

Guiding Principles for EU-U.S. Semiconductor Standardisation Cooperation

Background:

The Semiconductor Industry Association in the United States (SIA) and the European Semiconductor Industry Association (ESIA) recognise the importance of developing technical standardisation for semiconductors through industry-led, consensus-based standards development organisations that facilitate international trade, foster economic growth, and are open to global participation. The U.S. and the EU should, therefore, promote the private industry's active participation in SDOs, safeguard international standards, and promote well-aligned regional markets and complementary standards where international standards are out of reach.

A number of industries, including the semiconductor industry, are heavily reliant on global standards to ensure the interoperability of hardware and software that make up a multitude of connected digital devices. Standards are an effective and efficient means of achieving legitimate commercial and policy objectives. International or global standards facilitate the diffusion of technology and innovation, and they are becoming increasingly important given the complexity of emerging technologies, such as artificial intelligence (AI), cybersecurity, Internet of Things (IoT), 5G, next-generation security, as well as electric and autonomous driving, and their implications on the protection of an individual's privacy and identity.

International standardisation in the semiconductor industry is also critically important to ensure the best use of scarce technical resources, and to enable much broader interoperability of mass marketed semiconductor-enabled products, providing a key benefit for the worldwide marketplace. Indeed, a laptop alone is based on more than 500 standards that help its computing and communications functions work seamlessly with other digital devices. International standards also are essential to avoid fracturing the global digital infrastructure and creating unnecessary obstacles to trade.

The significant benefits of using international standards are recognised by many governments around the world and any deviation from international standards can have a serious effect on trade, such as requiring suppliers to meet different technical specifications, forcing duplication of testing and requirements, delaying the entry of goods into market, and inevitably reducing innovation and competition.

Recently, there have been growing initiatives for developing and mandating the use of country-unique standards, causing significant concern, as they create market access barriers and do not align with international standards. To meet the product requirement for semiconductor-enabled

products in varying regional markets, the EU and the U.S. should pursue commitments¹ of national initiatives for using and promoting practiced international semiconductor standards as a basis for joint development.

Similarly, the EU and U.S. regional standards should promote cybersecurity resilience that aligns with international standards that enable cybersecurity certification composition methodologies and security scalability. This will facilitate the hardware-enabled Root of Trust, reduce the cost of a final product, and decrease the time to market.

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To achieve the mutual goal of making progress in semiconductor standardisation, while also ensuring alignment with WTO commitments and encouraging openness, competition, and international collaboration, SIA and ESIA jointly recommend the following practices:

1. **Ensuring open access:** The U.S. and the EU should promote open access to standards developing organisations (SDOs) and associated certification schemes and encourage EU / U.S. companies to actively engage in such organisations.
2. **Safeguarding international standards:** When national standards are developed and applied only within a single market, these measures can reduce competition, stifle innovation, create unnecessary technical barriers to trade, and increase costs to consumers with no meaningful increase in the safety or reliability of products. The U.S. and the EU should affirm the principle that global standards are preferable to domestic standards because global standards leverage the work and expertise of the international community and ensure broad interoperability.
3. **Reducing regional market differences:** The U.S. and the EU should aim to avoid unnecessary or unintended regulatory divergences through dialogue, as well as to promote common approaches towards interoperable standards. The U.S. and EU should strive to prevent the bifurcation, fragmentation, or regionalisation of technical standardisation. Regionalisation of standards will shrink markets, hamper international trade, and reduce innovation.

¹ For instance, in Working Group 1 'Technology Standards' of the EU-U.S. Trade and Technology Council (TTC).

Clarifications

- **International Standards**

International standards are standards developed by international standards organisations, which are open to all members of the World Trade Organization (WTO) or to most countries of the world. Notable examples of international standards bodies are the International Organization for Standardization (ISO) or the International Electrotechnical Commission (IEC).

- **Industry Standards**

The semiconductor industry is to a large degree based on industry standards. Industry standards are developed by private organisations. Such organisations typically adhere to respected practices regarding their openness and rules of procedure. There can be advantages in an industry standard approach over a (formal) international standards approach, specifically in fields requiring flexibility and adaptation to changing requirements in the industry. Some examples are JEDEC, SAE, IEEE, and AEC. The EU-U.S. cooperation should safeguard the position and nature of industry standards as part of the collaborative effort.

ANNEX I

Examples of regional and global organizations dealing with security standards

Global

- Accellera
Source: <https://www.accellera.org/>
- Automotive Electronics Council (AEC)
Source: <http://www.aecouncil.com/>
- Bluetooth Special Interest Group (Bluetooth SIG)
Source: <https://www.bluetooth.com/>
- Common Criteria (CC)
Source: <https://www.commoncriteriaportal.org/>
- Connectivity Standards Alliance (CSA)
Source: <https://csa-iot.org/>
- Fast Identity Online (FIDO) Alliance
Source: <https://fidoalliance.org/>
- GlobalPlatform
Source: <https://globalplatform.org/>
- Internet Corporation for Assigned Names and Numbers (ICANN)
Source: <https://www.icann.org/>
- International Civil Aviation Organization (ICAO)
Source: <https://www.icao.int/Pages/default.aspx>
- International Electrotechnical Commission (IEC)
Source: <https://www.iec.ch/homepage>
- Institute of Electrical and Electronics Engineers (IEEE)
Source: <https://www.ieee.org/>
- International Society of Automation (ISA)
Source: <https://www.isa.org/>
- International Organization for Standardization (ISO)
Source: <https://www.iso.org/home.html>
- International Telecommunication Union (ITU)
Source: <https://www.itu.int/en/Pages/default.aspx>
- Joint Electron Device Engineering Council (JEDEC)
Source: <https://www.jedec.org/>

- Mobile Industry Processor Interface (MIPI) Alliance
Source: <https://www.mipi.org/>
- Peripheral Component Interconnect Special Interest Group (PCI-SIG)
Source: <https://pcisig.com/>
- Society of Automotive Engineers (SAE) International
Source: <https://www.sae.org/>
- Trusted Computing Group (TCG)
Source: <https://trustedcomputinggroup.org/>
- Universal Serial Bus Implementers Forum (USB-IF)
Source: <https://www.usb.org/>
- Wi-Fi Alliance
Source: <https://www.wi-fi.org/>
- Wireless Power Consortium (WPC)
Source: <https://www.wirelesspowerconsortium.com/>

USA

- American National Standards Institute (ANSI)
Source: <https://www.ansi.org/>
- National Institute of Standards and Technology (NIST)
Source: <https://www.nist.gov/>

Europe

- European Committee for Standardization (CEN)
Source: <https://www.cen.eu/Pages/default.aspx>
- European Committee for Electrotechnical Standardization (CENELEC)
Source: <https://www.cenelec.eu/>
- European Union Agency for Cybersecurity (ENISA)
Source: <https://www.enisa.europa.eu/>
- European Telecommunications Standards Institute (ETSI)
Source: <https://www.etsi.org/>