

Choppy Seas for a Digital Atlantic

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The U.S.-EU Digital Relationship

The Biden administration has made renewing the transatlantic relationship a major priority. One of its most high-profile efforts is to improve the digital relationship with the European Union, as embodied in the establishment of the U.S.-EU Trade and Technology Council (TTC). **Announced** in June 2021, the TTC met for the first time on September 29, 2021, in Pittsburgh, Pennsylvania. As a result of this meeting, 10 working groups were **established** to “coordinate approaches to key global technology, economic, and trade issues; and to deepen transatlantic trade and economic relations, basing policies on shared democratic values.”

CSIS’s **first report** in this series provided the strategic rationale for a “Digital Atlantic” and identified why a transatlantic digital future is in the best interest of both the United States and the European Union. Building on this, and examining the outcomes from the first TTC meeting in Pittsburgh, this report recommends that a Digital Atlantic initially focus on three objectives: (1) creating a transatlantic semiconductor supply chain, (2) developing next-generation networks and cloud computing, and (3) formulating values-based digital governance. While it is important to recognize the transatlantic frictions in these areas, the challenges posed by these frictions are outweighed by the opportunities to construct a Digital Atlantic driven by shared democratic values and the pursuit of mutual economic growth and security. This report relies on an analysis of publicly available information, interviews, and insights from U.S. and European experts who participated in roundtable discussions.

THE SEMICONDUCTOR SUPPLY CHAIN

Governments are paying close attention to the semiconductor supply chain, given the strategic importance of this technology, and are critically assessing their own capabilities and dependencies. The understanding that semiconductors are central to the digital economy has led to a flurry of initiatives worldwide to expand supply and strengthen resilience. One of the concerns for both Europe and the United States is the concentration of production in East Asia, which has amassed 75 percent of global semiconductor production.

The United States is at the forefront of the field—it has consistently **held** around 50 percent of market share—but its share of chip production has declined. The same is true for Europe. A desire to maintain a strong chip industry prompted, for example, the 2021 **U.S. Innovation and Competition Act of 2021** (USICA), which included \$52 billion in federal investment for the Creating Helpful Incentives to Produce Semiconductors (CHIPS) for America Fund. In addition, if passed, the **Facilitating American-Built Semiconductors (FABS) Act** would establish an investment tax credit for manufacturing equipment and facilities.

In September, during her state of the union address, President of the European Commission Ursula von der Leyen **announced** a new European Chips Act, which envisions the creation of “a state-of-the-art European chip ecosystem, including production.” Internal Markets Commissioner Thierry Breton, a strong proponent of the legislative proposal, **outlined** three dimensions to this vision: (1) implementing a European research strategy for semiconductors, (2) enhancing European production capacity to ensure the resilience of the whole supply chain, and (3) expanding international cooperation to decrease overdependence. The objective of achieving an EU chip ecosystem is also reflected in its **Digital Compass** strategy, which outlines the European Union’s hope of increasing its production of cutting-edge semiconductors to capture 20 percent of the global market by 2030. (The bloc currently **controls** around 10 percent of the global semiconductor market.)

These ambitious proposals, however, belie the fragmentation within the European Union on policies pertaining to semiconductors—particularly the reluctance of some member states to provide subsidies. Some European governments are notably skeptical: Dutch authorities (reflecting in part the views of ASML, a global leader in the chip industry based in the Netherlands) have **said** the “decoupling of the global semiconductor value chain is an illusion.” Additionally, the European Union’s own competition rules could be a stumbling block, as national initiatives **require** approval from the European Commission’s competition directorate, a process that can take over a year and a half to complete.

Domestic measures such as these have elicited concerns about a “subsidy race,” as noted in the TTC joint statement on semiconductor supply chains. European Commissioner for Competition Margrethe Vestager recently **warned** that the European Union and United States should avoid duplication as they re-shore important aspects of microchip production. Given the short-term impact and need for rapid action on this topic, a dedicated negotiating track was established to discuss the “rebalancing of global supply chains in semiconductors,” and a working group will look at “cooperation on mid- and long-term strategic semiconductor issues.” **According** to the Semiconductor Industry Association, “The U.S. and the EU combined represented 21% of the world’s semiconductor manufacturing capacity in 2020, and 43% of the world’s consumption of digital devices. . . . In 2020, the total two-way semiconductor trade between the U.S. and the EU totaled \$4.8 billion.”

Worries about China’s role in the semiconductor supply chain—and the security vulnerabilities this creates—provide an opportunity to discuss how the European Union can increase its role in the semiconductor supply chain and make this a cooperative area rather than a competitive one. For instance, the Netherlands statement can be amended to set a goal of establishing a transatlantic semiconductor supply chain. Such a “co-shoring” supply chain, particularly if done in cooperation with Japan, can create a resilient semiconductor industry and strengthen European digital sovereignty.

Shared concerns about supply chain vulnerabilities and reliance on other countries’ manufacturing capacity make this issue a good candidate for increased cooperation. Semiconductors lend themselves well to this approach given the specialization in the industry on elements of production, from research and development (R&D) and design (where Europe is strong) to packaging and testing the finished chip.

Europe and the United States both have chip fabrication facilities (“fabs”), and both have set goals to obtain cutting-edge fabs, but this undertaking is expensive and will take years. As such, the TTC has a long-term goal of developing a mutually supportive approach.

AFTER 5G: NEXT-GENERATION NETWORKS

Supply chain concerns over fifth-generation (5G) wireless networks are a central issue for the TTC working group on information and communications technology and services (ICTS). The working group will also seek ways to develop a common roadmap for communication technologies beyond 5G and 6G.

While the deployment of 5G continues, governments and industry are looking toward the future. Some of the most advanced initiatives on next-generation networks stem from either U.S. or EU projects. In February 2021, the European Commission proposed creating the [European Smart Networks and Services Joint Undertaking](#) (SNS JU) under Horizon Europe, with a budget of €900 million (\$1.01 billion) for 2021–2027, which industry is expected to [match](#) with a €1.8 billion (\$2.03 billion) investment. The SNS JU’s goals include “fostering Europe’s technology sovereignty in 6G” and “boosting the deployment of 5G in Europe.” The former anticipates funding R&D for developing and standardizing 6G technology by 2025 and commercializing it by 2030.

In terms of public-private cooperation, the 5G Infrastructure Public Private Partnership (5G PPP) has [10 projects](#) exploring connectivity beyond 5G, including researching different parts of the 6G network stack, looking at latency, automation of network resource allocation, and the use of artificial intelligence (AI) for automation. The most robust of these projects, the [Hexa-X](#) initiative (spearheaded by Nokia and Ericsson, its overall lead and technical manager, respectively), focuses on researching AI-integrated networks and constructing new, decentralized network architectures that are more dynamic. In addition, the 5G Industry Association (5G IA), which will represent the private sector within the SNS JU, has already published its [European Vision for the 6G Network Ecosystem](#).

In the United States, two main initiatives focusing on next-generation networks are the Next G Alliance and the Resilient and Intelligent NextG Systems (RINGS) initiative. The [Next G Alliance](#), which brings together a wide range of industry and research organizations (including leading European companies), is a private-sector effort led by ATIS to advance “North American mobile technology leadership.” The RINGS initiative, one of several projects the National Science Foundation supports on advanced wireless technologies, was [announced](#) in April 2021. It brings together the Office of the Undersecretary for Defense for Research and Engineering, the National Institute of Standards and Technology, Apple, Ericsson, Google, IBM, Intel, Microsoft, Nokia, Qualcomm, and VMware. This partnership pooled \$40 million to advance research in areas of potential impact on next-generation networking and computing systems. It has set a goal of 6G deployment by 2030, which means there is an opportunity for U.S.-EU collaboration, especially in early stages such as R&D.

National security concerns are driving policymakers away from products and services provided by Chinese companies such as Huawei. This is one reason why Open Radio Access Networks (ORAN) have [gained traction](#) as a viable alternative. Unlike RAN, which requires one vendor to produce the entire network stack, ORAN proposes a modular approach, with multiple vendors producing different components that are integrated into one network. This approach is expected to bring down capital costs for telecom service providers, increase innovation, and allow the entry of new vendors into the telecom and networking market. While ORAN will initially pose interoperability issues, it will ultimately provide solutions to industrial and supply chain problems.

In the United States, this perception has led some to call for a mandated deployment of ORAN; others prefer that the market set the pace. The Biden administration's [policy](#) is "to promote the development of Open RAN alongside other policies, technologies, and architectures that support 5G vendor diversity and foster market competition." For many U.S. companies, ORAN reflects a natural evolution in the telecommunications industry, allowing for better performance and security.

Support for the development of ORAN is bipartisan, and many members of Congress have requested action from executive branch agencies and President Biden. In December 2020, in response to a [letter](#) from congresspeople, the Federal Communications Commission [voted](#) in favor of "making Open RAN solutions eligible for the Secure and Trusted Communications Network Reimbursement Program." Another bipartisan [letter](#), in anticipation of the administration's budget request for fiscal year 2022, asked for \$3 billion to fund the adoption of ORAN.

The enthusiastic support ORAN has received in the United States is seen with worry across the Atlantic. Although there is a shared understanding that ORAN is the future, Europeans are concerned U.S. financing for the technology will further and unfairly strengthen U.S. companies—a repeated theme in transatlantic technology discussions. Out of the eight bills in Congress dealing with ORAN, four would grant funding for its development, which some in Europe perceive as a "betrayal" of and attempt to displace European companies such as Ericsson and Nokia, leaders in the RAN market (they [had](#) 27 percent and 17 percent of the market share, respectively, as of 2020). For some European companies that have struggled in the face of Chinese government subsidies to telecom firms, this can seem as if the United States is emulating Chinese practices. This view is discouraging, but not all EU companies share it, and major telecom service providers are much more supportive of ORAN. Multiple interviews with U.S. companies do not reveal any intent to displace European companies. As such, the complaints seem more like an attempt to preserve the status quo from the disruption that new technologies can bring.

Continued 5G and ORAN deployment is a natural area for the United States and European Union to cooperate. ORAN can provide greater capacity and lower capital expenditures, and increase competition, innovation, diversity, and security on both sides. As the previous [report](#) identified, "5G is a leading example of a symbiotic transatlantic tech relationship where the United States depends on European suppliers, which in turn depend on U.S. chip makers. This in effect creates a 'trusted trader' or allied-centric supply chain." The TTC's focus on a common roadmap for 5G and beyond is crucial at this stage, especially to address supply chain concerns and to ensure that providers are neutral and trustworthy.

5G and ORAN are closely connected to cloud and AI technologies, areas where U.S. and Chinese companies also dominate. Cloud services are increasingly central to business competition and essential to telecom network modernization. The European Union's initial policy impulse was to create an EU alternative called Gaia-X, which has encountered a variety of [obstacles and delays](#). France is now developing Bleu, a cloud fully under French and European jurisdiction; Germany is also developing a "sovereign cloud." While Bleu is owned by French companies and its unnamed German counterpart by Deutsche Telekom, both will also involve significant [partnerships](#) with major U.S. cloud providers. These transatlantic partnerships could set a precedent for further cooperation.

A collaborative approach to cloud services would better serve transatlantic interests, but more work needs to be done to define such an approach, including the development of joint guidance on cloud security. Trust and sovereignty are at the heart of this and other tech issues—and, unfortunately, transatlantic trust has waned even as concerns over sovereignty are waxing. The best antidote is to build a strong and transparent partnership.

DIGITAL GOVERNANCE

The governance of data and technology platforms is already a contentious issue in the transatlantic relationship. It is not surprising that the relevant TTC working group has been tasked only with exchanging information on approaches to this issue and has **narrowed** the scope of its work to merely “seeking consistency and interoperability where feasible.” Indeed, much of the discussion between the United States and the European Union over digital regulatory frameworks exposes the different legal philosophies at play.

In the United States, how to govern tech companies regarding privacy, content, and antitrust issues is hotly debated. Biden’s **Executive Order (EO) on Promoting Competition in the American Economy** reflects a desire to expand the use of existing antitrust authorities to regulate dominant internet platforms. The EO, which argues that a lack of competition can hamper the information-technology and telecommunications sectors, faces some opposition. Many of the issues the TTC joint statement identifies as shared areas of concern (e.g., harmful content, algorithmic amplification, transparency, and intermediary responsibility) remain the subject of domestic debate and are not close to being resolved. For example, despite numerous congressional hearings on harmful content and the role platforms play in spreading it, there is still fundamental disagreement on what harm is inflicted and what to do about it.

Conversely, the United Kingdom’s Online Safety Bill and the EU **Digital Services Act package**—which includes two initiatives, the Digital Markets Act (DMA) and the Digital Services Act (DSA)—are moving ahead at full regulatory speed. While the DSA updates existing liability rules to address illegal content, advertising, and disinformation, the DMA sets out **specific obligations** for “gatekeeper” companies to ensure fair behavior. This combined package is central to the European digital strategy.

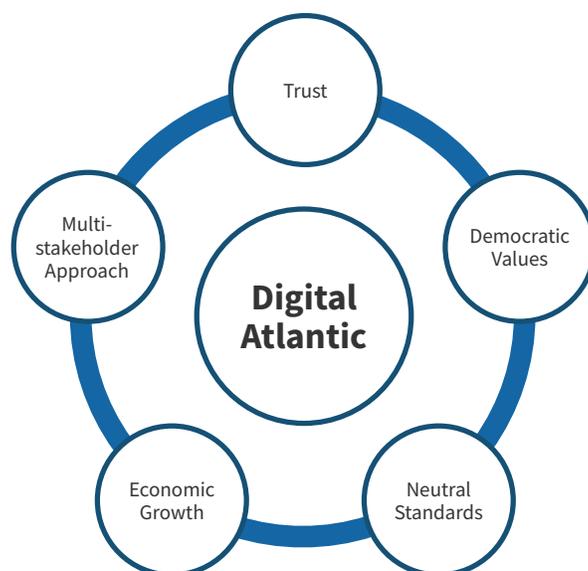
The European Council has **encouraged** speedy work on these two acts “with a view to reaching an ambitious agreement as soon as possible.” And while there may be transatlantic agreement on the general need to regulate “big tech,” provisions in the DMA may discriminate against U.S. companies. The European Commission’s original proposal used parameters that would affect Asian and European companies as well, but Andreas Schwab, who is leading the European Parliament’s overview of the legislation, released a parliamentary report in which he **proposed** changing those parameters so that they would only target the five largest companies, which are all based in the United States.

While Schwab’s report is nonbinding, and the European Parliament **seems poised** to endorse parameters that would include at least one European company, his ideas represent the views of some European policymakers. His proposal also caused consternation in the United States: in June 2021, a **leaked email** from the National Security Council to the EU delegation in Washington warned that such “protectionist measures” could prevent cooperation and hamper innovation. Indeed, the way in which the DMA sets thresholds—de facto discriminating against U.S. companies—seems to **disregard** World Trade Organization obligations. Although the European Union has stated that it is attempting to develop regulatory frameworks that also promote innovation, its rigor and ex-ante risk assessments have hampered technological advancement in the past.

Next Steps

Semiconductor supply chains, next-generation wireless networks, and digital governance are three key areas where U.S.-EU cooperation can create value for both sides. A strong transatlantic partnership holds the promise of economic growth and innovation, and shared democratic values can be leveraged to present a viable alternative to authoritarian models in the digital space.

With that in mind, this report offers the following cross-cutting principles as the foundation for building a Digital Atlantic. These goals can be pursued through specific, actionable recommendations—which will be covered in more detail in a subsequent report—on each of the three areas discussed in this brief.



Source: Authors' own analysis.

- 1. Be candid about (perceived) conflicts.** To build trust, the United States and European Union should use venues such as the TTC to clarify perceptions and establish shared strategic outcomes. It is necessary to discuss conflicting perceptions and dispel suspicions that there is commercial and protectionist intent behind an ostensibly impartial regulation or technical policy—be it “Buy American,” ORAN subsidies, or the DMA. This will generate more productive conversations and create space for genuine progress, not just statements.
- 2. Keep eyes on the prize:** There will be many sticking points and difficult conversations during the process of building a Digital Atlantic. Where there are such speed bumps, or where a compromise feels unpalatable, both sides should remember there is a broader goal at stake and keep their eyes on the prize. In the coming decades, new rules for digital governance will be set, and some countries will come out ahead in the competition over semiconductors and developing next-generation networks. If it is not the United States, Europe, and their Indo-Pacific partners, it will likely be authoritarian countries like China and Russia, which already **demonstrate** sophisticated methods for digital repression at home and **export** those techniques abroad. The European Union frequently speaks of itself as a “union of values,” and President Biden, soon after his inauguration, **spoke** of rooting his foreign policy in “America’s most cherished democratic values.” The digital portfolio will test both sides’ ability to put these values above other interests in the course of negotiations.
- 3. Defend a technical-driven, politically neutral standards process.** As standards for new technologies are being developed, both the United States and European Union should take care to protect market-driven, private sector-led standards processes from political interference by countries such as China—which would like to reshape the standards process to give governments (starting with itself) a greater role in defining them. The United States and European Union can work jointly to prevent this.

4. **Seek economic benefit for both sides.** The security- and values-based arguments for transatlantic digital cooperation are sound—but, to keep the engine of cooperation running, many policymakers will also need to feel they are securing economic benefits for their constituents. Opportunities for growth should be highlighted and a balance should be struck between economic growth, national security, and democratic values. The TTC may be a good venue to discuss the development of such a balance.
5. **Use the strengths of the private sector and markets.** Public-private partnerships will be an essential component of a robust Digital Atlantic. As a participant in a recent CSIS workshop pointed out, many challenges—from bolstering cybersecurity and advancing artificial intelligence to improving semiconductor supply chains and developing 6G networks—are too big for any one actor to tackle alone and will have consequences for everyone if societies do not address them wisely. European and U.S. governments should seek the expertise of the private sector on these issues while also balancing industry needs against their broader responsibilities to ensure citizens' safety and rights.
6. **Use the TTC process to coordinate industry policies.** Both sides of the Atlantic have policies in place regarding 5G networks, semiconductors, and other areas. While U.S. and EU companies will compete, their governments are partners. The TTC can shape a new style of industrial policy, one attuned to the digital technologies that now drive growth. Governments are just beginning to define what this policy could look like—and, by accelerating innovation together, can grow their economies quicker and obtain greater returns on investments. ■

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This report is made possible with support from Microsoft.

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