



SCOWCROFT CENTER
FOR STRATEGY AND SECURITY



TRUSTED CONNECTIVITY

**A FRAMEWORK FOR A FREE, OPEN,
AND CONNECTED WORLD**

An issue brief by Kaush Arha

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Trusted connectivity: A framework for a free, open, and connected world

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Tags: China, Cybersecurity, Europe & Eurasia, Infrastructure Protection, National Security, United States and Canada

Introduction

Global affairs are increasingly shaped by three important and overlapping trends: 1) the unprecedented and growing demand for trillions of dollars' worth of global digital and physical infrastructure; 2) the ideological battle between democracy and autocracy for the best path forward to achieve peace and prosperity; and 3) the world's response to changing climate. As democracies address the global demand for a free, open, and connected world while ensuring that local and global emissions targets are met, they need an organizing framework: the concept of "trusted connectivity."

Democratic governments and institutions function with intricate checks and balances to ensure public trust. Unchallenged aggregation of power is antithetical to democracies and instinctively distrusted by their citizens. While holding unimaginable promise, today's advancements in digital and physical infrastructure also embody new opportunities for malign actors in general, and authoritarian governments in particular, to accumulate and wield this power. Malign influence or control over data, communications, trade routes, energy, and transportation, all of which becomes possible when countries accept infrastructure investments from authoritarian states, could open potential vectors for coercion, disruption, or attack in times of crisis or conflict. In order to deny malign actors this influence over other countries' infrastructure, democracies need to work together to ensure that the benefits and terms for the host country in building a bridge, port, rail, road, or telecommunications network are equitable and transparent, thereby leading to greater trust and security in addition to economic prosperity.

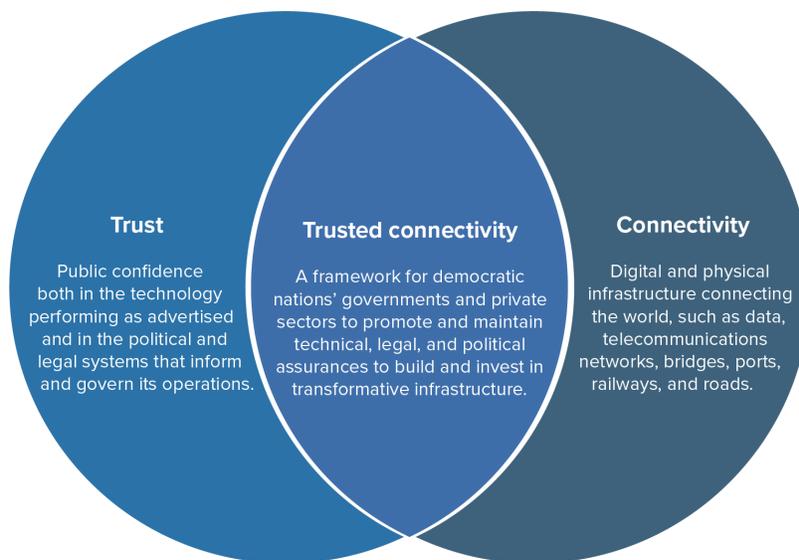
US President Joseph R. Biden, Jr., rallied the world's leading democracies behind this cause at the Group of Seven (G7) summit in June 2021 in Cornwall, England.¹ The G7 nations, comprising the world's leading free economies and free societies, proclaimed that, as they aim to meet global infrastructure demand, among other goals, their efforts will be guided by shared democratic values. For China, the standard-bearer of an alternate, illiberal model, infrastructure investment serves a different purpose: to increase China's global economic leverage for its political gain.² To prevail in this competition, advance their values, and develop much-needed digital and physical infrastructure, the world's leading democracies should adopt the principle of trusted connectivity.³

Defining trusted connectivity

During the author’s recent work at the US Agency for International Development (USAID) with US allies and partners on developing digital and physical infrastructure to counter exploitative Chinese efforts, a latent demand for greater trust in infrastructure was increasingly apparent.⁴ The right response to this trend is the concept of trusted connectivity.⁵

Breaking down the term, “connectivity” encompasses the various forms of digital and physical infrastructure connecting the world. “Trust” in this case refers to public confidence, not just in the connectivity and technology performing as advertised, but also in the political and legal systems that inform and govern their operations. Trusted connectivity stems from political and legal systems committed to individual rights and dignity, as well as free and open societies and markets, as opposed to autocratic systems and state capitalism or mercantilism.

Defining “trusted connectivity”



Trusted connectivity	Untrusted connectivity
<ul style="list-style-type: none"> • Free & Open • Transparent • Strengthen Sovereignty • Human Dignity & Fundamental Freedom • Market Driven • Rules Based 	<ul style="list-style-type: none"> • Controlled & Directed • Opaque • Degrade Sovereignty • Autocratic • Mercantilist • Authoritarian

Steps toward delivering trusted connectivity:



Trusted connectivity embodies two fundamental attributes, one of technical assurance and the other of legal and political assurance. The first ensures that the technology applied adheres to widely agreed approvals, principles, and standards for safety, security, and other social concerns. For example, the US Food and Drug Administration’s approvals of COVID-19 vaccines or the adoption by the International Telecommunication Union (ITU) of 5G standards provide confidence that those technologies are safe to use. The second attribute represents the legal and political systems that inform and govern the tools and technologies delivering connectivity. At its June summit, G7 and like-minded nations noted that their actions are “guided by our shared values of democracy, freedom, equality, the rule of law and respect for human rights.”⁶

These legal and political systems are a major point of divergence between democratic and authoritarian states. After the 2015 terrorist attack in San Bernardino, California, for example, US laws required the Federal Bureau of Investigation (FBI) to obtain a court order to compel Apple to access the iPhone of one of the domestic terrorists responsible for the attack; Apple was otherwise able to refuse the FBI’s request.⁷ In contrast, Chinese national laws demand unquestioning cooperation and obedience to the state by its citizens and companies. China’s 2017 National Intelligence Law requires that “[a]ny organization or citizen shall support, assist, and cooperate with state intelligence work in accordance with the law, and maintain the secrecy of all knowledge of state intelligence work.”⁸ Furthermore, “[n]etwork operators shall provide technical support and assistance to public security organs and national security organs.” China’s 2014 counterespionage law says that “when the state security organ investigates and understands the situation of espionage and collects relevant evidence, the relevant organizations and individuals shall provide it truthfully and may not refuse.”⁹ Businesses and individuals in China have little to no legal recourse to refuse the government when asked.

Concerns, reinforced by Chinese laws, that China may force its global companies to surveil customers and share their user data with the Chinese government have led a number of nations, from Australia to Romania to the United States, to exclude Huawei, China's leading telecommunications provider, from their national telecommunications network. The exclusion was either explicit in naming Huawei or implied by granting entry to only trusted vendors. These concerns have also accentuated calls for wider scrutiny across all major Chinese connectivity projects—from ports to public utilities—and technologies, exacerbated by the often total lack of transparency associated with those projects and technologies.

The concept of trusted connectivity offers a democratic alternative to China's offerings—one that can help build public trust in digital and physical infrastructure and technology connecting the globe.

Democracies need to deliver on global connectivity demand

“We have no option but China. Please offer us an alternative,” is a common refrain from public and private leaders of emerging nations in discussions with democracies about meeting their digital and physical infrastructure needs. Over the last two decades, the G7 and like-minded democratic nations, through their development assistance and economic engagement, have not appropriately prioritized the digital and physical infrastructure demands of emerging nations.¹⁰ During that same time span, Chinese state-backed enterprises have aggressively moved to invest in strategic sectors, including telecommunications, ports, energy, transport, and more, in China's priority geographical regions. Chinese cost advantages, coupled with state subsidies and strong state engagement, have often led to an uneven field for market competition, with few cost-viable alternatives to Chinese offerings.

In light of recent trends, the recognition by the G7's June summit of a global infrastructure demand of more than \$40 trillion, and collective commitment to catalyze billions of dollars to meet the unmet demand, represents a timely initiative.¹¹ In January, the European Parliament recognized that the “considerable economic potential between Europe, Asia and other continents remains untapped owing to lack of physical and digital infrastructure.”¹² In July, the Council of the European Union adopted the recommendations for a Globally Connected Europe, highlighting the need for the European Union (EU) to pursue a geostrategic and global approach to connectivity aided by a unifying brand and narrative.¹³

It is in the strategic national economic and security interests of the world's democracies to deliver on global connectivity demand. Annual global infrastructure demand ranges from about \$3 trillion to \$5 trillion based on global economic forecasts and the need to meet the United Nations' (UN) Sustainable Development Goals (SDGs).¹⁴ Additional investments needed to stimulate economic recovery from the COVID-19 pandemic and the urgent need to make national economies more climate-friendly will substantially add to this general annual assessment. Providing the infrastructure investment necessary to meet this demand, guided by trusted connectivity, will aid democracies in the fight against rising authoritarianism and allow them to take economic advantage of emerging technology markets.

COVID-19 has also substantially hastened the maturation of the global digital economy. The global digital market—the transformation of which has been fueled by mobile devices, apps, and cloud services—is expected to more than double between 2020 and 2025, from \$470 billion to \$1.01 trillion.¹⁵ About \$2.1 trillion of investment is required to reduce the global digital divide by half over the next five years.¹⁶ The financial technologies or Fintech market, which includes mobile payments, digital banking, insurance, wealth management, cryptocurrency, cross-border payment, etc., is projected to grow from \$111 billion in 2019 to \$158 billion in 2023.¹⁷ The subsea cable market is projected to grow from \$10.3 billion in 2019 to \$22 billion in 2025 and up to \$34.6 billion by 2027.¹⁸

Indonesia and India represent the two fastest digitizing nations among mature and emerging economies, with plenty more room to grow. India, in particular, represents one of the largest and fastest growing markets of digital customers, with more than 1.2 billion enrolled in the world’s largest unique-digital-identity program (Aadhar), a similar number of wireless phone users, and more than 560 million Internet users and counting.¹⁹

A cloud and edge computing revolution is underway, and its full range of economically and socially transformative impacts are not yet fully determined. The EU’s strategy toward a European Gigabit Society anticipates that “[w]ithin the next 10 years, up to 50 billion objects, from homes to cars and watches, are expected to be connected worldwide—the great majority of them wirelessly. Transformative solutions based on...connectivity—including cloud computing, Internet of Things, high performance computing, and big data analytics—will transform business processes and influence social interactions.”²⁰

We live in a connected world, and the rate of connectivity is accelerating exponentially.²¹ Increasingly, connectivity represents the neural network of the global economy, politics, and social exchanges. Citizens around the world are becoming increasingly integrated with one another through emerging digital and physical infrastructure—communicating, learning, exchanging ideas, and forging relationships. Consequently, it is of the utmost importance that the capabilities and delivery of global connectivity embody the public’s trust. Free World democracies need to band together to deliver connectivity that is informed by and advances universal values of human dignity, freedom, and the pursuit of happiness. Trusted connectivity represents the forward defense of democracies amidst resurgent authoritarianism and mercantilism.²²

Delivering on trusted connectivity

The United States, Europe, Indo-Pacific Quad (the United States, Australia, India, and Japan), and the Free World’s interests and values are closely entwined with the structure and trajectory of trusted connectivity around the globe. The Free World will need to draw upon its core strengths of entrepreneurship and innovation, fueled by the ingenuity of free markets and free societies, to meet the demand for trusted connectivity. Public policy across the Atlantic, Pacific, and Indian Oceans is converging to address the aspirations of trusted connectivity. There are strong, shared, and foundational transatlantic and Indo-Pacific interests in ensuring that trusted connectivity preserves the international rules-based order advancing free societies and free markets.

The G7, the Quad, and like-minded nations should undertake eight reinforcing, concerted actions to deliver trusted connectivity:

1. ***Expedite the execution of a US – Europe trusted connectivity agreement***
The EU has prioritized entering into a connectivity partnership with the United States. The United States’ Indo-Pacific Strategy and the EU’s Globally Connected Europe initiative share similar lines of efforts including energy, digital, infrastructure/transportation, and governance/people-to-people. The EU has already entered into connectivity agreements with two other Indo-Pacific Quad nations—Japan and India.²³

The US-Europe trusted connectivity agreement will have great import in both substance and symbolism for leading European and Indo-Pacific nations to convey a common cause in advancing trusted connectivity across the Atlantic, Indian, and Pacific Oceans. The US-EU Trade and Technology Council (TTC) presents an effective platform to coordinate and drive the execution of a US-Europe trusted connectivity agreement.²⁴

2. ***Forge Trusted Connectivity Partnerships*** with emerging economy nations: The G7, Quad, and like-minded nations should enter into trusted connectivity partnerships with all willing emerging nations to ensure the widest possible acceptance of the major tenets of trusted connectivity. Partnerships may be memorialized through joint statements, memoranda of understanding (MoUs), or similarly accepted means to convey shared values and interests underlying connectivity investments. Partnerships should convey enhanced public and private investments, technical assistance, and a variety of means to strengthen institutions in order to deliver trusted connectivity.

3. ***Increase and prioritize trusted connectivity investments*** in meeting global digital and physical infrastructure demand: The US Better Utilization of Investments Leading to Development (BUILD) Act, which established the US International Development Finance Corporation (DFC) with a \$60 billion annual investment capitalization, represents a step in the right direction.²⁵ The EU is in the process of establishing a similar investment facility. The Three Seas nations in Central and Eastern Europe have established a public/private investment fund of more than \$1 billion to improve connectivity across the region.²⁶

In addition to increasing investments for global connectivity, equal or greater dividends may be obtained by improved coordination and prioritization of existing resources and initiatives. US-coordinated actions across the DFC, Millennium Challenge Corporation, Export-Import Bank of the United States, USAID, and US Trade and Development Agency can mobilize more than \$100 billion in annual public investments to leverage substantially more private capital to meet global connectivity demand. Similarly, EU-coordinated actions across the European Investment Bank, European Bank for Reconstruction and Development, European Commission (EC) Directorate-General for International Partnerships, EC Directorate-General for Neighbourhood and Enlargement Negotiations, and any future investment facility can generate substantially more than €100 billion to leverage private investments.

It is imprudent for democracies with market economies to match public funds dollar for dollar with Chinese state capitalism. Instead, the democracies’ public investments should be directed to mobilize private investments in global

connectivity, where free market democracies hold advantage over China and other autocratic nations.

Individual and collective public investments by G7 and Quad nations, with improved coordination and prioritization, can mobilize \$500 billion to \$1 trillion, which can leverage four times as much private investment for global connectivity.

4. ***Brand and communicate existing public and private trusted connectivity investments*** in global digital and physical infrastructure: The G7, Quad, and like-minded nations should better brand and communicate the full range of public and private investments from their respective nations to facilitate global connectivity.

It is awkward and misleading to compare US, European, Japanese, and others' public funds to China's Belt and Road Initiative (BRI), which encompasses the whole of the Chinese party-state-directed economy. However, democratic nations already invest substantially. Japan is often the largest source of foreign direct investment in the nations comprising the Association of Southeast Asian Nations (ASEAN). One of the largest natural resource investments in Africa is the offshore natural gas project in Mozambique, developed by a French Total-led consortium. US tech giants Google, Amazon, Facebook, Microsoft are investing billions in cloud services and associated technologies across the globe.

A more complete and better communicated picture of Free World public and private investments in global connectivity will engender greater balance and confidence in democracies' ability to deliver global digital and physical infrastructure and render a more accurate and complete picture of investments by democracies and autocracies toward global connectivity.

5. ***Persuade the World Bank, International Finance Corporation, and regional development banks to adopt trusted connectivity*** tenets in increased digital and physical infrastructure investments: The G7, Quad, and like-minded nations should persuade the World Bank, International Finance Corporation, Asian Development Bank, African Development Bank, and Inter-American Development Bank to prioritize global connectivity investments through the trusted connectivity framework.

Democracies are the greatest contributors to these multilateral development banks. As such, these institutions should not only squarely reflect the democratic tenets of trusted connectivity in their investments, but their efforts should also be recognized as part of democracies' ability to deliver on global connectivity demand. The World Bank and its sister regional banks should prioritize investments in technologies and systems that are more transparent and originating from countries with legal systems that are more transparent and equitable, to ensure that these technologies and the systems that support them are "trusted." Ironically, autocratic and mercantilist China has on occasion been more effective at mobilizing investments from these institutions to its end than the world's democracies. It will be prudent for the World Bank's Moonshot Africa initiative for digital transformation of Africa's economy to embody the tenets of trusted connectivity. Similarly, it will be prudent for the Asian Development Bank to accord equal measure or more to non-China centric regional infrastructure initiatives, embracing trusted connectivity.

6. **Help nations better negotiate connectivity investments from China** and other autocratic nations: China will remain a force in global infrastructure development. It enjoys substantial comparative advantages deriving from infrastructure overcapacity, economies of scale, state subsidy, and aggressive state backing.

The G7, Quad, and like-minded nations should undertake a comprehensive coordinated effort to better prepare host nations to negotiate transparent and equitable terms for Chinese investments in global connectivity. This effort should include assisting host nations in enacting regulatory reform to ensure a level playing field for infrastructure investments and improving transparency and alleviating corruption in infrastructure procurement. The US Trade and Development Agency's (USTDA's) Global Procurement Initiative (GPI) toolkit offers tailored support to public officials in emerging markets to integrate life-cycle cost and best value determination in their procurement practices to ensure best value determination in a fair and transparent manner.²⁷

7. **Develop a trusted connectivity cybersecurity coalition** to facilitate a systemic resilient response to mitigate increasingly sophisticated malign cyber operations: A global economy with a high pace of digitization is increasingly vulnerable to malign cyber operations with widespread and devastating impact, as evidenced by the cases of Colonial Pipeline, SolarWinds, Microsoft Exchange, Kaseya, etc.²⁸Cyber risks and vulnerabilities in a fast-expanding digital economy necessitate a coordinated, systemic response from leading democracies that are committed to a free, open, and connected world.

The G7 and Quad, working with like-minded nations, should foster a trusted connectivity cybersecurity coalition to facilitate a shared understanding of cyber threats and vulnerabilities, and develop a coordinated set of measures for cyber resilience and security. The NATO Cooperative Cyber Defense Centre of Excellence and the new EU Cybersecurity Competence Centre and Network may coordinate with their counterparts to establish a trusted connectivity cybersecurity coalition for coordinated resilience and response to malign cyber operations.

8. **Develop a trusted connectivity data governance coalition** to foster complementarities in cross-border data flows and governance among like-minded nations: Data is the prime commodity of the digital age. Consequently, cross-border data flows define and drive the global digital economy and may be more critical to its success than even the free flow of capital and labor. However, rules governing the exchange of data across borders are still underdeveloped and more complex than those governing flows of capital and labor.

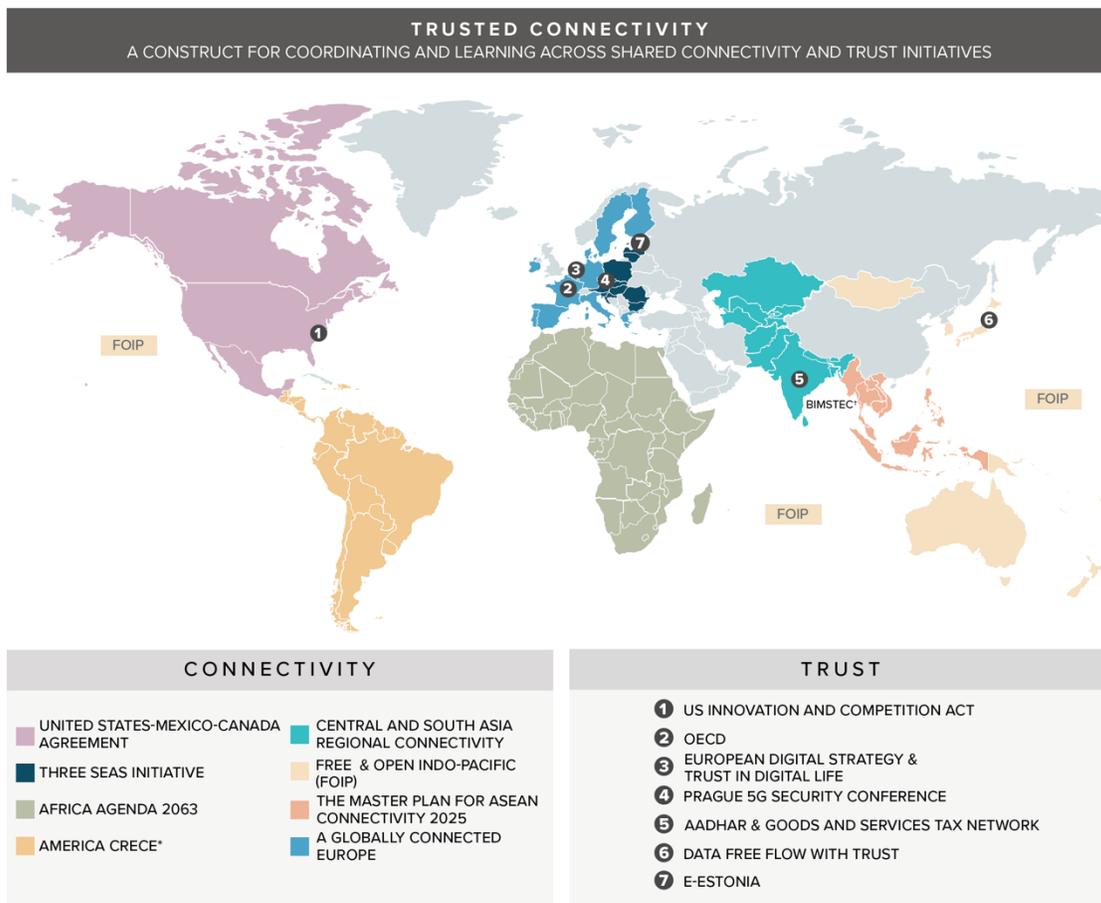
The G7, Quad, and like-minded nations, building upon their ongoing activities, may utilize a trusted connectivity framework to coordinate on a trusted data-sharing architecture between data providers and data users for a free, open, and connected world.

Trusted connectivity brings together ongoing connectivity and trust initiatives

Trusted connectivity offers a useful framework that binds together several similarly motivated, existing bilateral and regional connectivity and trust initiatives.

Connectivity

A wide range of connectivity initiatives span the globe to meet regional and global digital and physical infrastructure needs, in part to better position themselves to respond to China’s aggressive BRI and Digital Silk Road (DSR). Europe and Asia have been among the leaders in connectivity initiatives. These initiatives implicitly incorporate many precepts of trusted connectivity.



This is an illustrative, not exhaustive or exact, representation of select connectivity and trust initiatives

* The Biden administration has yet to announce a successor to America Crece
 † The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation

In 2019, the EU launched its Europe-Asia Connectivity Initiative, calling for sustainable, comprehensive, and rules-based transcontinental connectivity. The EU subsequently entered into Connectivity Partnerships with two Quad nations—Japan (2019) and India (2021).²⁹ In 2021, the EU expanded the scope of its connectivity initiative to cover all continents, with “better connectivity [that] would contribute to diversification of value

chains, reduce strategic dependencies, and boost competitiveness for the EU and its partners.”³⁰ Through its Globally Connected Europe initiative, the EU has set a geostrategic and global approach to connectivity with a unifying brand and narrative. The EU also emphasizes Connectivity Partnerships with like-minded countries and regions, with high priority to partnering with the United States and ASEAN nations. Importantly, the major lines of effort in Globally Connected Europe mirror that of the United States’ Indo-Pacific strategy: digital, energy, transportation/infrastructure, and people-to-people/governance.

The Three Seas Initiative (3SI), launched by twelve Central and Eastern European nations along the Baltic, Black, and Adriatic Seas, promotes digital and physical infrastructure across the region to better capitalize on growing Europe-Asia transcontinental connectivity. In 2020, 3SI embarked on Smart Connectivity to emphasize digital elements across regional infrastructure investments.³¹ The 3SI represents one of the more advanced regional connectivity initiatives by establishing a public/private Three Seas Initiative Investment Fund (3SIIF) of more than \$1 billion and identifying more than eighty priority connectivity projects.³² The Three Seas nations, given their experience with a neighboring, revanchist Russia as well as China’s aggressive overtures to Central and Eastern European nations as part of its 17+1 initiative, have already incorporated many of the precepts of trusted connectivity into the 3SI. These nations, given their strategic geography, high economic growth rates, and sectoral expertise in digital and energy, are well positioned to champion and execute trusted connectivity.

In July 2021, Uzbekistan hosted a “Central and South Asia: Regional Connectivity, Challenges and Opportunities” conference in its capital Tashkent. The conference was attended by the heads of state of the five Central Asian nations plus Afghanistan, Pakistan, and India. The conference sought to “strengthen connectivity between Central and South Asian regions via trade, transport and energy links.”³³ Concurrently, the Caucasian nations of Azerbaijan and Georgia are vying to utilize their geography to be key east-west connectivity hubs on the Caspian and Black Seas, respectively, and are eager to cooperate with the 3SI.

In 2016, ASEAN adopted the Master Plan on ASEAN Connectivity 2025 with the aim of achieving a “seamlessly and comprehensively connected ASEAN promoting competitiveness, inclusiveness and a great sense of community.”³⁴ The plan emphasizes five strategic areas including: sustainable infrastructure, digital innovation, seamless logistics, regulatory excellence, and people mobility.³⁵ It holds ASEAN connectivity that encompasses physical, institutional, and people-to-people linkages as integral to the region’s economic, politico-security, and socio-cultural development.

Adjoining ASEAN to the east is a subregional connectivity effort—the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)—comprising seven nations: Bangladesh, Bhutan, India, Nepal, Sri Lanka, Myanmar, and Thailand. BIMSTEC promotes regional connectivity and cooperation across fourteen sectors.³⁶ India leads the effort on the Transport and Communication working group and is actively pursuing an east-west transport corridor from India to Thailand and onward to Vietnam.

The African Union’s (AU’s) Agenda 2063, lays out a continental ambition to be a global powerhouse in large measure by improved connectivity across key sectors of transport, energy, digital, trade, financial markets, and others.³⁷ The AU and its regional bodies, including the East African Community (EAC), Southern African Development Community

(SADC), Economic Community of West African States (ECOWAS), and Common Market for Eastern and Southern Africa (COMESA), are actively seeking partners in realizing Agenda 2063.

In 2018, the United States launched the Growth in the Americas • América Crece initiative to mobilize private investments in infrastructure in Latin America and the Caribbean. The United States entered into agreements with eleven regional nations to improve regulatory frameworks and procurement structures in order to attract greater private capital and to meet regional connectivity needs. América Crece, initially focused on energy, expanded to include telecommunications, ports, roads, airports, etc.³⁸ The present US administration may either persist or replace it with a similarly motivated regional initiative.

The Quad nations' commitment to a Free and Open Indo-Pacific (FOIP) calls for free and open societies and markets across the nations of the Indian and Pacific Oceans. The Quad is committed to advancing FOIP through greater connectivity investments in energy, data, transport, fair and reciprocal trade, good governance, and open access to sea lanes while upholding fundamental freedoms and national sovereignty.³⁹ FOIP strengthens the rules-based international order of shared responsibility by responsible stakeholders. In many regards, FOIP personifies the main precepts of trusted connectivity.

Trust

Trust as a value appears with increasing regularity in the context of the digital economy and the use of data. Japan, as the host of the 2019 Group of Twenty (G20) summit, put forth the concept of Data Free Flow with Trust (DFFT or the Osaka Track).⁴⁰ The World Economic Forum further developed the concept through a multidimensional architecture for international cooperation on data flows involving governments and businesses.⁴¹ More than one hundred nations came together at the Prague 5G Security Conference in 2019 to call for “trusted vendors” in establishing 5G networks.⁴²

The EU holds trust and security as the core precepts of its European Digital Strategy. Trust in Digital Life (TDL), a European nongovernmental association with members and subject-matter experts from corporations, research institutions, and universities, is designed to promote trusted, reliable, and safe digital services in Europe and beyond.⁴³

Trust underpins the world's largest national biometric digital identity program—India's Aadhar—with more than 1.2 billion enrolled. Presently, more than 870 million bank accounts are linked to Aadhar.⁴⁴ India's ambitions for a world-leading digital economy are founded on Aadhar and its Goods and Service Tax Network (GSTN).⁴⁵ The future performance of these twin pillars of India's digital economy will depend in large measure on whether the general public trusts the system and its government oversight. Trust is also the foundation for e-estonia, one of the most advanced and comprehensive e-governance platforms enabling the government of Estonia to offer nearly 99% of its services online.⁴⁶

The World Bank, in an aptly named paper Unravelling Data's Gordian Knot: Enablers & Safeguards for Trusted Data Sharing in the New Economy, highlights the need for “the right mix of laws and policies, institutional arrangements, and technical architecture” as key to creating a trusted data-sharing environment between data providers and data users.⁴⁷

The Organization for Economic Co-operation and Development (OECD) boasts a rich body of ongoing work on trust in business and government.⁴⁸ The OECD Committee on Digital Economy Policy (CDEP) is undertaking an effort to develop a set of high-level principles on government access to personal data held by the private sector.⁴⁹ This effort is positively received by the business community as a necessary step in bolstering trust and minimizing disruptions in global data flows. Industry interest in predictable, trusted data transfer principles is easy to understand, given their value to global commerce. Data transfers are estimated to contribute \$2.8 trillion to global gross domestic product (GDP), with its value expected to grow to \$11 trillion by 2025.⁵⁰ About 75 percent of the value of data transfers is realized by traditional industries like agriculture, logistics, and manufacturing. With an anticipated 60 percent of global GDP digitized by 2022, disruptions in cross-border data flows are feared to cause broad reverberations at a time when economic recovery is at the top of the agenda for most governments.⁵¹ Forthcoming CDEP recommendations for trusted data transfer, upon broad agreement among member states, may serve as foundational principles for trusted connectivity.

The US Innovation and Competition Act of 2021, passed by the Senate and awaiting action in the House of Representatives, highlights the need for trust and security in digital technologies and connectivity.⁵²

Trusted connectivity offers a useful framework to facilitate common language, coherence, and synergies across the wide array of complementary connectivity and trust initiatives pursued by nations committed to free societies, free markets, fundamental freedoms, and human dignity. A shared organizing framework—trusted connectivity—catalyzes synergies and economies of scale in democracies' collective effort to meet global connectivity aspirations and demand. The coherence and consistency across trusted connectivity projects can be advanced further by a project-based ubiquitous certified brand of excellence—symbolized by a Blue Dot.

Establish the Blue Dot as the brand for individual trusted connectivity projects

Trusted connectivity as a useful framework for democracies delivering on global demand for digital and physical infrastructure can be manifested at the individual project level by a certification of excellence—the Blue Dot.

In November 2019, the United States, Japan, and Australia launched the Blue Dot Network (BDN)—named for the view of Earth from space as a pale “blue dot”—to encourage public-private investments in global connectivity by certifying high-quality transparent infrastructure projects.⁵³ About 40 percent of global infrastructure investment is inefficiently applied due to bottlenecks, lack of innovation, and market failures.⁵⁴ Additionally, the rise of investments by authoritarian countries like China has on occasion resulted in untenable national debt and loss of sovereignty, resulting in further erosion of investment confidence in infrastructure. By establishing shared best practices for infrastructure development, the BDN aims to build investor confidence and improve connectivity, strengthen the economy, increase employment opportunities, and contribute to a cleaner environment.

The BDN aims to streamline a coherent and consistent execution of a wide range of quality infrastructure principles and standards—including the G20 Principles for Quality Infrastructure Investment, Charlevoix G7 Summit Communiqué, the Equator Principles, and the OECD Policy Framework for Investment, among others—to ensure that trusted infrastructure investments are financially viable, environmentally resilient, and socially responsible.⁵⁵

Once it is established, the BDN will brand and certify infrastructure projects to distinguish those that are transparent, accountable, and secure from those that are not. BDN-certified projects will be transparent in their financing and meet high standards for construction, labor, and the environment. Most democratic countries, including many G7 members, already require these practices. The BDN's system incentivizes quality infrastructure investments in a way that is similar to other certification systems like the US Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system for buildings or fishery and forestry certifications. The BDN offers emerging countries an incentive to enact regulatory reforms that would then attract global private capital. For industry, the BDN makes loan guarantees available to mitigate risk and offers a certified seal of approval backed by each host country. As it aims to increase bankable infrastructure investments in emerging countries, the BDN can transform infrastructure into a powerful investment class driving trusted connectivity.⁵⁶

BDN-certified infrastructure projects represent the physical manifestation of trusted connectivity at the individual project level. The BDN personifies a fitting brand for this framework. The G7, Quad, and like-minded nations should undertake the following three concerted actions utilizing the BDN as the ubiquitous brand delivering trusted connectivity:

1. Widely embrace the terms and tenets of trusted connectivity and the BDN, including transparency above all, as the organizing framework and brand of democracies' response to global demand for digital and physical infrastructure.
2. Prioritize the BDN in consort with the Coalition for Disaster Resilient Infrastructure (CDRI) as implementing platforms to incorporate robust practicable climate considerations as available in applying the G20 Principles for Quality Infrastructure Investment.⁵⁷
3. Prioritize establishing an interim BDN secretariat at the OECD or at a credible alternate institution to coordinate and develop the operational guidelines for BDN certification and branding.

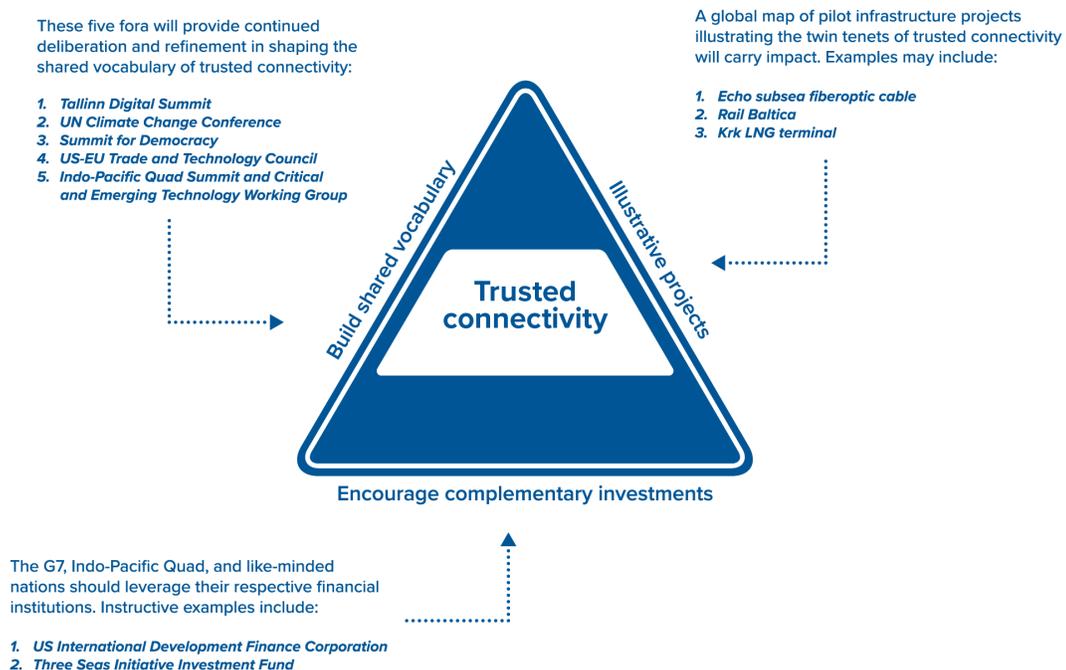
Advancing trusted connectivity via shared vocabulary, complementary investments, and illustrative projects

For the G7 to address the global infrastructure gap of trillions of dollars under the rubric of its Build Back Better for the World (B3W) initiative, a common language and terms of reference are needed to organize and make sense of the sundry initiatives championed by like-minded nations committed to free societies and free markets. Trusted connectivity offers just such an organizing framework, as well as shared terms of reference to enable

coherence and complementarity across a range of initiatives directed by democratic nations to meet growing global infrastructure demands. Trusted connectivity affords democratic partners the ability to share a common language in order to coordinate their infrastructure initiatives, in contrast to digital authoritarianism and coercive capital investments in infrastructure by autocratic nations such as China, Russia, and others.

In addition to the recommendations above, the G7, Quad, and like-minded nations should undertake three reinforcing lines of effort to advance trusted connectivity as democracies' response to global demand for infrastructure by developing shared vocabulary, complementary investments, and illustrative projects.

A path forward for trusted connectivity



1. Shared vocabulary

Trusted connectivity as an organic framework derived from existing initiatives would greatly benefit from continued deliberation and refinement in shaping its shared vocabulary. Five upcoming and standing fora offer fitting platforms for continued discussion and refinement of trusted connectivity as democracies' response to global infrastructure needs:

1. **Tallinn Digital Summit.** Estonia, which has prioritized e-governance trusted by its citizens, hosts an annual Tallinn Digital Summit designed to drive the conversation among leading nations on the digitization of the global economy. Trusted connectivity is the theme of the September 2021 summit. Subsequent Tallinn summits offer a standing platform to refine trusted connectivity as a practical framework.

2. ***UN Climate Change Conference of the Parties.*** The UK will host the UN Climate Change Conference of the Parties (COP26) in Glasgow in November 2021 to bring parties together to accelerate actions toward the goals of the UN Framework Convention on Climate Change (UNFCCC). Building resilient infrastructure and unleashing trillions of dollars in private and public sector finance to secure global net-zero carbon emissions are some of its stated goals. Trusted connectivity offers a framework for the world’s democracies to meet global infrastructure demand while securing the global net-zero goal. The BDN, as the brand of trusted connectivity and in consort with the CDRI, offers a practical platform to ensure COP26 goals are reflected in certified quality resilient infrastructure investments. Trusted connectivity will be a timely topic of discussion at the proposed Future Tech Forum at the upcoming COP26.
3. ***Summit for Democracy.***⁵⁸ Biden is scheduled to hold a Summit for Democracy in December 2021. The summit’s aim is to revitalize democracy and reaffirm that it works in improving people’s lives in tangible ways. The summit is supposed to kick off a year of action in making democracy more responsive and resilient on the issues that matter most to people. Trusted connectivity is an important manifestation of democracy’s ability to deliver on global aspirations and demand for digital and physical infrastructure while meeting SDGs and climate goals.
4. ***US-EU Trade & Technology Council.*** In June 2021, the United States and EU launched the Trade & Technology Council (TTC) as a high-level forum for improved transatlantic coordination on global trade, economy, and technology based on shared democratic values.⁵⁹ The EU celebrated the TTC to lead a values-based global digital transformation.⁶⁰ EU Executive Vice President and Trade Commissioner Valdis Dombrovskis welcomed the TTC to “work together to ensure that trade and technology serve our societies and economies, while upholding our common values...strengthen our technological and industry leadership...address unfair competition and the misuse of new technologies.”⁶¹

The TTC commits the United States and EU to work together “to ensure safe, secure, and trusted cross-border data flows that protect consumers and enhance privacy protections while enabling commerce.”⁶² The TTC’s initial focus areas include “technology standards cooperation (including on AI [artificial intelligence], Internet of Things [IoT], among other emerging technologies), climate and green tech, ICT security and competitiveness, data governance and technology platforms, the misuse of technology threatening security and human rights, export controls, investment screening” and more.⁶³ Trusted connectivity incorporates large swaths of enumerated areas to strengthen US-EU “global cooperation on technology, digital issues and supply chains.”⁶⁴ The TTC offers a fitting standing forum for the United States and EU to develop and refine a shared vocabulary and terms of reference for trusted connectivity based on their collective democratic values, market economy interests, and adherence to human-centered global digitization and connectivity.

5. ***Indo-Pacific Quad Summit and Critical and Emerging Technology Working Group.***⁶⁵ On March 12, 2021, at the first leader-level Quad summit, Australia, India, Japan, and the United States reaffirmed their commitment and shared values for a free and open Indo-Pacific and pledged strengthened cooperation on the defining challenges of the time. The leaders also pledged to hold an in-person leaders’

summit in 2021. Quad leaders initiated “cooperation on the critical technologies of the future to ensure that innovation is consistent with a region that is free, open, inclusive, healthy, anchored in democratic values, and unconstrained by coercion.”⁶⁶ Toward that goal, the Quad Critical and Emerging Technology Working Group (QCET) was established as a forum to develop a statement of principles on technology design, development, and usage; coordinate technology standards development; “encourage cooperation on telecommunications deployment, diversification of equipment suppliers, and future telecommunications”; “monitor trends and opportunities related to developments in critical and emerging technology, including biotechnology”; and convene dialogues on critical technology supply chains.⁶⁷ The planned Quad Leaders’ summit and QCET offer a timely platform to harmonize the tenets and terms of reference for trusted connectivity and the BDN in sustaining a free and open Indo-Pacific anchored in democratic values and devoid of coercion. The QCET, like the TTC and the Tallinn Digital Summit, may serve as a standing platform for sustained promotion and refinement of trusted connectivity. It is important to note that trusted connectivity as an organizing framework builds upon and incorporates the BDN launched by Australia, Japan, and United States, and the CDRI by India.

Additional efforts should be undertaken for wide adoption of trusted connectivity as a preferred approach in meeting the goals of the Master Plan on ASEAN Connectivity 2025 and the AU’s Agenda 2063.

The OECD can play a constructive role in propagating consistent definitions, terms of reference, principles, and standards associated with trusted connectivity. This builds on the OECD’s ongoing work on the BDN and the earlier mentioned CDEP initiative to develop a set of high-level trust principles on government access to personal data held by the private sector.

2. Complementary investments

One of the most impactful actions in executing trusted connectivity to demonstrate democracies’ ability to deliver on global infrastructure demand is for the G7, Quad, and like-minded nations to encourage complementary investments through their respective financial institutions. Clear and predictable modalities for complementary and joint investments to advance trusted connectivity should be developed with due urgency. In the absence of such modalities, the laudatory goals of collective actions by the G7’s B3W initiative, US-EU TTC, QCET, and others may largely remain aspirational.

The US DFC and 3SIIF offer instructive examples of complementary investments. The DFC, for example, prefers but does not require US companies to be involved in its projects, as evidenced by the Vodafone-Sumitomo telecom partnership in Ethiopia.⁶⁸ The 3SIIF, registered in Luxembourg and managed by the independent Amber Infrastructure Group, has secured €1.2 billion of its target of €5 billion pooled public private funds to invest in regional high-priority, large-scale infrastructure projects based on their market assessments. The 3SIIF in its construct and execution offers an instructive model of public-private investment in high-quality infrastructure.⁶⁹

In translating concepts to results, G7 members, the Quad nations, and other leading democracies may utilize new platforms such as the TTC, QCET, and others to develop

agreed modalities for coordinated and complementary investments through their respective finance institutions to be able to leverage each other's private capital.

3. Illustrative projects

A dynamic global map of key infrastructure projects illustrating the twin tenets of trusted connectivity will be impactful in demonstrating the tangible application of a free, open, and connected world. Illustrative trusted connectivity projects need to earn public trust and exemplify transparency for the world to have renewed confidence in democracy's ability to address the global infrastructure gap recognized at the recent G7 summit. In effect, these illustrative projects represent the pilot candidates in developing the criteria and modalities for Blue Dot certification.

The G7, Quad, and like-minded nations should urgently identify and publicize illustrative projects that embody trusted connectivity. Some examples may include the Echo subsea fiber-optic cable connecting California to Singapore and Indonesia with a spur to Guam; Rail Baltica, a rail infrastructure project connecting the Baltic states to the main European rail network; and the Krk LNG terminal in Croatia, which will contribute to the security and diversification of natural-gas supplies to Central and Southeastern Europe.⁷⁰

Democracies' enduring resilience: Build Back Better for the World through trusted connectivity

Infrastructure gains in the twenty-first century across Asia, Africa, and Central and South America will result in the level of connectivity seen today in Europe and North America. Economic and demographic forces, like increasing trade and population growth, will drive closer connections along land routes between Hanoi, Vietnam, and Hamburg, Germany; between Lagos, Nigeria, and Johannesburg, South Africa; and between Buenos Aires, Argentina, and Bogotá, Colombia. If properly developed, new, greener infrastructure will improve the global environment while contributing to global prosperity. Trusted connectivity offers a framework for achieving this goal in a manner consistent with fundamental freedoms, human dignity, free societies, and free markets embedded in the rules-based international order.

Global aspirations for the twenty-first century connectivity mentioned above have to accommodate two major global phenomena: economic recovery from the COVID-19 pandemic and climate change. The G7's B3W initiative aspires for a better connected and greener world rising from COVID-19 economic recovery. The B3W initiative represents the commitment of the world's richest democracies to addressing a global infrastructure gap currently in the trillions of dollars. To reaffirm that democracy, and not autocracy, lights the best path forward for peace and prosperity, it is imperative that G7 nations are able to demonstrate a credible impact in addressing the global infrastructure gap as pledged. The B3W initiative builds upon similarly motivated earlier initiatives like FOIP, Europe-Asia connectivity initiative, 3SI, BDN, and others, and it will require collective action across all similarly situated initiatives to meet the infrastructure gap. Trusted connectivity offers the necessary framework to foster coherence and synergies across democracies' multifaceted responses to bridge that gap.

The two often overlooked best proponents of trusted connectivity are the EU and the United States-Mexico-Canada Agreement (USMCA), initially called the North American Free Trade Agreement (NAFTA). Though they both benefit from continual renewal, the EU and USMCA still represent the gold standard of trusted connectivity in facilitating the movement of goods, services, capital, and people across a free, open, and connected region. The EU and USMCA hold the blueprint for trusted connectivity for the rest of the world, anchored in democratic values of human dignity, fundamental freedoms, free societies, and free economies.

COVID-19, climate change, and China have propelled the Free World to reaffirm and reenergize its investments to meet global aspirations for a more connected, prosperous, and resilient world. The B3W initiative represents the newest and most ambitious of Free World initiatives to bridge the infrastructure gap of a world hungry for improved connectivity. More such initiatives and efforts will surely follow. The experience and example of the USMCA, EU, and Quad, and G7 resolutely demonstrate democracies' ability to deliver high-quality connectivity across all major sectors of the global economy. The challenge for democracies is to deliver similar levels of connectivity to less privileged regions of the world. Trusted connectivity offers a framework for like-minded nations to coordinate across complementary initiatives to collectively deliver on the promise of democracies to meet the pressing needs of the times.

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Tallinn
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