emerging standards, including ISO 42001 – Artificial Intelligence Management System and ISO 56001 – Innovation Management System. These programmes are designed to equip professionals with the skills needed to meet evolving industry demands.

“Through these new standards, we aim to foster greater industry participation and enhance awareness of best practices,” shared Dr. Mohd Bakri.

Collaboration lies at the heart of our strategy to promote standard practices across industries. The Academy partners with local organisations such as the Department of Islamic Development Malaysia (Jabatan Kemajuan Islam Malaysia or JAKIM), Human Resource Development Corporation (HRDC), Nuclear Malaysia and Terengganu Safety Training Centre. It also works with international bodies like the IEEE Standards Association to strengthen outreach and impact.

“These collaborations are essential for smooth implementation and maintaining the credibility of training and consultancy, while aligning it with global standards,” he added.

Before launching any programme, SIRIM Academy conducts thorough research to ensure alignment with key national initiatives such as the Malaysia Plans, the New Industrial Master Plan (NIMP), MITI’s strategic roadmap and the National Budget. Industry feedback is actively sought to identify both current and future needs, ensuring the designed programmes meet real industry requirements and expectations.

“We design our programmes to meet the needs of our stakeholders. When extra expertise is required, partnership with trusted organisations would be established in delivering the specialised training,” stressed Dr. Mohd Bakri.

The SIRIM Personnel Certification Programme (SPCP) has also taken a significant step forward. Today, it is certified to ISO 17024, the global benchmark for personnel certification.

“With ISO 17024 accreditation, our personnel certification programmes are no longer just SIRIM-designed. They are nationally recognised and globally trusted,” said Dr. Mohd Bakri.

Built on internationally recognised standards such as ISO 9001, ISO 14001, ISO 41001 and ISO 22000, this programme transforms standards requirements into certified training pathways.

“For instance, from the Hazard Analysis and Critical Control Point (HACCP) standard, SIRIM Academy developed the Certified HACCP Internal Auditor programme. This ensures participants not only understand the requirements of food safety management systems but also gain a recognised certification that directly reflects industry needs,” commented Dr. Mohd Bakri.

Over the years, SIRIM Academy has certified thousands of professionals across industries, equipping them with both the credibility and confidence to apply global standards in their work. “We design personal certification to be practical, standard-driven and industry-relevant so participants leave not just with knowledge, but with a credential that matters,” he continued.

Another highlight is the Lead Auditor Programme, which builds auditing skills based on international standards such as the ISO 9001. Registered with Exemplar Global in the US and Australia, it gives certified auditors in Malaysia a place on a global registry, boosting their skills, credibility and career opportunities.

“This allows certification bodies and companies from anywhere in the world to easily access the system and verify the credentials of the auditors, both in Malaysia and globally,” noted Dr. Mohd Bakri.

“Our programmes consistently score above 4.0 out of 5 in customer feedback, showing their relevance and quality. More importantly, they make a real impact. Graduates find it easier to secure jobs, and industries gain professionals with the right skills,” he continued.

EXPANDING ESG

SIRIM Academy is also strengthening its focus on ESG reporting. As a Global Reporting Initiative (GRI)-approved training provider in Malaysia, its trainers and consultants meet international requirements set by GRI Global.

Among others, SIRIM Academy is an ESG development training centre supported by a network of highly experienced consultants. Additionally, its sister company, SIRIM QAS International Sdn Bhd, provides ESG verification services. “This integrated ecosystem enables us to deliver comprehensive training and consultation services to further advance the ESG landscape in the country,” said Dr. Mohd Bakri.

Besides that, SIRIM Academy is building its own in-house expertise for the International Electrotechnical Commission System for Certification to Standards relating to Equipment for Use in Explosive Atmospheres (IECEX) Personal Certification, a scheme for certifying personnel working in explosive atmospheres. With this capacity, the Academy aspires for the IECEX to gain strong momentum over the next year and become a key growth area.

Looking ahead, SIRIM Academy is committed to leveraging technology to make training accessible to anyone, anytime, anywhere.

“Through the integration of e-learning, AI and micro-credential programmes, we aim to deliver flexible, workplace-ready learning experiences that seamlessly support professional development,” shared Dr. Mohd Bakri.

We design personal certification to be practical, standard-driven and industry-relevant so participants leave not just with knowledge, but with a credential that matters.

SIRIM ACADEMY IN NUMBERS

22,458

personnel trained in 2024 across all programmes

3,000

certified through the SIRIM Personnel Certification Programme since 2016, and the number is increasing



This integrated ecosystem enables us to deliver comprehensive training and consultation services to further advance the ESG landscape in the country.



Scan to watch the exclusive interview

To drive Malaysia's economic transformation, it is essential to strengthen the industrial landscape. Packaging and security design play a crucial role in this effort by enhancing product integrity, supporting export competitiveness and safeguarding consumers in both domestic and international markets.

OVER RM1.2 BILLION IN COUNTERFEIT GOODS SEIZED IN MALAYSIA (2018-2023)

Counterfeiting and product tampering pose a significant global challenge, with an estimated 3.3% of products in world trade being counterfeit.

PACKAGING TRUST, SECURING FUTURES

by
 Khairul Annuar Abdul Halim
 Chief Executive Officer, Packaging and Security Design Centre (PSDC), SIRIM

In Malaysia, the issue of counterfeiting and product tampering is becoming a serious concern, affecting a wide range of industries, from luxury goods and food items to pharmaceuticals and automotive parts. This not only poses safety risks to consumers but also leads to substantial economic losses.

As counterfeit products flood the market, they undermine consumer trust, compromise public health and create challenges for legitimate businesses, making it a serious concern that demands urgent attention.

"Counterfeiting and product tampering pose a significant global challenge, with an estimated 3.3% of products in world trade being counterfeit," said Khairul Annuar Abdul Halim, Chief Executive Officer, Packaging and Security Design Centre (PSDC), SIRIM.



The rapid rise of e-commerce has further complicated matters. Consumers often struggle to determine whether the products they purchase online are genuine. Between 2018 and 2023, the Ministry of Domestic Trade and Cost of Living reported that more than RM1.2 billion worth of counterfeit products were seized in Malaysia, a figure that underscores the scale of the problem.

In today's social media-driven marketplace, products can appear on platforms like TikTok and reach consumers overnight. While this makes entrepreneurship more accessible, it also raises serious concerns: how do buyers know if a product is safe, free of harmful substances like mercury, or properly tested?

In the past, major companies were required to invest heavily in research and development before any beauty or health product reached the shelves. Today, however, cosmetics, nutraceuticals and similar products can be sold online without mandatory certification, exposing buyers to potential risks and giving counterfeiters room to exploit the market.

"If a product sells well in the market, someone else may copy it and sell it too. By helping small and medium enterprises (SMEs) certify their products and protecting them against imitation, we're hitting two birds with one stone," Khairul Annuar explained.

packaging trust
securing futures



PSDC plays a central role in Malaysia’s efforts to combat counterfeiting. It is responsible for providing and printing security documents such as labels, certificates and licence.

“The majority of our business lies in security documents and security labelling, which account for more than 70% of PSDC’s revenue. This is where we are most focused, ensuring that products in the market are properly safeguarded and can be reliably verified,” he added.

The documents and labels incorporate security features, which are critical in protecting both businesses and consumers by allowing products entering the market to be verified and trusted.

COMBATING COUNTERFEITING

While PSDC continues to promote the benefits of security labelling and certification, the challenge lies in the fact that these measures are not yet mandatory. For many companies, the need for audits and the added costs involved can be discouraging. As a result, adoption often depends on voluntary commitment rather than regulation, leaving gaps in consumer protection.

For the government, introducing new measures is a balancing act. While security features like special labels can protect the market, they also add to manufacturing costs. This, in turn, may affect product prices for consumers and create challenges in monitoring the system effectively.

Under the 12th Malaysia Plan, PSDC’s smart manufacturing initiative helped numerous local SMEs to protect their products through advanced security features. One case involved a traditional balm known as minyak mestika, which was counterfeited and sold widely without the original producer’s knowledge. PSDC introduced smart labelling and invisible security markers that could only be detected with UV light.

The features empower enforcement agencies to trace and stop fake products at the source. This not only safeguards SMEs but also strengthens consumer trust in authentic local brands.

According to Khairul Annuar, “Even something as simple as a balm can be copied and sold in the market. With smart labelling, we give SMEs the tools to protect themselves, and enforcement authorities the means to act against counterfeiters.”

FACILITATING MARKET-READY PRODUCTS

Besides its security printing work, PSDC also dedicates its efforts to supporting SMEs, particularly those at the lower segment of the market. A key initiative under PSDC is the Technopreneurship Development Programme, which has been running for more than two decades.

This programme gives SMEs, especially micro-enterprises, the guidance they need to move up the value chain. With in-house designers and consultants who understand the labelling requirements under the Food Regulations 1985 by the Malaysian Ministry of Health and market regulations, PSDC helps entrepreneurs at every step through the six-stage pathway of its Groom Big Model.

For most micro-enterprises, the support they need usually falls within the first three stages, which focus on the basics of production, halal awareness, packaging and branding. The latter stages are more suited for larger SMEs that are ready to move into hypermarkets, obtain

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PSDC’S SMART LABELLING AND UV-DETECTABLE SECURITY MARKERS HELP ENFORCEMENT AGENCIES STOP COUNTERFEITS AT THE SOURCE, PROTECTING SMEs AND STRENGTHENING CONSUMER TRUST IN LOCAL BRANDS.

The first thing we look for in an SME is the passion to really grow their business. If they are only in it for grants, it usually won't go very far. Once they are serious, we step in with a proper audit and see how we can guide them through the programme.



Stages 1 - 3



Stage 4



Stage 5



Stage 6

We guided the 10 SMEs through the process thoroughly, and then introduced them to real buyers and opportunities. We made sure that they were able to compete and represent Malaysia with confidence.

certifications and eventually prepare for export. Through this structured approach, PSDC helps ensure businesses can grow at a pace that matches their readiness.

Working alongside funders and agencies such as SME Corp, the East Coast Economic Region Development Council (ECERDC), the Northern Corridor Implementation Authority (NCIA), TEKUN Nasional, Unit Perancang Ekonomi Negeri Sembilan (NS Choice) and Perbadanan Nasional Berhad (PERNAS), PSDC has helped thousands of SMEs bring their products and services to market.

“This dual role of providing security solutions while nurturing entrepreneurship positions PSDC as a vital force in both consumer protection and industry development,” shared Khairul Annuar.

THE SIX STAGES OF PSDC'S GROOM BIG PROGRAMME

Stages 1–3

Getting the basics right — production, halal awareness, packaging and branding for small retail or online sales.

Stage 4

Meeting requirements for hypermarkets, including halal certification.

Stage 5

Strengthening packaging and branding for wider distribution.

Stage 6

Export readiness supported by standards and certifications to go international.

In 2024, PSDC partnered with the East Coast Economic Region (ECER) and Yayasan Petronas to give 10 local SMEs a chance to showcase their products at the China-ASEAN Expo in Nanning, China. Since not every business is ready to jump straight into the export market, PSDC carefully selected those with the most potential and helped them to prepare beforehand.

“The first thing we look for in an SME is the passion to really grow their business. If they are only in it for grants, it usually won't go very far. Once they are serious, we step in with a proper audit and see how we can guide them through the programme,” remarked Khairul Annuar.

From polishing up their packaging to getting them export-ready, the team made sure the SMEs were confident before stepping onto the international stage. At the Expo, the companies were featured in the Malaysia Pavilion organised by the Malaysia External Trade Development Corporation (MATRADE), met with buyers and connected with trade officers, gaining invaluable exposure to new opportunities.

“We guided the 10 SMEs through the process thoroughly, and then introduced them to real buyers and opportunities. We made sure that they were able to compete and represent Malaysia with confidence,” he added.

Over the years, the programme has gained a wide reach. To date, PSDC has assisted well over 10,000 entrepreneurs, and in some cases the impact can be seen in a single programme. For example, under one ECER initiative alone, PSDC supported around 220 SMEs in preparing their products for the market.

As the programme progresses, it is opening doors for a wider range of SMEs.

“Most of the companies we typically work with are in the fast-moving consumer goods (FMCG) sector, especially food and beverage. In recent years, however, the programme has expanded into new areas such as health and wellness services (including spas, cupping therapy and traditional remedies) and handicrafts, particularly from the East Coast,” shared Khairul Annuar.

EMBRACING TRENDS

PSDC is looking into expanding its focus areas in line with global packaging trends. Smart packaging with built-in sensors, blockchain verification or AI-driven tracking is becoming more common, especially for pharmaceuticals and luxury products.

Sustainability has also become a key priority. “Working with SIRIM Industrial Research (SIRIM IR), we are exploring environmentally friendly solutions, including compostable materials, to align with environmental, social and governance (ESG) goals while preparing Malaysia for a greener future,” commented Khairul Annuar.

At the same time, PSDC is advancing into intelligent manufacturing, embedding technologies such as radio frequency identification (RFID) and near-field communication (NFC) into labels to enhance product authenticity and supply chain traceability.

“Smart packaging is happening now. Imagine walking into a supermarket, scanning a product with your phone, and instantly seeing when and where it was made. That is the level of transparency and security we’re moving towards. At PSDC, we are preparing Malaysian SMEs to be part of this global shift,” he continued.

Recently at ProPack Bangkok, a major regional packaging exhibition, PSDC engaged with the World Packaging Organization and ASEAN Packaging Federation, where sustainability dominated the conversation. From blockchain-enabled traceability to eco-secure packaging, innovation focused on combining green materials with security features. “At the moment, you can either have one or the other. For example, corrugated boxes are not renewable, but we can still print them with security features. The real task now is to look at new sources that let us achieve sustainable packaging that also carries security,” said Khairul Annuar.

Beyond packaging, PSDC is also exploring new opportunities such as smart warehousing and agribusiness support services to help SMEs scale up and move higher in the value chain.

THE WAY FORWARD

As Malaysia looks ahead, the push for safer packaging, sustainable practices and stronger protection against counterfeiting requires more than technology alone.

Creating lasting change requires an integrated approach. Policy reform, public education and stronger enforcement must work in tandem. While education raises awareness and promotes responsible behaviour, policy sets the standards for compliance and enforcement upholds those standards by holding violators accountable.

“To make secure and sustainable packaging a reality for all, we need to align the three entities. Each plays a distinct but complementary role in driving meaningful, long-term impact,” noted Khairul Annuar.

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Smart packaging is happening now. Imagine walking into a supermarket, scanning a product with your phone, and instantly seeing when and where it was made. That is the level of transparency and security we’re moving towards. At PSDC, we are preparing Malaysian SMEs to be part of this global shift.



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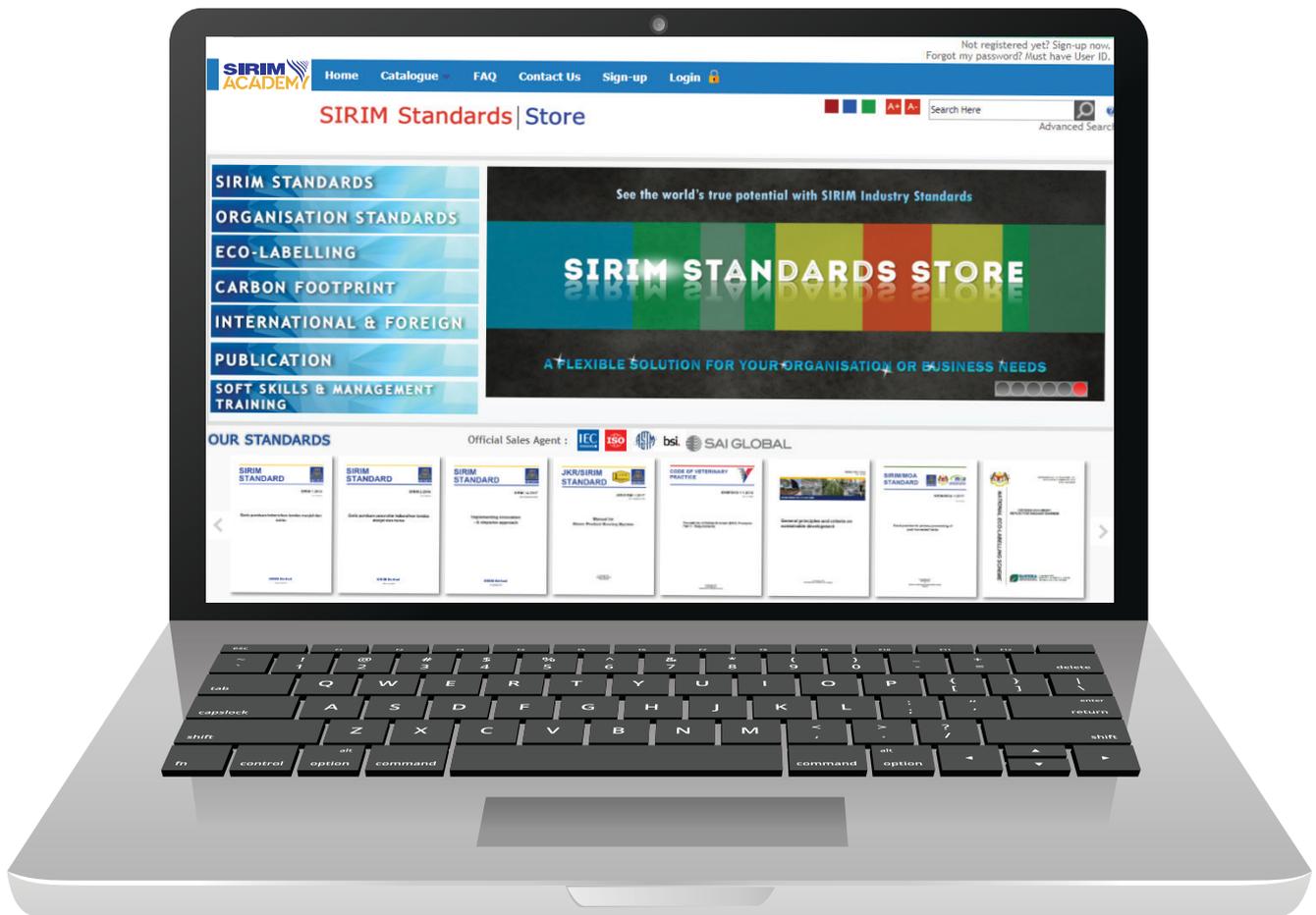
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