POLICY BRIEF

**Promoting U.S.-EU Coordination and Cooperation on Technology Standards:
Recommendations for Action**

Daniel S. Hamilton

The United States and the European Union (EU) have recently launched various initiatives to manage their competition and enhance their cooperation on trade and technology issues. The Transatlantic Leadership Network's Trade and Technology Working Group addresses these topics, including recommendations for more effective action. On standards in critical and emerging technologies, our work has profited from background papers by Meredith Broadbent, Nigel Cory, Alex Engler, Jeff Grove and Craig Updyke, Carisa Nietsche, and discussions among Working Group participants. I thank them all for their contributions, from which I have profited. This policy brief draws on those insights to discuss U.S. and EU approaches to technical standards, and recommends ways the two parties can use the U.S.-EU Trade and Technology Council (TTC). A companion brief focuses specifically on artificial intelligence. Both papers draw on the background papers, sometimes directly. Recommendations however, are my responsibility alone. All products from the TLN Working Group are at
https://www.transatlantic.org/transatlantic-technology-and-trade-working-group/.

Working Group 1 – Technology Standards: The Technology Standards working group is tasked to develop approaches for coordination and cooperation in critical and emerging technology standards including AI and other emerging technologies. The United States and European Union support the development of technical standards in line with our core values, and recognize the importance of international standardization activities underpinned by core WTO principles. The United States and European Union aim to identify opportunities for collaborative proactive action and to defend our common interests in international standards activities for critical and emerging technologies. As such, we plan to develop both formal and informal cooperation mechanisms to share information regarding technical proposals in specified technology areas and seek opportunities to coordinate on international standards activities. We look forward to fostering participation in standards organizations for civil society organizations, startups, small and medium sized enterprises in emerging technologies.
- U.S.-EU Trade and Technology Council Inaugural Joint Statement, September 2021[1]

Introduction

International technical standards define the technological frontier. Those who determine the standards are those who shape the competition. Technical standard-setting in critical and emerging technologies also have direct bearing on key U.S. and EU foreign policy goals, such as the protection of human rights and democracy, and on their foreign economic and trade policies.[2] In the past, the United States and Europe have largely been the world's standard-makers. However, in a new world of disruptive innovation and

diffuse power, they could quickly become standard-takers – unless they can leverage their mutual strengths to set the global regulatory framework for the standards of the future. In this context, the U.S.-EU Trade and Technology Council (TTC) takes on strategic importance.

Global technical standards are established in various ways. A de facto standard can be developed by a first-mover company and then accepted more broadly. Size also matters; users tend to flock to the biggest providers and use the standards they create.[3] Formal standards are adopted through industrial consortia and global standard development organizations (SDOs), such as the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), and the International Telecommunications Union (ITU). Once standards are locked-in, they tend to remain rather durable, since changing them can be very costly.[4]

The United States and Europe are accustomed to being global standard-setters. Each boasts innovative companies that define many of the world's technical standards. Through mutual investment and R&D links, those companies' operations are deeply integrated across the transatlantic space. The $6.3 trillion transatlantic economy is also massive; aligned or interoperable standards across this vast market would generate economies of scale in some critical sectors that could largely determine global standards. European and U.S. firms remain the most influential participants in SDOs due to their leadership and their technical expertise, in-depth knowledge of standards-setting processes and rules, the quality of their contributions, and their continuous participation over time.[5] Traditionally, both parties have been strongly represented in global standardization organizations, although U.S. participation has lagged of late. Both agree that international standards for emerging technologies should be developed in accordance with core principles established by the WTO, and as affirmed by the G7 and the G20. If the United States and the EU can use the TTC to harness these complementarities, they are in a good position to define the technological frontier.

Standards Development in the EU and in the United States

To understand opportunities and challenges related to transatlantic standard-setting, it is important to distinguish between standards and regulations. Much political debate and media commentary conflate the two, but they are different. A standard specifies features of a product, a service, or a process, and guidelines for its use, that have been tested and approved by a recognized authority. A regulation, in contrast, is a rule governing such specifications and use with which actors must comply. Standards are not about social policy, that is what regulations are about. Standards are driven by the private sector; regulations are driven by the public sector. Conformity with standards is voluntary; adherence to regulations is mandatory.

Standards development in the EU and the United States is similar in some respects, but there are notable differences. The European standard-setting system is a public-private partnership, in which the technical standard setting of private SDOs supports economic integration, innovation and competition in the European Single Market, as well as EU-wide regulation. The U.S. approach, by contrast, is more market-driven, led by the private sector What both approaches have in common is that they are privately-run and that technical logic is applied in negotiations for formal standard setting.[6]

The European Commission is a proactive standard-setter. Internal Markets Commissioner Thierry Breton has announced that in coming months the Commission will unveil a strategy to make the EU a "standard maker" in areas such as 5G, batteries, hydrogen, and quantum computing, because "who makes the standard holds the market."[7] EU standards development is driven not only by the desire to set global standards, but to replace differing and often conflicting standards and development processes among 27 member states with Harmonized European Standards (EN). Only three bodies are recognized as setting EU-wide standards: the European Committee for Standardization (CEN), the European Committee for Electrotechnical Standardization (CENELEC), and the European Telecommunications Standards Institute (ETSI). Technically, the use of a Harmonized Standard is voluntary. However, those who choose to use a

non-Harmonized Standard must produce evidence that it conforms to EU laws; the practical effect is to discourage the use of other standards. While the harmonization of EU standards has greatly simplified technical regulations among member states, the EU often develops its standards based exclusively on input from EU-based participants. CEN and CENELEC technical committees, which draft harmonized ENs, generally exclude non-EU nationals from participating in their standard-drafting process. In the limited instances where non-EU nationals do participate, they are not allowed to vote.[8]

The European Commission funds the three EU standards developing organizations as well as the participation of small- and medium-sized EU companies and non-governmental EU organizations, such as environmental, labor and consumer groups, in the standardization process. The EU is also proactive in its efforts to promote adoption of harmonized ENs in other markets and often requires the withdrawal of non-EU standards as a condition of providing assistance to, or affiliation with, other countries, which can give EU manufacturers commercial advantages in those markets.[9]

The U.S. approach differs in important respects. U.S. law directs federal agencies to use private-sector-developed standards when available and effective. Regulatory authorities are permitted to recognize multiple national, regional and/or international standards as equivalent in providing protection for consumers and as guardrails for industry. While agencies are encouraged to participate in SDOs to help shape standards, they do not issue mandates to SDOs. In contrast to the EU (and to China), most U.S. agencies do not provide public support to standards bodies or stakeholder participation in them. This is one reason why U.S. participation in SDOs has lagged. U.S. interest in using the TTC to cooperate more actively with the EU in SDOs is new, and may signal greater U.S. interest in stronger representation in international standard settings bodies.[10]

The China Challenge

The China challenge renders TTC efforts particularly urgent. While China is a relative latecomer to standard-setting compared to the United States and the EU, it invests heavily in advanced technologies, has boosted its presence in SDOs, especially in fields corresponding to its overall industrial policy strategy, is acting to export its standards through its investments in countries participating in its Belt and Road Initiative (BRI), and has been clear that it intends to deploy considerable state funding to become a "global standards-setting power."[11]

Overall, China still lags behind its foreign competitors in the development of international standards. It is responsible for only 1.8% of current international standards, and although this is a significant increase from 0.7% in the mid-2010s, the United States, the United Kingdom, Germany, France and Japan still account for 90-95% of these standards. Nonetheless, China is targeting its standardization efforts on critical sectors and new technologies that are yet to be standardized, such as drones, lithium batteries, fifth-generation mobile technology (5G), data security and artificial intelligence (AI). In some of these areas it has made important inroads.[12] For instance, as of March 2019 China had proposed no less than eleven standards for the Internet of Things (IoT) within the ISO/IEC framework; almost half were approved and none rejected.[13] Huawei, which receives substantial government support, is emblematic of China's standard-setting ambitions. It is the number one applicant for standard-essential patents for 5G. It accounts for almost a quarter of the members of the ITU's study group on fixed and mobile network protocols, and it employs some 400 experts dedicated to developing new standards.[14]

China's politicized, state-centric model presents challenges to the current predominant model of technical standardization, which is private, voluntary and self-regulatory in nature. It also raises the prospect of fragmented standards as a result of its efforts to export Chinese-centric standards through the BRI.[15]

Recommendations

In the past, the United States and the EU have indulged themselves in never-ending debates over whose standards are best, or in often-fruitless efforts to align over conventional products and technologies. They have squandered energy, and their combined potential, as China in particular has risen to challenge them. The TTC represents an effort by both sides to break out of this cycle by focusing their energies on mutually critical sectors and on emerging technologies for which standards are largely yet to be devised, such as AI and the Internet of Things. If the two parties can coordinate and cooperate more effectively in these areas, they have the opportunity to remain global standard-makers. Both parties have been careful to add that such cooperation does nothing to affect either party's sovereign right to regulate.

Given this goal, and recognizing significant differences in standards development processes on each side of the North Atlantic, the TTC is best understood as a means by which the two parties can generate a stream of discrete deliverables, rather than as a grandiose effort to harmonize U.S. and EU practices, regulations and legislation. The following recommendations are offered in that spirit:

Improve information sharing. Develop coordination mechanisms for early information sharing in international standards activities for critical and emerging technologies to make sure that participants in SDO technical and policy committees can be prepared and engaged where it matters. Leverage communications channels provided by existing public-private partnerships and open consultations on each side of as well as across the Atlantic. Recognize and account for the full breadth of international SDOs in which U.S. and EU members are working on technical standards for AI and other emerging technologies that align with and reflect shared values. Encourage modalities of collaboration among standards developers, including making normative reference to each other's works where possible, to achieve greater market coherence and technical alignment in support of regulations.[16]

Bolster U.S. and EU participation in international standards-setting bodies to ensure that standards meet the highest levels of security, quality, and sustainability. Washington should provide grants to support U.S. companies, particularly small- and medium-sized enterprises, to participate in standardization processes, much as the EU already does. The United States should also allow private companies to write off such participation as R&D tax credits. The U.S. government should clarify that Americans and Europeans may attend standard-setting meetings even if representatives from Huawei or other countries on the U.S. Entity List could also be in attendance.[17]

Coordinate and vote together where possible. Standard-setting activities often involve voting by participating companies, with a majority vote leading to a standard being adopted. Beijing often directs its companies to vote in a block, advantaging Chinese-drafted standards that are often not the best technological standard. The United States and the European Union, leveraging its 27 member states, should coordinate and encourage their respective companies to vote together in bodies like 3GPP and the O-RAN Alliance for the best standard, regardless of country of origin.[18]

Establish an early warning system framework to steer U.S.-EU coordination in international standards organizations. Develop coordination mechanisms for potential collaborative proactive action to defend common interests in international standards activities for critical and emerging technologies.

Jointly invest in standardization knowledge. Allocate funding to support joint investigations of standardization developments in strategic sectors such as AI, of China's technical standardization efforts in critical and emerging technologies, and of China's efforts to export technical standardization through Chinese-financed BRI projects. In 2020, the United States provided the National Institute of Standards and Technology with $1 million to begin such studies. The EU should invest in such efforts as well. Such studies would have greater impact if they were conducted jointly.[19]

Work together to encourage adoption of international standards in connectivity initiatives. The EU's Global Gateway initiative, and the U.S. Blue Dot Network, should include financial and other incentives so that participating states adopt international standards instead of resorting to Chinese technical standards, which can be inferior to international standards and can result in technological reliance on Beijing. Coordinate to avoid unnecessary U.S.-EU standards competition.[20]

Insist on transparency and respect for human rights as benchmarks for standards. Technical standards are inscribed with values that touch upon human rights concerns. The two parties, together with other like-minded actors, should push for SDOs and standard-developing industry consortia to adopt a self-commitment to basic human rights.[21]

Prioritize interoperability to lower costs and risks from divergences in standards.[22]

Devise sandboxes for standards development.[23] Regulatory sandboxes are safe experimental spaces in which companies and researchers, under the supervision of regulators, can test and assess innovations with regard to regulatory processes. The same can be done to test emerging standards for new technologies, for which the integrated transatlantic economy provides a broad base. For example, ETSI, one of the EU's major standards organizations, launched a Multi-Access Edge Computing Sandbox to allow application developers to test their pioneering innovations, potentially accelerating their ability to take standards to the market. It awarded the contract to build the sandbox to InterDigital, a Delaware-based company. Similarly, the Enterprise Ethereum Alliance, an international standards organization that oversees the Ethereum blockchain platform, created a sandbox that enables members to test evolving standards and applications in this space. And Google launched a Privacy Sandbox as a collaborative open-source effort to develop new technologies in the form of open web standards to enhance privacy while continuing to support a free, open and democratic Internet.[24]

Coordinate strategically with like-minded partners: EU-U.S. coordination and cooperation in these areas could form the core of a broader concert of like-minded democracies that could consult on evolving standards in jointly identified strategic sectors and emerging technologies, with a view to coordinating and cooperating where possible.[25]

Box 1: A North Atlantic Standards Approval Council (NASAC) [26]

The "presumption of conformity" through standards as applied in the EU (called the New Approach), and the "incorporation by reference" method practiced in the United States, are examples of interlinkages that exist between private standardization and public rule-making activities in both the EU and the United States. In instances where European and U.S. regulators identify or develop essentially equivalent regulations, and agree on performance-based regulatory requirements, panels of technical experts could be established to evaluate whether particular standards — regardless as to where they were developed or who developed them - meet the meet the technical requirements defined in the aligned regulation.

These panels, which could comprise a North Atlantic Standards Approval Council (NASAC), would not come together to develop standards. Rather, they would determine which standards meet the technical requirements defined in the aligned regulation. It could be that there is one standard, two standards, or numerous standards that achieve this status under the same regulation. If one or more standards comply, they could efficiently be adopted in both the EU and United States, since NASAC panels would assure regulatory agencies that such standards achieve a sufficiently adequate outcome in relation to the mandatory requirements set by the regulators. NASAC would offer a voluntary platform where the EU and United States could align, but need not change, their approaches with regard to standards in support of regulations. For example, through NASAC an SDO could pursue a one-time approval of standards in support of

mandatory requirements set out in both EU and U.S. legislation. This approach would not impinge on any country's "right to regulate" because it is premised on an initial decision by regulators.

Performance-based evaluation via NASAC panels would resolve what has become an intractable transatlantic impasse over which SDOs are suitable for standards alignment. NASAC would not create another standards development process or push all standards into any particular SDO to be recognized as international. NASAC panels would simply determine whether submitted standards comply with performance-based requirements set by regulators. They would ensure flexibility, allow innovation, and ultimately lower transatlantic barriers without lowering standards.

NASAC could also offer a means to generate North Atlantic alignment beyond the EU and the United States. Arrangements such as the European Economic Area (EEA), the integration agreements between the EU and Switzerland and the customs union between the EU and Turkey all comprise undertakings that support extensive technical alignment with the EU. Most of these countries also have their national SDOs represented as members at the European standardization organizations, or ESOs. This means more aligned regulatory cooperation through a NASAC process will indirectly affect all non-EU countries that have engaged in technical harmonization with the EU. Although these countries do not take part in the cooperation between EU and U.S. regulatory agencies, technical experts from such countries could conceivably be included in NASAC panels. A similar approach could be considered for the United Kingdom.

Similarly, USMCA parties are currently obliged to make their respective standards-related measures compatible. In this vein, the United States, together with Canada and Mexico, established bilateral Regulatory Cooperation Councils (RCC). Though USMCA is not as deep and comprehensive as the technical harmonization existing in Europe, NASAC could further standards convergence among USMCA states and European partners. Under CETA, the EU and Canada agreed to set up a Regulatory Cooperation Forum where regulators can engage in regulatory cooperation and, in the field of standardization, to strengthen links between their SDOs. Regulatory convergence between Canada and EU through CETA could provide a basis for an integrated approach via USMCA. Where regulatory alignment exists, an accord could provide a basis for mutual market access terms for products complying with NASAC-approved standards. Moreover, such an approach would likely have repercussions far beyond the North Atlantic space. If North Atlantic partners aligned behind specific performance-based technical standards in particular areas, such standards would likely serve as key benchmarks for broader international standardization, reducing the likelihood that others will impose more stringent, protectionist requirements for either products or services, or that lower standards could erode key protections for workers, consumers or the environment.[27]

Notes

[1] White House, "U.S.-EU Trade and Technology Council Inaugural Joint Statement," September 29, 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/29/u-s-eu-trade-and-technology-council-inaugural-joint-statement/.
[2] See Philippe Lorenz, "AI Standardization and Foreign Policy: How European Foreign Policy Makers Can Engage with Technical AI Standardization," Stiftung Neue Verantwortung, August 2021, https://www.stiftung-nv.de/sites/default/files/ai-standardization-and-foreign-policy.pdf.
[3] "China's Belt and Road: Implications for the United States," Council on Foreign Relations, March 2021, https://www.cfr.org/report/chinas-belt-and-road-implications-for-the-united-states/download/pdf/2021-04/TFR%20%2379_China%27s%20Belt%20and%20Road_Implications%20for%20the%20United%20States_FINAL.pdf.
[4] Tim Rühlig, *The Shape of Thing to Come: The Race to Control Technical Standardisation*, European Chamber of Commerce in China/Swedish Institute of In ternational Affairs, 2021, https://static.europeanchamber.com.cn/upload/documents/documents/The_Shape_of_Things_to_Come_EN_final[966].pdf
[5] Antoine Bondaz, "Promoting "soft connectivity": China's standards-setting reforms and international ambitions," Fondation pour la recherche stratégique, Recherches & Documents N°15/2021, September 2021, https://www.frstrategie.org/en/publications/recherches-et-documents/promoting-soft-connectivity-china-s-standards-setting-reforms-and-international-ambitions-2021.
[6] Rühlig.

[7] Thierry Breton, July 27, 2021, quoted in Luca Bertuzzi, "Mastery of technology is central to the 'new geopolitical order', Breton says," Euractiv, July 27, 2021, https://www.euractiv.com/section/digital/news/mastery-of-technology-is-central-to-the-new-geopolitical-order-breton-says/; European Commission, "Roadmap: Standardisation strategy," June 26, 2021, https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13099-Standardisation-strategy_en.

[8] See the U.S. critique at U.S. Trade Representative, *2021 National Trade Estimate Report on Foreign Trade Barriers*, https://ustr.gov/sites/default/files/files/reports/2021/2021NTE.pdf.

[9] Ibid.

[10] Carisa Nietsche, "Opportunities for Transatlantic Cooperation on Technology Standards," paper prepared for this initiatiave: https://www.transatlantic.org/wp-content/uploads/2021/12/11-30-2021-Nietsche_Opportunities-for-Transatlantic-Cooperation-on-Technology-Standards_v2.pdf; Council on Foreign Relations.

[11] Bondaz; Naomi Wilson, "'China Model?' Beijing's Promotion of Alternative Global Norms and Standards," Hearing, U.S. China Economic Security Review Commission, March 13, 2020, https://www.uscc.gov/sites/default/files/2020-10/March_13_Hearing_and_April_27_Roundtable_Transcript.pdf.

[12] Rühlig; Ron Schneiderman, *Modern Standardization: Case Studies at the Crossroads of Technology, Economics and Politics* (Piscataway, NJ: IEEE Press, 2015) p.253; John Seaman, "China and the New Geopolitics of Technical Standardization," Notes de l'Ifri, January 2020.

[13] Rühlig; Seaman.

[14] Bondaz.

[15] For more, see the paper prepared for this initiative by Jeff Grove and Craig Updyke, "Policy Brief – Considering the U.S.-EU TTC Working Group on Technology Standards," https://www.transatlantic.org/wp-content/uploads/2021/12/11-30-2021-Grove_WGTransatlanticEconomy-v2.pdf; Bondaz; Rühlig; Nietsche; Council on Foreign Relations.

[16] Grove and Ukdyke.

[17] Council on Foreign Relations; Nietsche; Grove and Updyke.

[18] Nietsche.

[19] Rühlig.

[20] Rühlig.

[21] Rühlig.

[22] Nietsche.

[23] See Meredith Broadbent's paper for this initiative, "Identifying Common Transatlantic Principles for AI Regultion," https://www.transatlantic.org/wp-content/uploads/2021/12/11-30-2021-Broadbent_Identifying-Common-Transatlantic-Principles-for-AI-Regulation.pdf.

[24] More at https://try-mec.etsi.org/; https://www.edgeir.com/eu-standards-group-to-build-an-mec-sandbox-20200214; Lucas Mearian, "EEA opens sandbox for blockchain development and collaboration," Computer World, January 15, 2020, https://www.computerworld.com/article/3513997/enterprise-ethereum-alliance-opens-sandbox-for-blockchain-development-and-collaboration.html; Nietsche; Florina Pop and Lukas Adomavicius, "Sandboxes for Responsible Artificial Intelligence - EIPA Blog," September 2021, https://www.eipa.eu/sandboxes-for-responsible-artificial-intelligence/; Dan McCarthy, "To Regulate AI, Try Playing in a Sandbox," Morning Brew, May 26, 2021, https://www.morningbrew.com/emerging-tech/stories/2021/05/26/regulate-ai-just-play-sandbox.

[25] Potential partners and areas are outlined in Rühlig.

[26] For further background on this approach: Daniel S. Hamilton, *Creating a North Atlantic Marketplace for Jobs and Growth: Three Paths, One Detour, A U-Turn, and the Road to Nowhere* (Washington, DC: Center for Transatlantic Relations, 2018); Jacques Pelkmans, "The Economics of Single Market Regulation," Bruges European Economic Policy Briefings 25/2012, College of Europe, file:///C:/Users/Owner/Downloads/beep25.pdf; Peter Chase and Jacques Pelkmans, "This Time It's Different: Turbo-Charging Regulatory Cooperation," in Daniel S. Hamilton and Jacques Pelkmans, eds., *Rule-Makers or Rule-Takers? Exploring the Transatlantic Trade and Investment Partnership* (Washington DC/Brussels: Center for Transatlantic Relations/Centre for European Policy Studies, 2015); Emanuel Badehi Kullander, "A Transatlantic Standards Approval Scheme and how it could relate to a global regulatory context," unpublished paper.

[27] Hamilton; Chase and Pelkmans; Kullander; ASTM International, "Strengthening Transatlantic Trade Through a Common Understanding on Standards," White Paper, www.astm.org/MEETINGS/images/SES_ASTMWhitePaper.pdf.Google Scholar.