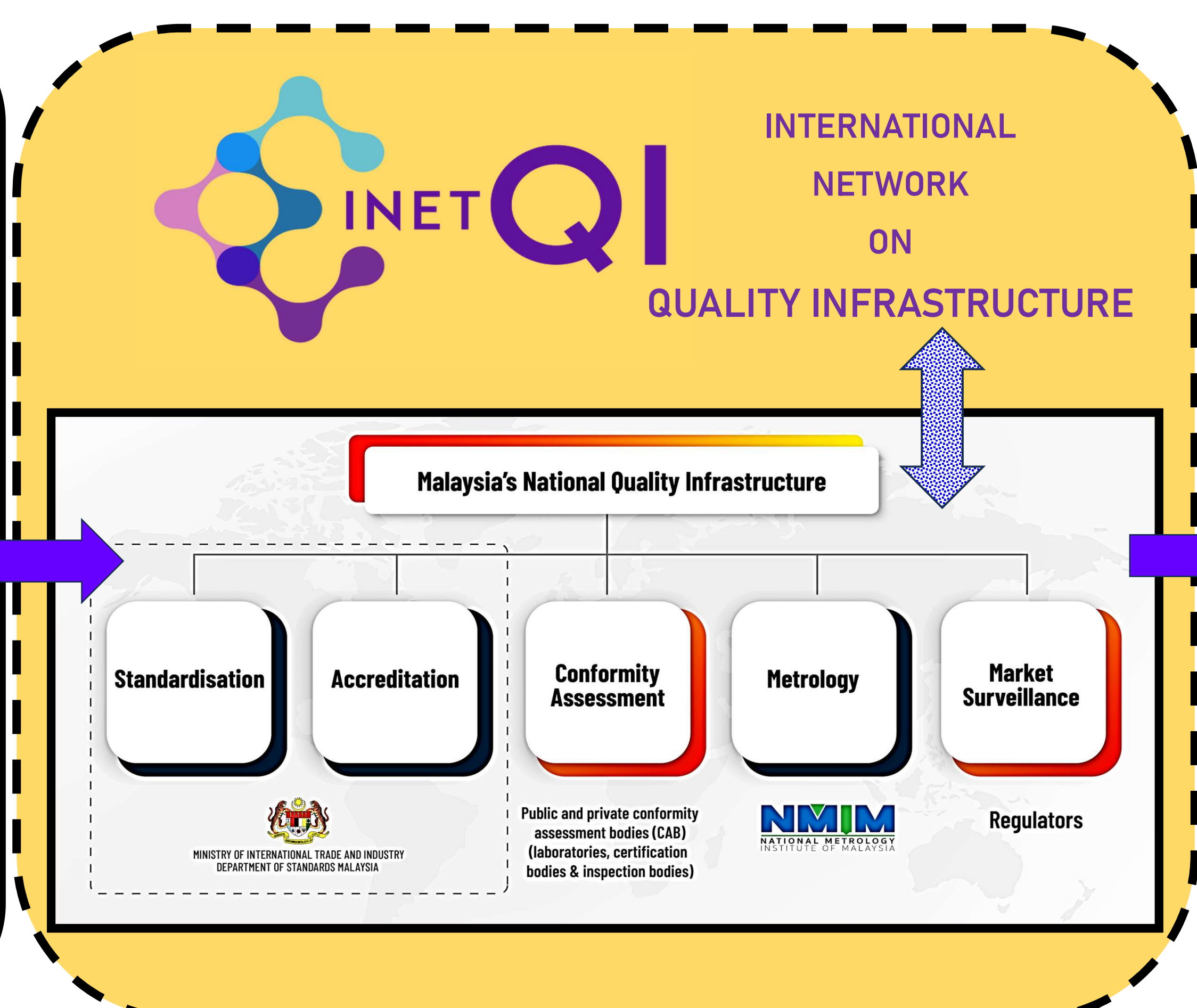
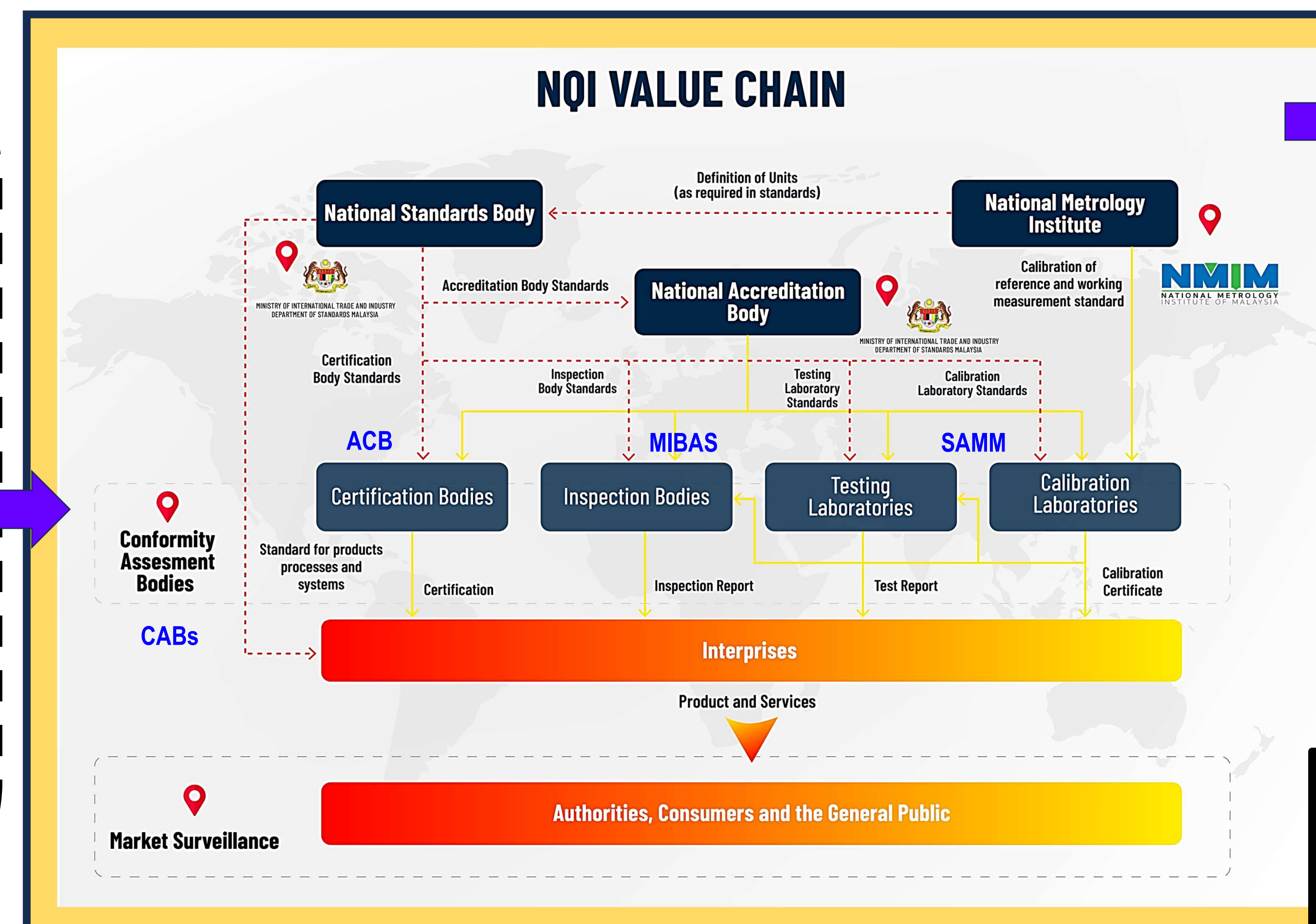




Source: JSM, 2025 & NMIM, 2025



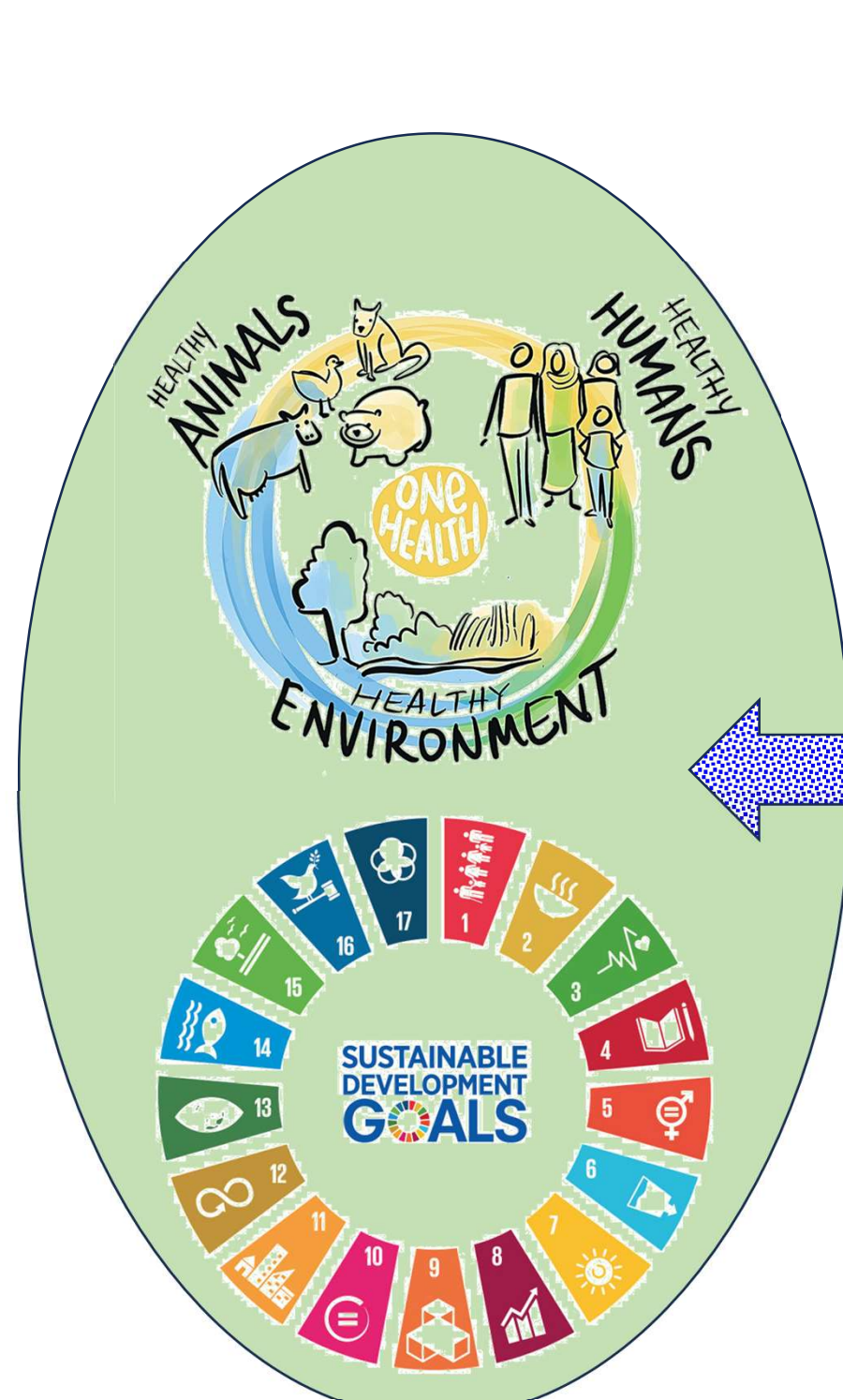
Source: INETQI, 2025 & JSM, 2025



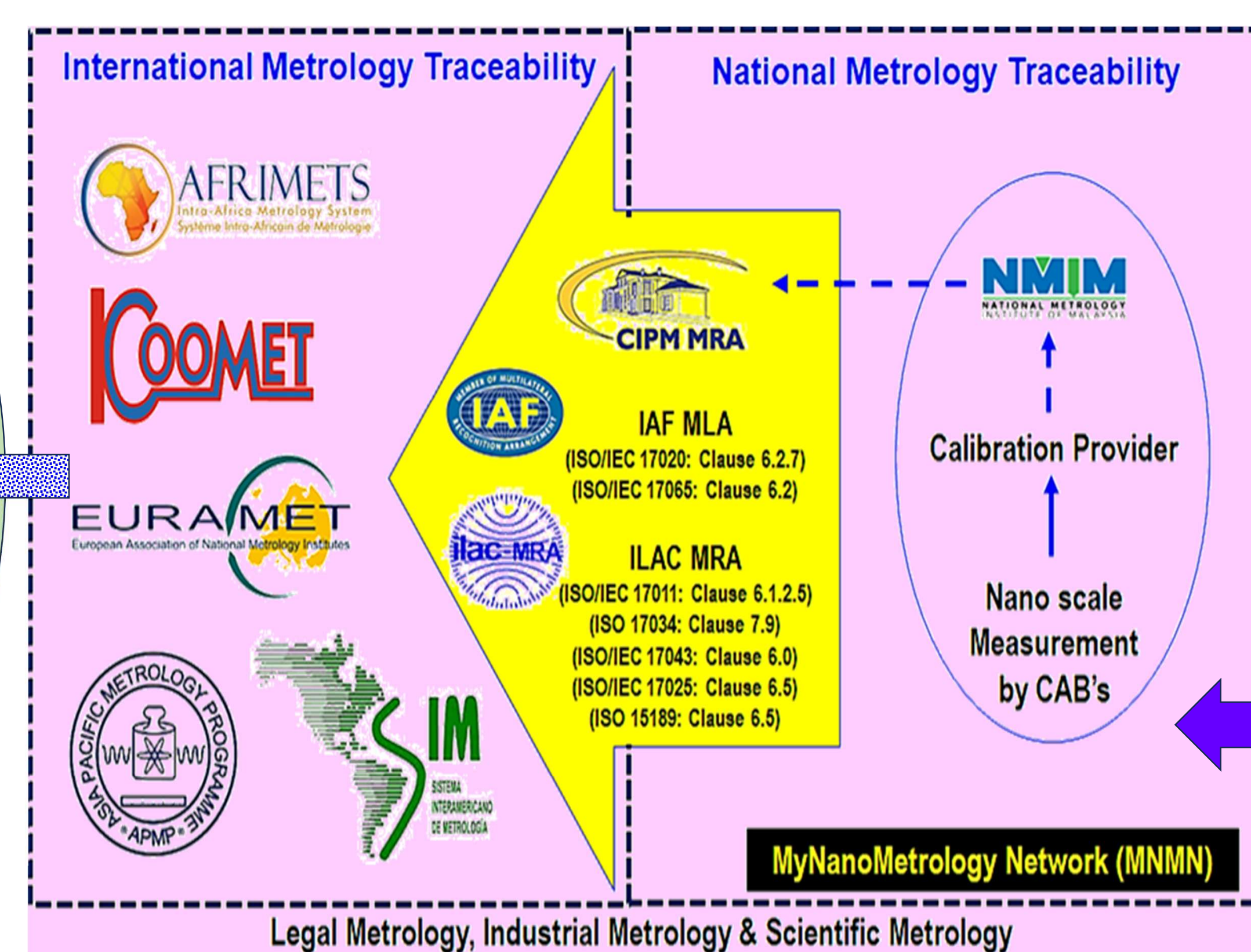
Source: JSM, 2025



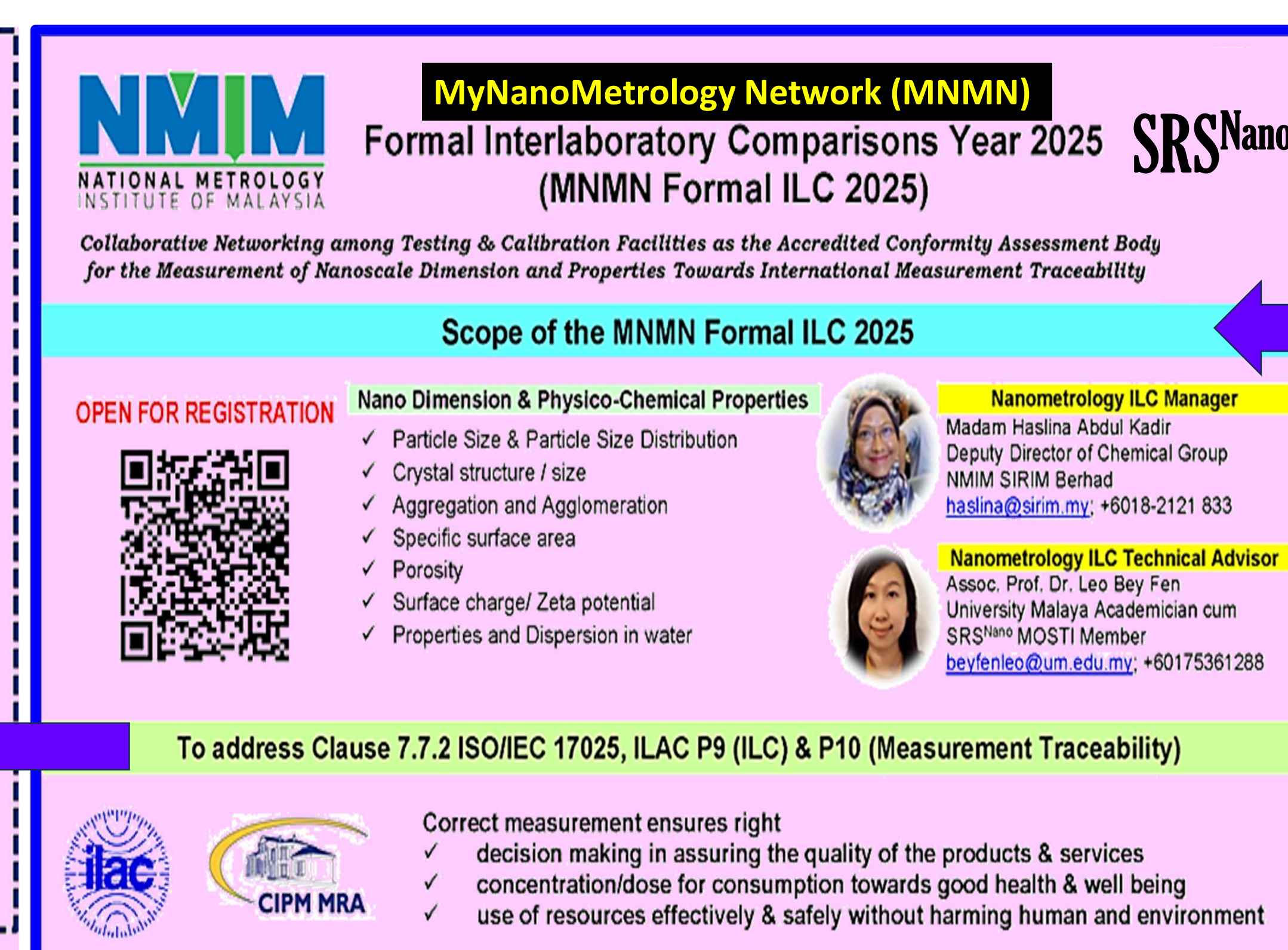
Source: MOSTI, 2025



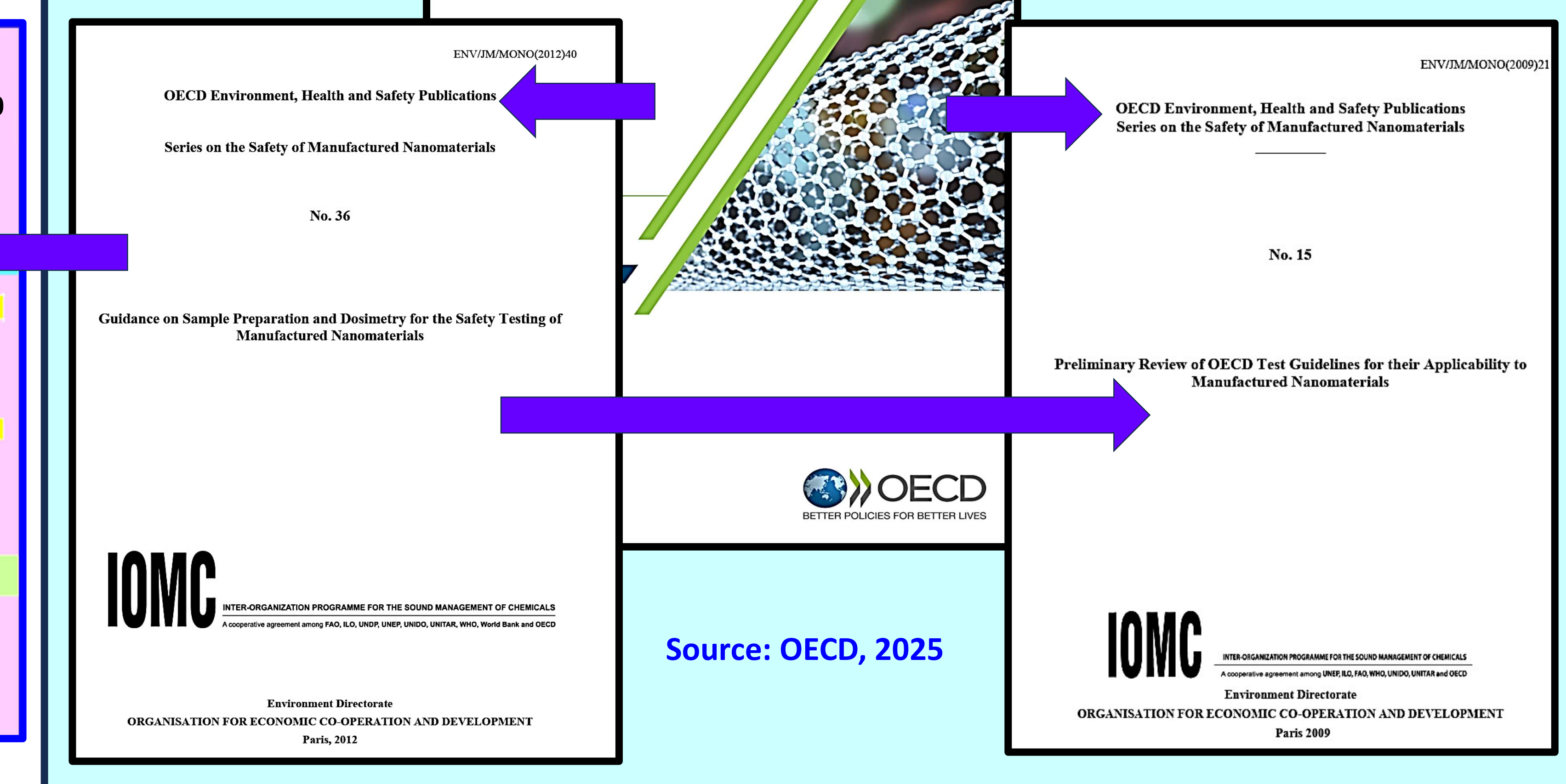
Source: UN, 2025 & WHO, 2025



Source: BIPM, 2025 & OIML, 2025



Source: NMIM, 2025



Source: OECD, 2025

BIPM: Empowering Nanotechnology Economy for Malaysia while Realising the WHO One Health Approach and United Nations Sustainable Development Goals

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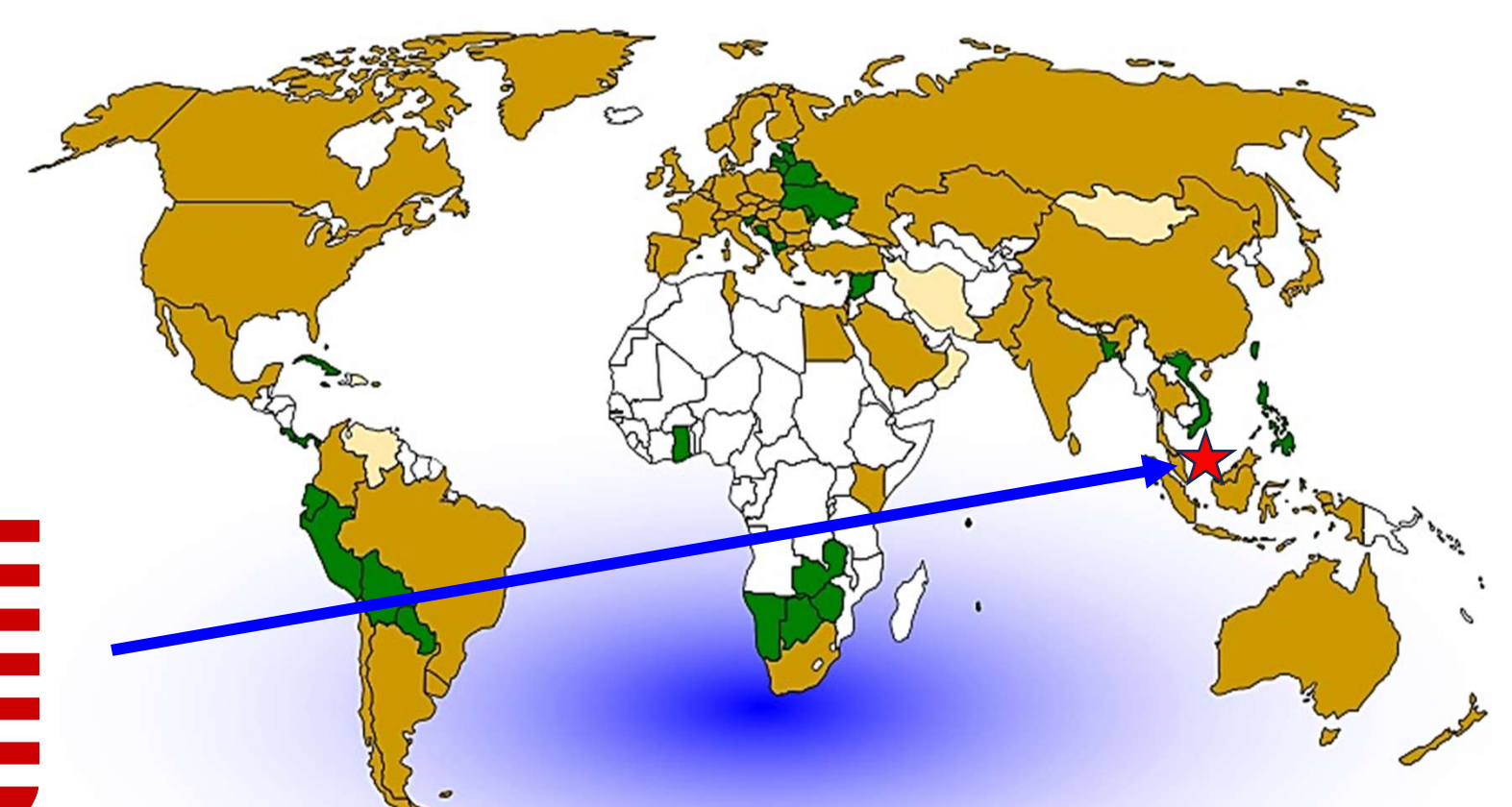
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Abstract

This poster presentation illustrates the importance of the BIPM in enabling developing country like Malaysia to take bold steps to strive technological-based economy while acknowledging the gaps compared with the advanced nations of the world. Malaysia as a developing country made a resolute decision to embrace the advancement in the field of materials science together with the developed countries by establishing two key national entities in 2011 under the Ministry of Science, Technology and Innovation (MOSTI) i.e. the National Nanotechnology Centre (NNC) and Nano Malaysia Berhad (NMB). Each has dedicated functions whereby NNC is the national focal point for the coordination of research, technology, product development, standards and regulatory related to nanotechnology while NMB is a business entity entrusted with nanotechnology commercialization and industrialization.

The strive to keep advancing alongside with the developed nations of the worlds is made possible by the Malaysia memberships prior to 2011, in key international organizations for harmonization of standardization, metrology, conformity assessment and accreditation which are now part of the International Network of Quality Infrastructure (INetQI). Examples are the International Organization for Standardization (ISO) since 1969, International Electrotechnical Commission (IEC) since 1991, International Accreditation Forum (IAF) since 1999, International Laboratory Accreditation Cooperation (ILAC) since 2003 and International Bureau of Weights and Measures (BIPM) since 2001. The membership in the BIPM is essential to facilitate Malaysia progress its national nanotechnology ecosphere in line with the Malaysia National Quality Infrastructure (NQI) which is aligned to the framework of the INetQI.

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This is reflected by the launching of the National Nanotechnology Policy and Strategy (NNPS) for year 2021 - 2030. The MOSTI national committee on the nanotechnology coordination at the meeting convened on 15th January 2024 approved the formation of the Nanotechnology Standard, Regulatory and Safety Task Force (SRS-Nano). The task force together with the National Metrology Institute of Malaysia (NMIM) kick-started the MyNanoMetrology Network (MNMN) initiative to facilitate the measurement traceability covering research and trade. The interested parties of the MNMN consists of instrument suppliers, accredited testing and calibration laboratories, who rely on the NMIM that build confidence for the global acceptance of their measurement via the CIPM Mutual Recognition Arrangement.

The OECD recommendation in year 2024 to adapt four important documents related to nanotechnology particularly two namely (a) Preliminary Review of OECD Test Guidelines for their Applicability to Manufactured Nanomaterials [ENV/JM/MONO(2009)21] and (b) Guidance on Sample Preparation and Dosimetry for the Safety Testing of Manufactured Nanomaterials [ENV/JM/MONO(2012)40], has further established the confidence alongside with the developed nations on the international acceptance of the nanometrology measurement i.e. the science of measurement and its application at the nanoscale.

Subsequently enabling the SRS-Nano task force functions as an inter-organizational entity to a) Promote the importance of standard and safety among industries towards increasing the value of nanotechnology products, b) Integrate nanotechnology in regulation and c) Re-strategize nanotechnology certification towards increasing nanotechnology products value. Eventually empowering Malaysia in realizing the global WHO One Health approach and United Nations Sustainable Development Goals No. 3, 9 and 12 from the local nanotechnology ecosphere.

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