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KOREA-U.S. INTERNATIONAL EXCHANGE AND COOPERATION IN TECH DIPLOMACY

TECH DIPLOMACY: TECH COMPANIES AS POWER BROKERS IN THE DIGITAL AGE

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The information war began without a shot fired.

Digital munitions are free and can quickly and easily erode the fabric of society. State-sponsored campaigns to manipulate politics and even incite genocide have crossed the divide between the physical world and the digital world, with tech giants unwilling to protect their users in order to turn a profit. As we've seen with Facebook's influence on elections, the past decade has shown us that technology can

disrupt democracies. It can also allow authoritarian governments to expand the control they already have on their citizens, as we've seen in China with facial recognition in Xinjiang. The economic and political influence alone of the largest American tech companies eclipses that of many countries; hence, why such companies are sometimes referred to as "net states." Moreover, the power within these companies

is held by a handful of the tech elite who have the ability to wield profound influence on our global society. As the information war trudges on and tech companies fail to hold back the flood of disinformation from the enemy, discourse with large, influential tech companies – big tech – can no longer be viewed as optional for diplomats, but as a necessity.

THE RISE OF TECH DIPLOMACY

During the peak of techno-optimism in the early 2010s, market-driven self-regulation was the norm. Internet and technology companies were kept at arm's length from the government and were trusted to uphold democratic values and promote a safe space for all. But the tech companies held a "growth at all costs" mindset. Caution fell by the wayside. A profit-maximizing imperative reigned, forcing society to ineptly reckon with the aftermath.

In 2017, an Uber employee published a blog about the company's culture of sexual harassment, which leadership was aware of, but failed to address.¹ In 2018, a driverless vehicle owned by Uber struck and killed a pedestrian in Arizona.² That same year, Cambridge Analytica was exposed for their interference in the political processes of the United States (U.S.) and the United Kingdom (U.K.) by leveraging user data of Meta (known as Facebook at the time) members.³ Society quickly realized what happens on the internet, doesn't stay on the internet. Then, the tech-lash began.

Europe introduced General Data Protection Regulation, or GDPR, to allow citizens more control over the personal data that private companies can legally collect and retain. Internet and technology companies were hauled before Congress to account for their wrongdoings. Policymakers threatened to break up big tech.

It was around this time that a handful of countries understood that there was an opportunity to develop a new kind of literacy within government and within the tech ecosystem to better understand each other. Silicon Valley, traditionally seen as the global hub of technology and innovation, is not historically seen as a policy hub, but given the influence of tech on domestic and international politics, it should be considered one. Countries increased their diplomatic presence in Silicon Valley – nestled in the San Francisco Bay Area of California – to better engage in dialogue with net states, the same way that they would engage with other nation-states. In 2017, Denmark appointed the first-ever Tech Ambassador,⁴ abandoning the traditional mandate of consulates in San Francisco by prioritizing democracy, responsibility, and security as objectives, instead of political and economic wins. Other countries soon established a similar role within their own government. The rise of the tech ambassador was heralded as a new form of diplomacy, dubbed tech diplomacy or "techplomacy." But what is tech diplomacy?

¹Fowler, S. (2020, February 17). *I Spoke Out Against Sexual Harassment at Uber. The Aftermath Was More Terrifying Than Anything I Faced Before.* TIME. Retrieved May 26, 2022, from <https://www.time.com/5784464/susan-fowler-book-uber-sexual-harassment/>

²Wakabayashi, D. (2018, March 19). *Self-Driving Uber Car Kills Pedestrian In Arizona, Where Robots Roam.* The New York Times. Retrieved May 26, 2022, from <https://www.nytimes.com/2018/03/19/technology/uber-driverless-fatality.html>

³Chang, A. (2018, March 23). *The Facebook and Cambridge Analytica scandal, explained with a simple diagram.* Vox. Retrieved May 26, 2022, from <https://www.vox.com/policy-and-politics/2018/3/23/17151916/facebook-cambridge-analytica-trump-diagram>

⁴Baugh, P. (2017, July 25). *'Techplomacy': Denmark's ambassador to Silicon Valley.* POLITICO. Retrieved May 26, 2022, from <https://www.politico.eu/article/denmark-silicon-valley-tech-ambassador-casper-klynge/>

DEFINING TECH DIPLOMACY

Tech diplomacy is a nascent form of diplomacy, and the field has yet to be defined. Before 2017, technology-related foreign policy was dominated by state-centrism, with a focus on national security and economic relations. As tech diplomacy has evolved, the private sector and civil society are now seen as actors in the field.

The term tech diplomacy embodies a multitude of concepts which encompass the ways that nation-states deploy their resources to engage with the technology sector. Accordingly, tech diplomacy cannot be characterized by a single definition.

There are three definitions that describe the scope of tech diplomacy:

1. Diplomacy for Tech:

Diplomacy that facilitates international cooperation in order to advance technology and innovation. Example: Quad governments (Australia, Japan, India, and the U.S.) jointly facilitate enabling environments for 5G, or fifth-generation technology standard for broadband cellular networks, diversification, including with efforts related to testing and test facilities.

2. Tech for Diplomacy:

Technological cooperation can improve international relations. Example: The European Union (EU)-India Trade and Technology Council launched in 2022.

3. Diplomacy with Tech (“Tech Diplomacy”):

Governments engage with tech companies and civil society in a multi-stakeholder approach to safeguard responsible policies and regulations that support democratic values, human rights, and ensure a safe technological future for all.

Parallel tracks of diplomacy

There are parallel tracks of tech diplomacy which are cyber diplomacy, digital diplomacy, and science diplomacy.

- Cyber diplomacy is the use of diplomatic tools to achieve a nation’s strategic objectives in cyberspace. Many countries map out their cyber diplomacy objectives in a national cybersecurity strategy. While there is significant overlap between cyber diplomacy and tech diplomacy, cyber diplomacy has traditionally referenced state-level engagement; however, an increasingly multilateral approach has been taking shape as the private sector and nonprofits have become more

involved in state-level dialogue on cybersecurity.

- Digital diplomacy refers to the broad use of technology in diplomatic operations, such as virtual events for public engagement or online communication between nation-states. Digital diplomacy allows nations to increase their engagement with the wider community while disseminating information quicker and more cost-effectively.
- Science diplomacy and tech diplomacy share a few similarities, such as using science or technology to improve international relations and international collaborations improving diplomatic ties. However, the target audience differs; tech diplomacy focuses on relationships with big tech while science diplomacy focuses on relationships between nation-states.

What does a tech diplomat do?

Tech diplomats have many different titles such as Tech Envoy or Tech Ambassador, for example. These are not legal terms but rather a brand or a statement that signal a country’s approach to tech diplomacy. A tech diplomat strengthens the influence of a country in the governance of the internet and new technologies, seeking to ensure that company statements about ethics, human rights, and responsible innovation are not mere window dressing. The tech diplomat serves as a channel of communication between their country and the tech industry, while gathering intelligence to develop anticipatory situational awareness in emerging technologies, such as artificial intelligence (AI) or autonomous vehicles.

Foreign ministries need to invest in capacity-building and increased representation in strategic innovation hubs. There are many governments present in San Francisco, but there is a lack of resources to engage with the tech industry on digital governance and responsible innovation issues, as most consulates and government representations leverage their resources to focus on investment and trade.

What kind of private sector capacity is required?

Increasingly, tech companies establish and expand government relations structures –often at the executive level– to shape regulatory frameworks, international norms, implement human rights, and to respond to geopolitical challenges. There is an opportunity to empower big tech firms that play a substantial role in geopolitics by promoting them to Permanent Observer Status at the United Nations (U.N.), giving them a seat at the global table. Additionally, fast-growing medium-sized companies should invest in tech diplomacy and increase their resources to engage with foreign governments that are concerned about digital governance issues and responsible innovation. Companies working on sectors such as emerging technologies could invest in tech diplomacy in order to ensure that their technology is developed in an ethical and responsible manner.



CURRENT STATE OF TECH DIPLOMACY IN THE U.S.

SILICON VALLEY

Silicon Valley is the birthplace of tech diplomacy. As in many other large American cities, a number of foreign governments have offices in San Francisco and the Bay Area with a range of representations including traditional consulates-general, innovation centers, trade and investment bureaus, and honorary consuls. Since 2017, the tech-diplomatic landscape has evolved. There are now a number of governments who have sent tech diplomats to engage with the Silicon Valley ecosystem. Similarly, there are traditional consuls-general who take on the role of a tech diplomat or tech envoy, such as the Canadian Consul-General.

EUROPEAN ECONOMIC AREA (EEA) COUNTRIES

Denmark

The pioneer in this space is the Danish Tech Diplomacy team. The office is led by the Danish Tech Ambassador who has a global mandate, and is supported by teams in Silicon Valley, Copenhagen, and Beijing. The Silicon Valley-based team has 7.5 staff members – 1 ambassador, 0.5 deputy ambassador, 4 senior advisors and 2 interns – with a support team based in Copenhagen. According to the Strategy for Denmark's Tech Diplomacy,⁵ Denmark's tech diplomacy is conducted globally through six defined roles:

- **Representative** of the Danish Government and central administration in relation to the global tech industry, with a focus on accountable and critical dialogue;
- **Adviser** who collects and brings home knowledge about technological developments, supports innovation and ensures technology issues remain high on the foreign and security policy agenda;
- **Convener and Coalition Builder** with global stakeholders, including other countries, companies, business organizations, multilateral organizations, and civil society;
- **Contributor** of expertise and insight to the Danish public debate on technological development and the influence of the tech industry;
- **Policy Developer**, who, through a collection of knowledge and international perspectives on technological development, contributes to Danish solutions to global challenges; and
- **Global Champion** who brings attention to Denmark as a digital pioneer and contributes to Danish tech exports and foreign investment in Denmark.

⁵Ministry of Foreign Affairs of Denmark. Office of Denmark's Tech Ambassador. (n.d). *Office of Denmark's Tech Ambassador*. Retrieved May 26, 2022, from <https://techamb.um.dk>

Their main priorities include promoting tech for democracy, responsible tech development, and cybersecurity. When the Office of Denmark's Tech Ambassador launched in 2017, their initial objectives included building relationships and networkings, intelligence gathering, and understanding the challenges that exist as a diplomat in Silicon Valley. When the Danes began their outreach in the Bay Area, the role of tech diplomats became less clear and the tech industry was unsure of how to engage and would often send the Danish tech diplomacy team to meet with the company's Danish office. When it comes to diplomatic meetings, it is understood that government officials will have to meet with diplomats, as there is an understanding of reciprocity diplomacy in which favors or benefits that are granted to one state should be returned in kind. With the tech industry, there is no reciprocity and therefore it was not necessarily required to accept meetings with a tech ambassador. However, over time, and with the addition of more tech ambassadors and envoys, there is now an understanding of the responsibilities of these offices. While there are still challenges to securing meetings, it is becoming less difficult to engage in dialogue with the tech companies.

In November 2021, the Danish team launched a Tech for Democracy Conference which was held in Copenhagen, one month before U.S. President Biden's Action Year for Democracy. The goal of the conference was to launch a multi-stakeholder push for protecting and promoting democracy and human rights in an era of rapid technological development. Additional work in tech for democracy has been spurred by the 2022 Ukraine crisis. The Danish tech diplomacy team organized a roundtable with Ukrainian government officials and civil society to discuss countermeasures to state-sponsored disinformation from Russia. The Danes have a Senior Advisor for Security who looks at key trends in disinformation, how threats are evolving, and what countermeasures tech companies are adopting. The Danish tech diplomacy team is in constant communication with big tech about how the tech industry meets its societal responsibility and operates in accordance with our democratic principles. It is crucial discussions like these which help shape companies' internal policies and can have widespread impact on a free and open internet.

The Danish Tech Ambassador, in collaboration with the Australian Ambassador for Cyber Affairs and Critical Technology, have co-chaired the Cyber and Tech Retreat (the Retreat) since 2019. The Retreat is a series of high-level, closed-door meetings which gather governments, industry leaders, and tech companies to address opportunities and challenges arising from the impact of digital technology on society. The group of cyber and tech diplomats have committed to:

- Fostering a greater and more nuanced understanding of how technologies impact our societies, international affairs, international security, and the global balance of power;
- Strengthening coordination and cooperation to build a common voice and ensure that the use of technology reflects shared values and interests; and
- Engaging constructively with tech companies, recognizing that collaboration between industry and governments is paramount to addressing the challenges of the 21st century.

The retreat convenes annually for an in-person retreat, intersessionally for virtual check-ins, and ad-hoc virtual check-ins for unexpected developments or emerging issues.

Austria

Open Austria is the official Austrian government representation in San Francisco and Silicon Valley. Open Austria attempts at engaging the private sector in Silicon Valley to educate, advocate, and find common ground for safeguarding human rights both online and offline. The previous Austrian Tech Ambassador launched the Tech Diplomacy Playground, which brings together like-minded tech diplomats in Silicon Valley to discuss best Tech Diplomacy practices and engage with the private sector. The Tech Diplomacy Playground initiative was launched in 2021, and is now co-led by the Norwegian Consulate-General in San Francisco. In addition to this initiative, Austria spearheaded the Freedom Online Coalition (FOC) Silicon Valley (SV) Working Group, which brings together members of the FOC with the global technology sector, whose products or services potentially impact human rights. The FOC operates as a forum

for open and honest discussion between tech companies and member governments on internet governance issues. By providing an avenue for continuous private sector engagement with FOC governments, the working group strengthens opportunities for collaboration on the protection of internet freedom and enables tangible outcomes. There are a number of activities that the FOC SV Working Group is involved in, such as:

- Bringing an international affairs perspective to the private sector and raising awareness of the rising threat of digital authoritarianism on human rights;
- Raising awareness about U.N. Guiding Principles on Business and Human rights;
- Learning about how frontier technologies might threaten human rights online, improving literacy for Silicon Valley and FOC governments on human rights-centered tech policy issues and highlight activities in the human

rights field;

- Improving information flows and transparency between big tech in Silicon Valley and home governments as well as the multilateral community;
- Sharing best practices on how to effectively engage with the global technology sector on FOC issues;
- Reporting on developments in Silicon Valley that may impact human rights to FOC members; and
- Identifying notable networks in Silicon Valley for FOC engagement.⁶

The FOC Silicon Valley Working Group is now led by the Canadian Consulate-General in San Francisco.

⁶Freedom Online Coalition. (2022, January 12). *Silicon Valley Working Group*. Retrieved May 26, 2022, from http://www.freedomonlinecoalition.com/task_forces_and_wg/silicon-valley-working-group/

Norway

The Royal Norwegian Consulate-General is also a key player in the ecosystem and co-chair of the Tech Diplomacy Playground. The Norwegian Consul-General acts as a tech diplomat and works with a Tech Diplomacy Advisor to create a dialogue with tech companies in order to understand the implications on policy and regulation. They have three main axes of focus: climate, security, and human rights. The Tech Diplomacy Advisor also hosts a podcast called “Tech Diplomacy.”

Netherlands

The Netherlands has a diplomatic presence in San Francisco through a consulate and the Netherlands Innovation Network (NIN). The NIN stimulates international cooperation for companies, research institutes and public authorities in the fields of innovation, technology, and science.⁷ The NIN engages in tech diplomacy by discussing issues such as governance, misinformation, disinformation, policy, and responsibility with big tech. In addition to tech diplomacy, the Netherlands engages in science diplomacy and economic diplomacy, facilitating international collaborations in research and innovation, and promoting trade and investment.

⁷Ministerie van Buitenlandse Zaken. (2021, March 24). *Netherlands Innovation Network, San Francisco*. Retrieved May 26, 2022, from <https://www.netherlandsandyou.nl/your-country-and-the-netherlands/united-states/about-us/consulate-general-in-san-francisco-who-are-we/netherlands-innovation-network>

OTHER EEA COUNTRIES

There are many other EEA countries that have consulates in San Francisco including, but not limited to, Estonia, France, Germany, Ireland, and Italy. These consulates have traditional diplomatic mandates, with a focus on political, economic, scientific, and cultural promotion. Germany plays a role within the Tech Diplomacy Playground and has hosted events for the group in the past. The German Tech Accelerator recently opened a Silicon Valley office in Palo Alto, California and helps German startups successfully enter the U.S. market. France also engages in tech diplomacy, having recently engaged with Meta to discuss the opportunities and challenges of the Metaverse. In addition to the consulate, France operates the New Technology Venture Accelerator, supported by the Office for Science and Technology of the Embassy of France in the U.S. It provides support, market analysis, and also helps innovative French startups build new partnerships with the U.S. tech ecosystem. Ireland's Consul General in San Francisco also acts as a tech diplomat and the newly-opened Ireland House will physically host the incoming European Union (EU) delegation in September of 2022. Italy recently opened a National Centre for Innovation and Culture in San Francisco, that brings together two Italian government Agencies (the Institute of Culture and the Italian Trade Agency) and the new Innovation Centre. The Centre boasts a startup bootcamp, office space for Italian companies, and a mentor network who can be tapped when companies are looking to gain greater understanding of the Bay Area innovation ecosystem.

It is important to understand the context in which countries from EEA are operating. GDPR came into effect in 2018 and tech companies have been grappling with issues of compliance ever since. The top three largest fines for GDPR non-compliance have been assessed on American tech companies, with Amazon, Meta, and Alphabet accused of not handling user data properly. In a March 2022 study by CYTRIO, a software as a service data privacy rights management platform, 95 percent of American tech companies were found to be non-GDPR compliant.⁸ When EEA tech diplomats attempt to engage with tech companies, their intentions can sometimes be unclear. As big tech is wary of regulation that could put a dent in their profits, they could see an

approach by a foreign government as an attempt to influence their internal policies and, therefore, decide to decline a meeting or even redirect them to the company's office in the diplomat's home country. National public policy officers far away from Silicon Valley headquarters are often disempowered within the company hierarchy and therefore it is not as beneficial to meet with a company in a diplomat's home country.

There are impending new digital rules such as the Digital Services Act (DSA) and the Digital Markets Act (DMA) that will also complicate the relationship between EEA countries and tech companies. The DSA targets illegal content regulation and data transparency. Through the DSA, the EU wields its soft power through regulation, asserting jurisdiction over companies based outside the EU that direct activities to the EU. The DMA is a competition policy that predominantly targets large U.S. tech firms and will create more opportunities for European tech companies to scale and become globally competitive.⁹ When these acts come into effect in 2024, tech will face a reckoning and be forced to learn how to comply with legislation that upholds antitrust laws and information integrity. As diplomats in the Bay Area continue dialogue with the private sector, these imminent regulations will be front-of-mind, particularly for a recently announced diplomatic appointment from the EU which will be opening a new office in September 2022, as tech companies might see this appointment as a way to further regulate their platforms.

⁹Broadbent, M. (2022, April 29). *Implications of the Digital Markets Act For Transatlantic Cooperation*. Center for Strategic and International Studies. Retrieved May 26, 2022, from <https://www.csis.org/analysis/implications-digital-markets-act-transatlantic-cooperation>

¹⁰Freedom Online Coalition. (2022, January 31). *Canada assumes Chairship of the Freedom Online Coalition*. Retrieved May 26, 2022, from <http://www.freedomonlinecoalition.com/canada-assumes-chairship-of-the-freedom-online-coalition/>

⁸Raj, A. (2022, May 2). *95% of American companies not GDPR compliant*. Tech HQ. Retrieved May 26, 2022, from <https://techhq.com/2022/05/95-of-american-companies-not-gdpr-compliant/>

NON-EEA COUNTRIES

There are other non-EEA governments that are deeply involved in tech diplomacy in Silicon Valley which include, but are not limited to, Brazil, Canada, Switzerland, and the U.K.. Canada is also involved in tech diplomacy and holds the chairship of the FOC. Canada's Chairship of the FOC will be guided by a shared vision of democracy in the digital age, namely digital inclusion: informed and engaged publics that can participate meaningfully in society, both online and offline. The FOC will work to advance digital inclusion globally, with a focus on promoting connectivity, digital literacy, civic participation, and safety for everyone in the online ecosystem. The FOC will advance digital inclusion by shaping global norms and expanding diplomatic networks, promoting multi-stakeholder engagement, and ramping up advocacy, communication and outreach.¹⁰ The Canadian Consul General also hosts a tech diplomacy podcast called "Confluence." Switzerland's Consul-General similarly serves as a tech envoy to Silicon Valley. In addition to their Consulate-General, Switzerland has a large presence in San Francisco at Pier 17, called "Swissnex," where they work to ensure that Swiss innovators have access to certain industries, improve collaboration, and future-proof Swiss industries.

Brazil

Brazil has a tech diplomat who is part of the Brazilian Consulate-General in San Francisco. The diplomat leads the Science, Technology, and Innovation department at the consulate. This position was newly created and the tech diplomat has been posted in San Francisco since September 2021. As the pandemic has complicated in-person outreach, the Brazilian Science, Technology, and Innovation team is preparing a post-pandemic approach to Silicon Valley tech companies. They are looking to overhaul the traditional way of promoting science and technology cooperation to include a proactive, sustained interaction with interlocutors in the Bay Area, engaging in meaningful conversations about the impact of digital technologies and the challenges ahead. They have also engaged with the other tech diplomats through the Tech Diplomacy Playground and the Retreat hosted by Australia and Denmark.

United Kingdom

The U.K. appointed a Tech Envoy to the U.S. in December 2020, a role based in San Francisco and is combined with the position of Consul General. The British Consulate in San Francisco also houses a number of teams that engage with the big tech companies. These include Tech Policy, Public Safety, Science and Innovation, and International Trade. The Tech Policy and Public Safety teams engage with tech companies on topics such as privacy, online safety, misinformation and disinformation, and competition in digital markets. The team takes a multi-stakeholder approach and works to ensure that civil society organizations are included in these discussions.





Korea

Like many other countries, Korea has a Consulate-General based in San Francisco. There are six departments within this Consulate-General, which includes Consular Services, Culture, Education, Economy, Public Diplomacy, and Safety. The Korean Consulate-General has a Director of Science, ICT (Information and Communications Technology) and Economic Affairs from the Ministry of Science and ICT. The Director oversees sectors such as clean energy, economic affairs, information technology, science, and startups. Among its objectives, the economics department supports business by representing Korean corporations to help overcome business difficulties that they may encounter while doing business in the U.S.. For example, in March 2021, the Korean Consul-General launched the Northern California Business Forum, which brings together businesses and governments to discuss priority sectors such as clean energy. The economics department also promotes start-ups by providing Korean startups with information, consulting, offices in Silicon Valley, and investment opportunities with collaboration with Korean government agencies. The Consulate-General also works to build research and development (R&D) networks by establishing cooperative networks with major universities and research institutions to boost collaborative research between the U.S. and Korea. The Korean Consul-General has invited research institutes to international R&D conferences on behalf of the Korean government in the past. Lastly, the Director has an objective to create global jobs by helping young Koreans find jobs in the U.S. and providing internship programs to gain experience in the international job market.

In addition to the Korean Consulate-General, there are a number of Korean government agencies operating in the Bay Area, which meet monthly to support the work of the Korean Government Agencies:

1. The Korea Trade-Investment Promotion Agency, or KOTRA, works to attract foreign investment and support overseas expansion of subject matter experts (SMEs).
2. The Korea Innovation Center operates accelerating programs, such as K-Global @ Silicon Valley and the K-Startup Grand Challenge.
3. The Korea Venture Investment Corporation invests in twenty U.S. Venture Capital Funds. Korea Investment Corporation in San Francisco also operates a sovereign wealth fund from government surplus reserves.
4. The Korea Evaluation Institute of Industrial Technology supports R&D demand surveys, project planning, and technology cooperation.
5. The Korea Institute of Industrial Technology promotes joint research and business development cooperation.
6. The Electronics and Telecommunications Research Institute (United States of America Technology Diffusion Center) works to transfer technologies and support partner companies to enter the U.S. market.
7. The Korea Internet and Security Agency cooperates with government agencies in cyber security policies.

With the large presence of Korean government agencies in Silicon Valley working tangentially or on technology, it is surprising that there is more engagement with American tech companies taking place in Seoul than there is in the Bay Area. As is the case with other countries, more dialogue between the Korean government and U.S. tech firms happens in Korea's capital, than in the United States.

MULTILATERAL ORGANIZATIONS

The U.N. sees the tech industry as the next frontier in human rights. As the leaders of tech companies view themselves as the arbiter of social change, it is important for companies and their leaders to understand that human rights frameworks, such as the U.N. Guiding Principles on Business and Human Rights, exist. Although there is not a formal office, there is a

member of the U.N. Human Rights (UNHR) team based in Silicon Valley. There is a wider UNHR team, based in U.N. posts around the world, that focuses on technology and engages with civil society, industry, academia, and government to demystify the U.N. and their varying offices along with the human rights framework.

As human rights isn't normally part of the vernacular of the private sector, it is important that companies are involved in these

discussions. Over the past few years, the language of human rights components has entered into the common parlance of big tech. The UNHR team looks for meaningful and dynamic engagement in human rights, and believes that static engagement, such as producing one report on human rights, is unacceptable and inefficient.

The UNHR team performs due diligence of human rights teams within tech firms and determines

to discuss implementation of the guiding principles. The COP's objectives are as follows:

- Inform B-Tech project guidance and recommendations on human rights due diligence related to end-use and access to remedy in the technology industry, consistent with the normative expectations of the U.N. Guiding Principles on Business and Human Rights, as re-articulated in B-Tech foundational papers;
- Advance practical understanding and capacity among technology companies to implement respect for human rights through (a) creating a safe, confidential space to exchange practices and challenges, and (b) facilitating tech company engagement with leading responsible business and human rights experts;
- Share insights publicly in the form of short briefing notes,

blogs, and non-attributable case studies, and dilemma scenarios - on human rights due diligence and remedy.¹²

There is also a working group to enhance stakeholder engagement, in which a group of representatives from diverse civil society organizations around the world work to improve engagement between tech firms and stakeholders that are directly affected by the technology. There have also been dialogues on leadership and governance. In 2021, a session with the UNHR high commissioner and several big tech leaders discussed how they are facing their responsibilities as leaders of embedding the guiding principles into the company. They explore issues such as how to elevate the human rights teams within the company and help the leaders of these companies understand their responsibility to

push the conversation on tech and human rights.

Moreover, there is currently an Acting United Nations Envoy on Technology, which is based in the New York headquarters of the U.N.. The Office of the Secretary-General's Envoy on Technology focuses on leading the implementation of the Secretary-General's Roadmap for Digital Cooperation, a report that addresses how to create an equitable and inclusive digital future which upholds human rights; facilitating dialogue on the recommendations of the Roadmap; and serving as an advocate and focal point for digital cooperation so that all stakeholders have a first port of call for the broad U.N. system.¹³



how human rights staff is incorporated into a company. The UNHR's Development and External Relations team assesses the company and looks for potential problems such as problematic investees, such as companies that might be exploiting human rights.

The U.N.'s Business and Human Rights group is mandated under the

Human Rights Council and employs a range of different approaches. In June 2022, the group will release a new report on company obligations under Pillar 2 of the Guiding Principles, which states that nations should set out clearly the expectation that all business enterprises domiciled in their territory and/or jurisdiction respect human rights throughout their

operations.¹¹ There is also a Tech Company Community of Practice (COP), an initiative of the Human Rights B-Tech project, led by UNHR. In 2021, the following companies were part of the Community of Practice: Apple, Cisco, Cloudflare, Ericsson, Meta, Google, Hewlett Packard, Microsoft, Salesforce, Twitter, Verizon, Vodafone. The group meets twice per quarter

¹¹National Action Plans on Business and Human Rights. (2018, March 12). *Guiding Principle 2*. UN Guiding Principle. Retrieved May 26, 2022, from <https://www.globalnaps.org/ungp/guiding-principle-2/>

¹²United Nations Human Rights Office of the High Commissioner. (n.d.). *B-Tech Project*. Retrieved May 26, 2022, from <https://www.ohchr.org/en/business-and-human-rights/b-tech-project>

¹³United Nations. (n.d.). *About the Office of the Secretary-General's Envoy on Technology*. Office of the Secretary-General's Envoy on Technology. Retrieved May 26, 2022, from <https://www.un.org/techenvoy/content/about>

CHALLENGES IN TECH DIPLOMACY

Diplomats in Silicon Valley face challenges when engaging with the private sector. Government officials and the private sector often speak very different languages and translating the language of the private sector is one of the major functions of a tech diplomat. Many diplomats are not well-versed in technology and see it as a supplementary part of their work abroad. However, it is imperative that foreign ministries become techno-literate if they are to face the challenges of the 21st century, as so many of today's issues are shaped by technology.

Another challenge is that tech companies often do not understand the role of tech diplomats. Larger

companies might direct tech diplomats to their counterparts in the diplomat's home country, or their counterparts in Washington D.C. Since the decision makers are based in Silicon Valley, and not in D.C. or abroad, tech diplomats must find a way to create a dialogue with the private sector in the Bay Area and discuss mutually beneficial ways of working. Finding the right contact within a firm can be challenging at first, but once a connection is established and the remit of the tech diplomat is understood, the contact will be able to provide crucial insight into the machinery of the company.

Lastly, it is difficult to measure the impact of tech diplomats on the tech industry itself. With the 2022

Ukraine crisis, we have seen tech diplomats leverage their contacts within the tech industry to combat state-sponsored disinformation. The ability of governments to tackle foreign disinformation could be attributed to the work of tech diplomats so this is one potential key performance indicator to measure. Other topics that tech diplomats address –such as tech for democracy and responsible innovation– will be much more difficult to assess. Public diplomacy is often difficult to evaluate as measuring influence is often complicated. As tech diplomacy evolves, initiatives like the Tech Diplomacy Playground and the Retreat could be forums where measuring success can be discussed.

U.S. TECH FIRMS

U.S. tech firms often wield more influence than many nations. These “net states” influence geopolitics the way a nation would, but operate outside the traditional sphere of diplomacy. With the introduction of tech diplomats to Silicon Valley, this began to change. Now, a number of U.S. tech firms regularly engage with the tech diplomacy community on issues such as digital human rights, protection of children and youth online, content moderation, data protection and privacy, and responsible innovation. The companies interviewed for this portion of the report had been mentioned numerous times during interviews with the Silicon Valley tech diplomats or had been part of dialogues with tech diplomats at different fora.

TikTok, the fastest growing entertainment platform, engages regularly with the diplomatic community to discuss trust and safety issues. The company is heavily investing in this aspect of their platform. They have an automated moderation process before the content is available on their application (app). In the third quarter of 2021, 91 million videos were removed. 95.1 percent were removed before a user reported it, 88.8 percent before the video received any views, and 93.9 percent within 24 hours of being posted. In February 2022, TikTok updated their community guidelines by strengthening their dangerous acts and challenges policy, broadening their approach to eating disorders, adding clarity around the types of harmful ideologies that are not welcome on the platform, and expanding their policy to protect the security, integrity, availability, and reliability of their platform. Additionally, in light of the Ukraine crisis, TikTok established a cross-functional team –that served as a 24/7 operations room– to monitor the situation on the ground in Ukraine. They restricted access from accounts like *RT* (previously called *Russia Today*), a Russian-state controlled international television network funded by the Russian government, in accordance with EU policy. TikTok also applied labels to Russian state-controlled media. Due to the Russian Fake News Bill, which threatened those who “knowingly” spread so-called falsehoods about military operations in Ukraine, the platform suspended the livestream function on accounts and any new content in Russia. Users in Russia can only see videos that were posted before the invasion of Ukraine. The platform is also working on combating disinformation. They have prohibited graphic content and increased the use of labels around graphic content. TikTok has instructed monitors to remove any content that promotes violence against any one nationality, in this case, Ukrainians. The platform has also been scanning for coordinated and inauthentic behavior. They have suspended all advertising in Russia and Ukraine, unless it is cause-based or related to the work of a non-governmental organization (NGO). The platform has also launched a digital literacy hub with National Association of Media Literacy Education and Mediawise. This is welcome news to tech diplomats whose objective is to promote democracy and reduce harm online.

There is still much more to do; however, it seems as if TikTok is taking a proactive approach to avoid the mistakes of their competitors and is working to reduce any harm the platform could potentially cause.

Meta, owner of social media platforms Facebook, Instagram, and WhatsApp, works with the tech diplomatic community as well. Meta is more difficult to engage with as they would prefer to communicate through their in-country offices, rather than their Silicon Valley headquarters. If there is a concern that impending legislation might affect their business model –and therefore their revenue stream– Meta will invite countries to their main office to open up a dialogue about the issue and try to sway policymaker’s opinion in their favor.

Salesforce, an American cloud-based software company, is another company that engages regularly with the tech diplomats. Salesforce started working with the community when the Danes first arrived in the Bay Area. In discussions with tech diplomats, there is a mix of both economic and political objectives. Policy and market access are often mentioned, but there is also a dialogue about values – particularly because Salesforce has its values and responsibility baked

into the mission of the company. Salesforce views business as a catalyst for change and provides the opportunity to have a positive impact on communities. All business decisions made at Salesforce must go through the lens of the company’s core values. They follow a 1:1:1 model where one percent of profit, one percent of product, and one percent of employee time is given to nonprofits. Salesforce also has a product group called the Office for the Ethical and Human Use of Technology where they ask questions about potential human rights concerns, for example.

The ubiquitous software company, Microsoft, has gone a step further than most technology companies, as they have an in-house digital diplomacy unit. Their Digital Diplomacy Unit engages with the global cybersecurity landscape, drives engagement with regional government teams, and contributes to Microsoft’s efforts to promote peace and security in cyberspace through various multi-stakeholder initiatives. The unit was launched by Brad Smith, President of Microsoft, to address terror content on the internet. Smith frequently meets with heads of state and foreign ministers about cybersecurity and emerging threats. He was also part of the discussions in the development of an international

treaty called the Digital Geneva Convention to protect citizens from state-sponsored cyber attacks, as well as part of spearheading collaborations such as the Paris Call for Trust and Security in Cyberspace, and the Christchurch Call. Microsoft’s digital diplomacy team is based at six hubs around the world and takes a values-driven, multi-stakeholder approach to promoting responsible behavior online. An additional initiative within the digital diplomacy unit is Microsoft’s Defending Democracy Program, which works to advance policy and technical solutions to defend against election interference and disinformation. The team has four main pillars of work: (1) work with political campaigns to ensure safety from cyber attacks, (2) work with election officials to protect from cyber threats on infrastructure and on election officials themselves, (3) improve transparency of online advertising, and (4) work against computational propaganda and other forms of disinformation.

Multilateralism is also a key focus of Microsoft’s tech diplomacy work. Microsoft has offices in Geneva and New York to grow their engagement with the United Nations. The vision for the Microsoft teams at the U.N. is to engage with the U.N. community, build relationships and understanding, and increase

the impact of Microsoft’s existing partnerships with the U.N.

Tech diplomacy applies to companies beyond the tech giants mentioned above. Cold Quanta is a global quantum technology company that works with government research labs all over the world. They engage regularly with Five Eyes countries, such as Australia, Canada, New Zealand, and the United States, as well as democratic countries in East Asia such as Japan and Korea. They recently attended The Retreat in Silicon Valley where Cold Quanta talked about how quantum technology will influence

international relations in the future. They discussed issues around Global Positioning Systems, or GPS, and how they’re developing localized timing devices, or atomic clocks, which could render GPS obsolete. The Ukraine crisis has demonstrated the military’s dependence on GPS and the ability of adversaries to hack GPS systems so developing atomic clocks is even more of an imperative. Quantum radio frequency (RF) will allow individuals to use entire parts of the radio frequency spectrum that are currently unavailable today, as RF receivers can only pick up a range of signals. Quantum sensing will change how submarines can be detected underwater and

will completely alter strategic deterrence capabilities. Like other tech companies, Cold Quanta is being proactive in thinking about how to deploy the technology for good. They are part of national conversations on these topics in fora such as the Quantum Economic Development Consortium (QED-C) and the Quantum Computing Industry Association (QCIA). It is important that governments continue to engage with companies working on cutting edge technologies so that they can be proactive about regulation, rather than reactive.





THE U.S. GOVERNMENT'S RELATIONSHIP WITH BIG TECH

Although most of the world's most influential tech companies are based in the United States, the U.S. has had a mostly hands-off approach when it comes to big tech. Afraid to stifle innovation, regulation on major tech companies has been absent, and Silicon Valley's laissez-faire ideology was allowed to flourish to the detriment of domestic and international affairs. As it became more clear that this was an ineffective approach, the U.S. government started to think of creative ways to engage with the Silicon Valley ecosystem.

Under the Obama administration, Deputy Secretary Anthony Blinken understood that foreign policy issues were increasingly intersecting with tech companies and, in many ways, that larger U.S. tech companies were becoming more influential than some countries. With that in mind, the State Department posted their first ever representative to Silicon Valley and Senior Advisor for Technology and Innovation. There were five pillars that informed how the representative operated in Silicon Valley:

- It was important to have some level of foresight capability and understand (a) what are the emerging technologies and how can the U.S. government get ahead of these technologies;
- How to leverage Silicon Valley companies to advance foreign policy objectives. (At the time, the Syrian refugee crisis was top of mind, so the office focused on engaging with tech companies around tackling this issue);
- Traditional technology policy issues, such as foreign disinformation and cybersecurity;
- Public diplomacy around the brand of Silicon Valley. Many foreign leaders visit Silicon Valley and the Silicon Valley representative would coordinate with embassies overseas to organize delegations. Many times other countries would ask, "How do we create our version of Silicon Valley in our country?"; and
- Visits from U.S. government officials.

Although U.S. Secretary John Kerry signed a memorandum that enshrined the role into a permanent Foreign Service Officer position, the Trump administration enacted a hiring freeze on all new positions, and the role of Silicon Valley representative was unfilled until 2019-2020. In 2019, the role of Silicon Valley representative was relaunched and rebranded as a Silicon Valley liaison to establish connections and develop new processes for engagement with the tech community. The work of the liaison is mostly dedicated to countering foreign state and non-state sponsored disinformation and works to continue dialogue with big tech on this threat.



In April 2022, the State Department launched the Bureau of Cyberspace and Digital Policy (CDP). The Bureau of Cyberspace and Digital Policy leads and coordinates the State Department's work on cyberspace and digital diplomacy to encourage responsible state behavior in cyberspace, advance policies that protect the integrity and security of the infrastructure of the Internet, serve U.S. interests, promote competitiveness, and uphold democratic values.¹⁴ The CDP Bureau addresses the national security challenges, economic opportunities, and values considerations presented by cyberspace, digital technologies, and digital policy and promotes standards and norms that are fair, transparent, and support American values. The International Cyberspace Security division will coordinate cyber aid to allies and represent the State Department in cyber discussions with other U.S. federal agencies. The International Information and Communications Policy division will represent the U.S. in multilateral processes on various issues, such as setting technical standards. The Digital Freedom division will promote technology that supports civil society and democracy, particularly in regimes that harness technology for authoritarian purposes. In addition to the CDP Bureau, a new Special Envoy for Critical and Emerging Technology is to be appointed. The special envoy will lead the immediate technology diplomacy and partnerships agenda.

While the State Department sets a course to become a leader in technology for democracy, the reality is that the U.S. is far behind its counterparts in Europe. Although they are 3,000 miles away, the EU has enacted transformative regulations meant to curb the harm that tech has caused on citizens' right to privacy. In the U.S., where almost all of the big technology companies are based, Congress has yet to enact a single piece of comprehensive legislation that could protect citizens' privacy or reduce the damage big tech has inflicted on democracy. In the absence of federal regulations, states such as California have adopted their own privacy laws.

There is legislation that could alter this absence of regulation. A bill that mirrors the EU's Digital Services Act has been introduced by Senators Richard Blumenthal (D-Conn) and Marsha Blackburn (R-TN), called the "Kids Online Safety Act." This bill would require transparent algorithms and allow parents and children to opt-out of systems that use a minor's data. This bill, however, would not protect anyone over 18 years old. There are also two antitrust bills making their way through Congress. The Open Apps Market Act would limit big tech companies (e.g. Apple and Alphabet) from collecting commissions from their app stores and allow Apple and Android users to download apps outside of proprietary app stores. The American Innovation and Choice Act limits the ability of tech companies to unfairly favor their own products and services. There is bipartisan momentum behind these bills and, if passed, would highlight the U.S.'s ability to restrain big tech.

¹⁴U.S. Department of State. (2022, April 4). *Bureau of Cyberspace and Digital Policy*. Deputy Secretary of State. Retrieved May 26, 2022, from <https://www.state.gov/bureaus-offices/deputy-secretary-of-state/bureau-of-cyberspace-and-digital-policy/>



THE REPUBLIC OF KOREA'S (ROK) RELATIONSHIP WITH BIG TECH

Korea is a pioneer in the global tech regulatory space. In 2021, Korea became the first country to adopt antitrust legislation limiting the ability of Alphabet and Apple to force apps in the app store to use their own in-app payment systems and pay a 30 percent commission. The Telecommunications Business Act amendments came into effect in March 2022 and companies, like Google, have already tried to circumvent the legislation. On April 1, 2022, Google mandated all apps must use its own in-app purchase system and pay up to 30 percent commission or a third-party system and pay 4 percent points less. Google does not allow apps to include a link to direct users to third party pay systems, which would allow apps to avoid paying commission. Google stated that

all apps that do not comply will be removed from the Google Play store on June 1, 2022. The Korea Communications Commission (KCC) has warned Google not to enact this policy, as it is illegal. The KCC stated that they will wait until Google begins removing apps before taking action. Apple's Chief Executive Officer, Tim Cook, recently warned of "profound" consequences for user security as these regulations could "potentially give bad actors a way around the comprehensive security protections we put in place."¹⁵ Apple believes that these regulations could allow users to be exposed to scam apps or allow users to be tracked more easily. Comments like these make it clear that Apple and Google are worried about decreases in revenue as antitrust legislation is adopted.

Worldwide, these amendments to the Telecommunications Business Act have been heralded as welcome signs that the tech giants will no longer be able to stifle competition. In a lawsuit against Apple, app developer Epic Games, maker of the online video game "Fortnite," invoked the Korean law to have its app reinstated in the Apple app store, from which the company had been removed for violations against Apple's in-app payment policies.¹⁶

¹⁵Brody, B. (2022, April 12). *Tim Cook slams looming competition measures as a threat to privacy*. Protocol. Retrieved May 26, 2022, from <https://www.protocol.com/bulletins/tim-cook-competition-privacy>

¹⁶South Korea's government sees tech firms as the new chaebol. (2021, September 18). *The Economist*. Retrieved May 26, 2022, from <https://www.economist.com/business/2021/09/18/south-koreas-government-sees-tech-firms-as-the-new-chaebol>

Epic Games lost the lawsuit and is still barred from Apple's app store. As other countries adopt similar regulations, we will see an opportunity for Korea to share best practices on how it has implemented its Telecommunications Business Act and serve as a leader in antitrust enforcement against big tech.

This is not the first time that the KCC has come up against big tech. In 2020, Korea passed the "Netflix law," which requires value-added telecommunications service providers (VSPs) that exceed a certain size limit to secure the stability of internet services.¹⁷ The video streaming platform Netflix is currently in a lawsuit with SK Broadband over network usage fees. Due to the large volume of traffic on Netflix, SK Broadband purports that Netflix should pay for the upkeep of its networks. Netflix asserted that it has no obligation

to pay for network usage fees and believes it to be SK Broadband's responsibility to upkeep its own networks. The lawsuit went to court and Netflix lost, owing millions of dollars to SK Broadband to stabilize its networks.¹⁸ The Korean National Assembly is also considering amendments to the Telecommunications Business Act that could alter the landscape for network usage fees. The amendments would require international content providers, like Netflix and YouTube, to sign mandatory contracts with VSPs, such as SK Broadband, to standardize network usage fees. Korea's domestic content providers, such as Naver and Kakao, already pay these fees. YouTube has come out strongly against the bill and has stated that the company will decrease the investment YouTube is able to make in the Korean market if passed.¹⁹

¹⁷Kim & Chang. (2020, September 28). *New Requirement and Enhanced Obligations for Value-Added Telecommunications Service Providers to Secure Means for Stability of Service*. Kim & Chang Newsletters. Retrieved May 30, 2022, from https://www.kimchang.com/en/insights/detail.kc?sch_section=4&idx=22016

¹⁸Yoon, S. (2022, May 1). *[NEWS IN FOCUS] In Korea vs. tech giants, Goliath is winning*. Korean JoongAng Daily. Retrieved May 27, 2022, from <https://koreajoongangdaily.joins.com/2022/05/01/business/tech/Google-law-Netflix-law-inapp-payment/20220501070008988.html>

¹⁹Kan, H. (2022, April 21). *YouTube threatens to cut down investments in Korea over 'network usage fee' bill*. The Korea Herald. Retrieved May 30, 2022, from <http://www.koreaherald.com/view.php?ud=20220421000740>

Privacy in the Republic of Korea

Korea has one of the strictest data protection laws in the world. The Korean Personal Information Act (PIPA) was a pioneering regulation around modern data privacy. When it was adopted in 2011, PIPA presented concepts protecting fundamental data subject (any person whose data or information is stored or processed by a company) rights that have been incorporated into modern data privacy policy. PIPA has since undergone a few amendments, with the most significant amendments occurring in 2020. The 2020 amendments included concepts such as pseudonymized data and the scope of consent to gain adequacy for PIPA, which allowed public data to flow outside the EU to Korea.²⁰ The South Korean Personal Information Protection Commission (PIPC) is responsible for regulating tech companies that store or process data. PIPC has issued fines against Facebook and Netflix for violations of PIPA for \$5.6 million USD and \$190,000 USD, respectively. Facebook was fined for (1) collecting

facial recognition data without users' consent; (2) collecting Social Security numbers in violation of the law; (3) failing to notify users when it changed the entity responsible for managing the personal data; (4) failing to disclose information about its transfer of personal data to third parties or overseas; and (5) not providing certain materials requested by the PIPC. Netflix (1) unlawfully collected personal data from prospective users without consent before the individuals completed the subscription process; (2) and transferred the personal data outside South Korea without providing appropriate notice to data subjects.²¹

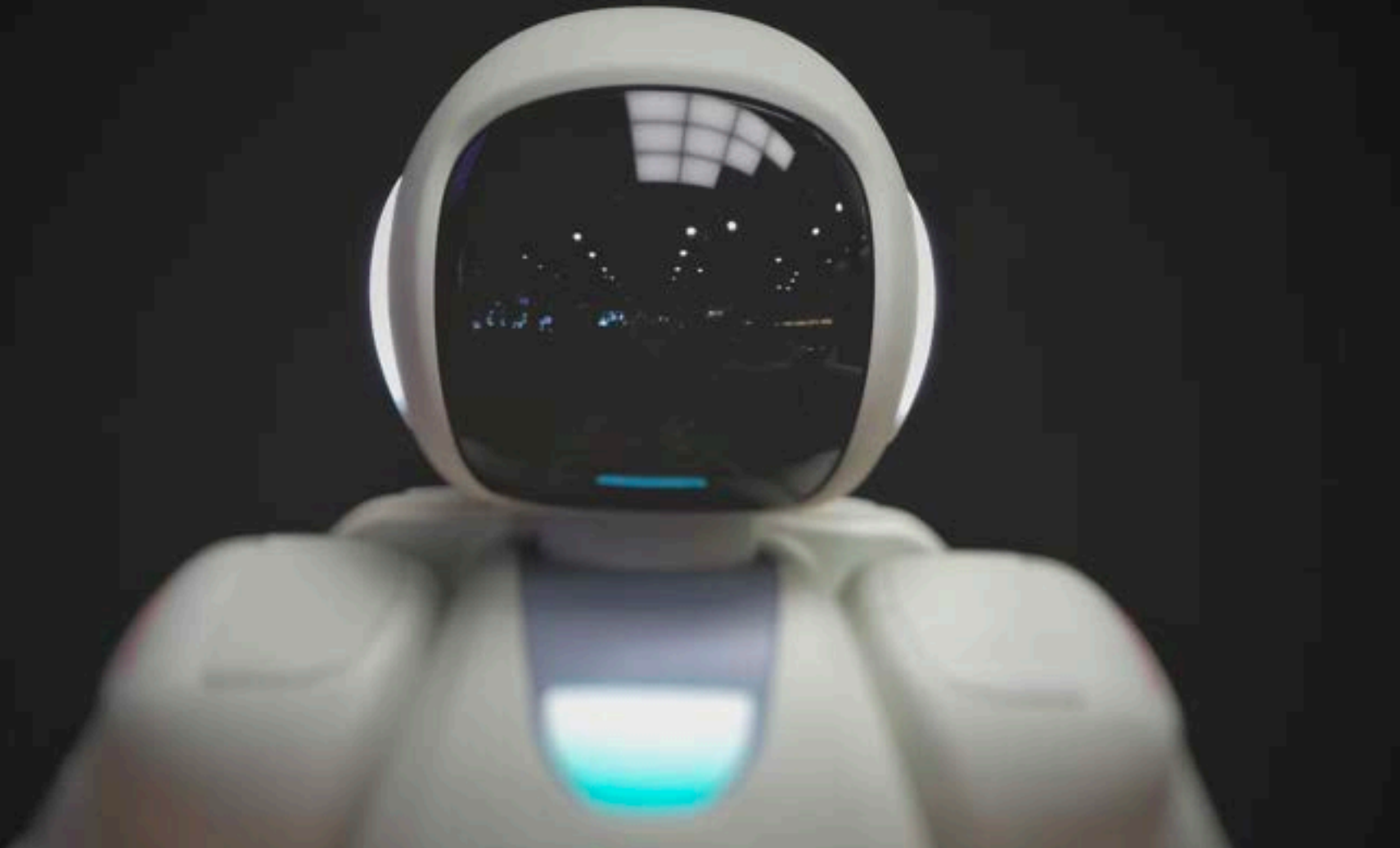
Korea is the first country in the world that has applied its comprehensive data protection laws against an AI system. In April 2022, PIPC imposed sanctions and a \$92,000 USD fine on ScatterLab, Inc., developer of the chatbot "Iruda" for eight violations of the PIPA. The chatterbot was responsible for using vulgar and discriminatory racist, homophobic, and ableist language in conversations with

users. The company posted its AI models on GitHub, a popular programming resource for sharing code, from 2019 to 2021 which revealed 22 names (only first names), 34 locations, gender and relationships of users. The company was also accused of collecting the information of more than 200,000 children under the age of 14 without parental consent in the development of its app and the company's operations.²² PIPC has committed to helping AI companies enhance their privacy capabilities by requiring AI firms to post a "Self Checklist for Personal Information Protection of AI Services" on their website. This is a seminal case which will no doubt have repercussions on how other countries regulate AI systems.

²⁰No, M. (2022, February 1). *Data Governance Standards in the Era of PIPA and GDPR*. QueryPie. Retrieved May 30, 2022, from <https://www.querypie.com/blog/data-governance-standards-in-the-era-of-pipa-and-gdpr/>

²¹Hunton Andrews Kurth. (2021, September 1). *South Korean Privacy Regulator Fines Netflix And Facebook*. Privacy & Information Security Law Blog. Retrieved May 30, 2022, from <https://www.huntonprivacyblog.com/2021/09/01/south-korean-privacy-regulator-fines-netflix-and-facebook/>

²²Park, J. (2021, May 21). *South Korea: The First Case Where the Personal Information Protection Act was Applied to an AI System*. Future of Privacy Forum. Retrieved May 30, 2022, from <https://www.fpf.org/blog/south-korea-the-first-case-where-the-personal-information-protection-act-was-applied-to-an-ai-system/>



KOREA'S APPROACH TO EMERGING TECHNOLOGIES

Artificial intelligence (AI)

With its success in pioneering regulation in big tech, Korea also aims to establish itself as a world leader in developing trustworthy artificial intelligence. In 2019, Korea launched its National Strategy for AI, with three priority areas established: AI competitiveness, full-scale utilization of AI, and the development of a human-centered approach to AI. The strategy's person-centered approach to AI aims to make Korea a top 10-ranked country in quality of life and a top five-ranked country in life satisfaction among Organization for Economic Cooperation and Development (OECD) countries,

while also being a global leader in establishing norms and standards for ethical AI.²³ A year later, the Korean government published its National Guidelines for Artificial Intelligence Ethics as a way to prompt academia and the private sector to think about an ethical framework for developing trustworthy AI. The national guidelines promote three basic principles and ten key requirements that must be incorporated into the development of AI in the country. The three basic principles stress the importance of human dignity and common good for society in the responsible development of AI. The ten requirements are more specific

²³Stangarone, T. (2020, December 7). *COVID-19 Underscores the Benefits of South Korea's Artificial Intelligence Push*. *The Diplomat*. Retrieved May 30, 2022, from <https://www.thediplomat.com/2020/12/covid-19-underscores-the-benefits-of-south-koreas-artificial-intelligence-push/>

²⁴Khoury, Z. & Lesnichaya, Y. (2022, February 2). *Harnessing trustworthy artificial intelligence: A lesson from Korea*. World Bank Blogs. Retrieved May 30, 2022, from <https://blogs.worldbank.org/digital-development/harnessing-trustworthy-artificial-intelligence-lesson-korea>

²⁵CB Insights. (2022, May 18). *AI 100: The most promising artificial intelligence startups of 2022*. CB Insights Research. Retrieved May 30, 2022, from <https://www.cbinsights.com/research/report/artificial-intelligence-top-startups-2022/>

and focus on human rights, privacy, harm prevention, accountability, safety, and transparency.²⁴ Because these guidelines are not legally binding, there is no recourse for companies who do not follow them. Although Korea is one of the world's leading tech economies, it lags behind other countries in AI. There are no Korean startups on CB Insights' annual top 100 AI Startups list²⁵ and none of Korea's big tech companies are seen as pioneering in the AI space, despite Samsung having a number of AI patents. Furthermore, there are barriers to developing talent as there is a significant lack of gender diversity in AI. In 2019, only 12 percent

of Korean conference papers were authored by women.²⁶ Diversity in AI is especially important to prevent significant bias when creating algorithms that have wide reaching consequences on society. If Korea is to become a world leader in AI, increasing gender diversity and supporting the startup ecosystem must be tackled.

The Metaverse

The metaverse is an emerging vision of the internet that will be a single, universal, and immersive world that will replicate the physical world. Korea has the world's fourth largest gaming industry and many Korean companies plan to launch metaverse content and platforms in the near future.²⁷ As a result, Korea is emerging as a leader in the metaverse. In 2021, the Ministry of Science and ICT created a metaverse alliance that involves the private sector, research organizations, and government to support the development of this industry. In March 2022, the Ministry of ICT, Science and Future Planning committed \$186.7 million USD to deploy a national metaverse ecosystem. With this pledge, the ministry launched a roadmap to create a sustainable metaverse based on public-private partnerships. The roadmap also contains Expanded Virtual World Ethical Principles, guidelines which promote a safe and trustworthy Metaverse platform. Additionally, the roadmap addresses privacy and regulatory issues which promises to promote a private, self-regulatory system that will protect user data.²⁸

The world is quickly recognizing Korea's expertise in this nascent field. SK Telecom recently inked a deal with Deutsche Telekom to bring its metaverse platform to the European Union. There are talks of a joint venture to further deploy SK Telecom's metaverse platform throughout Europe.²⁹

Korea's leadership in emerging technologies and tech regulation should be noted by the global community as they often serve as a sandbox for regulatory policies and frontier tech. Having Korea as a strategic partner in science and technology is imperative as there are many opportunities for collaboration that can advance technology and policy.

“Korea’s leadership in emerging technologies and tech regulation should be noted by the global community as they often serve as a sandbox for regulatory policies and frontier tech.”

²⁶Stangarone, T. (2020, December 8). *COVID-19 Underscores the Benefits of South Korea's Artificial Intelligence Push*. *The Diplomat*. Retrieved May 30, 2022, from <https://www.thediplomat.com/2020/12/covid-19-underscores-the-benefits-of-south-koreas-artificial-intelligence-push/>

²⁷Kim, S. (2021, November 2). *South Korea's Approach to the Metaverse*. *The Diplomat*. Retrieved May 30, 2022, from <https://www.thediplomat.com/2021/11/south-koreas-approach-to-the-metaverse/>

²⁸Greener, R. (2022, March 3). *South Korea Pledges \$186.7m for Metaverse Tech*. *XR Today*. Retrieved May 30, 2022, from <https://www.xrtoday.com/virtual-reality/south-korea-pledges-186-7m-for-metaverse-tech/>

²⁹Son, J. (2022, May 8). *SK Telecom, Deutsche Telekom Forge Metaverse Alliance*. *The Korea Herald*. Retrieved May 30, 2022, from <http://www.koreaherald.com/view.php?ud=20220508000102>



KOREA-U.S. SCIENCE & TECHNOLOGY RELATIONSHIP

Science & Technology

The science & technology (S&T) relationship between Korea and the United States has been growing steadily over the past 30 years. Korea has made significant investments in research and development over that time, which has resulted in a world-class innovation ecosystem. In 2021, South Korea ranked eighth among members of the OECD in terms of innovation capacity in science and technology.³⁰ The Korean government has also contributed significant investments in joint projects with the United States.

In 2021, South Korean President Moon Jae-in and U.S. President Joseph Biden held a summit to strengthen their bilateral ties. The two countries share an interest in “safeguarding a trusted, values-driven digital and technological ecosystem, in line with our shared democratic values.” Like other allies, the two leaders strive to ensure that technological development promotes democracy and safety, rather than authoritarianism. An area of discussion was cooperation in climate, global health, emerging technologies –including 5G and 6G and semiconductors– and supply chain resilience. The presidents agreed to establish a KORUS (South Korean-United States) Global Vaccine Partnership to strengthen their joint response capabilities for infectious disease through international vaccine cooperation, with a focus on the global expansion of production and related materials as well as scientific and technological collaboration. With respect to supply chain collaboration, they focused on priority sectors such as semiconductors, eco-friendly electric vehicle batteries, critical materials, and pharmaceuticals. They also agreed to collaborate to increase the global supply of legacy chips for the auto industry and to support semiconductor manufacturing in both countries through the promotion of increased mutual investments and R&D cooperation. Presidents Moon and Biden also committed to working together to develop partnerships in clean energy, such as next-gen batteries, hydrogen, and carbon capture and storage. Other R&D focus areas for collaboration included AI, 5G, 6G, open-RAN technology, quantum technology, and biotechnology.³¹ The two presidents reiterated their support for the Republic of Korea signing the Artemis Accords, which is an international agreement between governments to return to the moon by 2025. There was also a commitment to work together on jointly exporting civilian nuclear power plants, while ensuring the highest standards of safety.

³⁰KBS World. (2021, August 23). *S. Korea 8th among OECD in S&T Innovation Capacity*. KBS World Science. Retrieved May 30, 2022, from http://world.kbs.co.kr/service/news_view.htm?lang=e&SeqCode=163742

³¹The White House. (2021, May 21). *U.S.-ROK Leaders' Joint Statement*. The White House Briefing Room. Retrieved May 30, 2022, from <https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/21/u-s-rok-leaders-joint-statement/>



The newly-elected President of Korea, Mr. Yoon Seok-youl, has reiterated his support for supporting science and technology and digitalization. His vision for science and technology in Korea does not differ significantly from President Moon's, so it is unlikely that we will see a major shift in policy. Mr. Yoon has expressed his desire to revive the nuclear industry. In Yoon's campaign, he stated that he would strengthen cooperation with other countries in the field, in particular the nuclear alliance with the United States. He has also stated that he would create 100,000 jobs through the exports of nuclear plants and would invest in developing next-gen technology such as small modular reactors and nuclear hydrogen production.³²

In May 2022, Presidents Yoon and Biden met and reiterated their joint support for a free, interoperable, and global internet. They committed to defending digital human rights and combating digital authoritarianism by establishing a "network of networks" to ensure that information can flow freely around the world. To do so, Korea

has committed to joining the U.S. Declaration for the Future of the Internet, which has been signed by 60 countries and commits to promoting universal internet access, protecting human rights, ensuring fair economic competition, designing secure digital infrastructure, promoting pluralism and freedom of expression, and guaranteeing a multi-stakeholder approach to internet governance. The two presidents also agreed to cooperate on regional and international cybersecurity.³³

Semiconductors

U.S. and Korean companies play key roles in disparate, complementary segments of the semiconductor supply chain, which would allow the U.S. and the Republic of Korea to work together in this space. Samsung and SK Hynix, the world's second largest memory chipmaker and third largest semiconductor company, represent approximately 60 percent of the market share in dynamic random access memory, or DRAM, which computers require to store information, and 40 percent of the market share in NAND flash

memory, also used for long-term data storage. Samsung is one of the only two companies in the world (with Taiwan Semiconductor Manufacturing Corporation being the other) with the capability of producing leading-edge chips. Samsung also is a key player in the design and manufacturing of ARM chips, which powers mobile devices. In the U.S., the semiconductor industry is a leader in designing chips at the technological frontier at so-called "fabless" companies.³⁴ There is also a large market share for the software and tools that fabless companies use for research and development. It should come as no surprise then that Samsung announced it would spend \$17 billion USD to build a chip plant in Texas by 2024. While there are many opportunities for collaboration, there is a potential for diplomatic friction as the two countries push to incentivize their domestic semiconductor industries. In 2021, Korea promised to commit \$450 billion USD over nine years to make the country the world leader in semiconductors.³⁵ There was talk of establishing a K-semiconductor

belt during the Moon presidency, which would support the industry with policy tools such as subsidies and access to government funding in coordination with private investment. Yoon has shared this vision of the industry as well. In the U.S., the CHIPS for America Act, which includes \$52 billion USD of funding to build 7-10 new foundries in the United States, is waiting for Congressional approval. One major potential issue which could cause friction between the U.S. and Korea is Korea's collaboration with China. China represents a significant market share of Korea's exports in semiconductors and, in 2021, SK Hynix announced a joint plan to build a \$310 million USD plant in China. With U.S. sanctions against the telecommunications and electronics company, Huawei, Korean firms have found themselves in the middle of the tech war. Given Korea's reliance on the Chinese market, it is unlikely that Korea will decouple its semiconductor industry from the Chinese economy. This is likely to result in some political disputes.

³²Kang, N. (2022, April 3). *Climate change: What Lee Jae-Myung and Yoon Suk-yeol think*. Brussels School of Governance. Retrieved May 30, 2022, from <https://www.brussels-school.be/publications/other-publications/climate-change-what-lee-jae-myung-and-yoon-suk-yeol-think>

³³The White House. (2021, May 21). *U.S.-ROK Leaders' Joint Statement*. The White House Briefing Room. Retrieved May 30, 2022, from <https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/21/u-s-rok-leaders-joint-statement/>

³⁴Stokes, J., Sullivan, A., & Joshua Fitt. (2022, March 22). *Digital Allies: Deepening U.S.-South Korea Cooperation on Technology and Innovation*. Center for a New American Security. Retrieved May 30, 2022, from <https://www.cnas.org/publications/reports/digital-allies>

³⁵Hruska, J. (2021, May 14). *South Korea Commits \$450 Billion to Dominate Semiconductor Market*. EXTREME TECH. Retrieved May 30, 2022, from <https://www.extremetech.com/computing/322826-south-korea-commits-450-billion-to-chase-semiconductor-dominance>

Quantum Technology

Quantum technology is technology that utilizes the principles of quantum mechanics (the behavior of subatomic particles). Korea has a relatively new quantum center at Sungkyunkwan University. The Korean Ministry of Science and ICT established a Quantum Information Research Support Center in 2020 as well. Due to Korea's excellence in manufacturing semiconductors, the country desires to become a leader in quantum semiconductors and quantum materials. Korea also plans to build a quantum foundry to manufacture quantum semiconductors. The U.S. is a leader in quantum with various hubs of excellence around the country and the government has invested heavily in the space. There is interest from the U.S. side to better understand Korean expertise in quantum technology which could likely spur bottom up collaborations between the two countries.

Additional digital initiatives

There are also a number of initiatives that the two countries are working on in the digital space. For example, the Global Partnership for Action on Gender-Based Online Harassment and Abuse was announced at the U.S. Summit for Democracy in December 2021 by the U.S. and Denmark. ROK has joined the partnership, which has an initial mission to deliver concrete results by the end of 2022.³⁶ In April 2022, the Republic of Korea was one of the founding members of the Global Cross-Border Privacy Rules Forum, which will support strong and interoperable data privacy protection, promote global cooperation based on shared values, and facilitate trade and international data flows.³⁷ There are many other opportunities for Korea and the U.S. to work together on digital issues, including supporting innovation in the digital space while also promoting democratic values.

³⁶The White House. (2022, March 18). *Launching the Global Partnership for Action on Gender-Based Online Harassment and Abuse*. The White House Briefing Room. Retrieved May 31, 2022, from <https://www.whitehouse.gov/gpc/briefing-room/2022/03/18/launching-the-global-partnership-for-action-on-gender-based-online-harassment-and-abuse/>

³⁷U.S. Department of Commerce. (n.d.). *Global Cross-Border Privacy Rules Declaration*. U.S. Department of Commerce. Retrieved May 30, 2022, from <https://www.commerce.gov/global-cross-border-privacy-rules-declaration>



RECOMMENDATIONS



There are many opportunities to strengthen engagement with Silicon Valley and the tech giants. While there are a number of countries with a tech diplomat, many parts of the world are wholly absent from policy discussions with Silicon Valley tech companies. Tech diplomats from Asia are absent in Silicon Valley and there are only two countries from the Global South that have the resources to engage in these discussions. As there are many issues that need to be addressed on a global scale, it is necessary that there be greater global tech diplomacy in the Bay Area.

Korean Tech Diplomat in Silicon Valley

The Korean consulate in San Francisco, along with the many Korean government agencies based in the Bay Area, would benefit from having a tech diplomat sent from Seoul to engage directly with large

American tech companies. The existing cohort of tech diplomats in Silicon Valley skews heavily European and, therefore, discussions with big tech on issues that are of interest to Korea may be missing the Republic's perspective. Korea is a world leader, and often a pioneer when it comes to reigning in big tech, but that leadership has been overlooked as many see Europe as the forerunner in the regulatory space. To be unequivocally considered the forerunner, Korea must do better at promoting itself as an innovator, not just in emerging technologies, but also in emerging policy priorities, such as antitrust legislation and data protection in AI systems. Having a dedicated tech diplomat to showcase Korea's leadership would benefit not only the Korean government, but also securely position Korea as a leader in tech; the other tech diplomats in the Bay Area, who could learn

best practices that could be applicable to the development of their policies. Establishing a Korean tech diplomat is also a wise move from a security perspective; the Korean tech diplomat would be able to gather intelligence so that the Korean government can be proactive when it comes to policy-making for emerging technologies.

Related, Korea would benefit from joining the Tech Diplomacy Playground, an initiative where tech diplomats and envoys in Silicon Valley get together with large U.S. companies to understand the tech ecosystem and share best practices. Since the tech diplomacy community has a Eurocentric perspective, it is imperative that non-European countries like Korea are engaged. Increasing diversity within this group will create more momentum to shift the balance from the tech giants back to democratic countries.

Korean Membership in Freedom Online Coalition

Currently, Japan and Mongolia are the only Asian countries that are members of the Freedom Online Coalition (FOC). As Korea shares the values of other members of the FOC –namely free expression, assembly, and privacy online– it would showcase Korean efforts in this arena and demonstrate their commitment to promoting democratic values on the web and showcase their soft power in the governance of the internet. Once Korea joins the FOC, the Korean consulate in San Francisco may become a member of the FOC’s Silicon Valley Working Group, and further engage with countries with shared interests around tech diplomacy.

Promotion of Korea’s Leadership in tech regulation

Increasing the visibility of Korea’s leadership in antitrust and privacy

legislation would solidify its position as a soft power in tech regulation.

Korean consulates around the globe could host public diplomacy events highlighting the world’s first antitrust legislation against the tech giants and sharing best practices with other countries hoping to follow suit.

State Department Office in Silicon Valley

Building on previous efforts to build a bridge between Washington D.C. and Silicon Valley, the State Department should open an office to engage directly with decision makers in big tech. There is a noted absence among the tech diplomats in Silicon Valley in that these dialogues are happening in the U.S., but the United States is not actually part of these debates. As the home of the largest and most influential tech companies in the world, the U.S. has a major role to play in promoting tech for democracy. The mandate of a State

Department Silicon Valley bureau could include:

- Engaging the leadership at large tech firms in discussions around governance. Seek to understand the position of the companies and report this information back to D.C.;
- Convincing major tech companies of the reality of their international role and influence, and the societal responsibility this entails, and influence them to operate in accordance with democratic principles;
- Working closely with the innovation ecosystem to identify emerging and potentially disruptive technologies. Coordinate with tech firms, universities, think tanks, and tech diplomats to identify the political, international, and societal implications of new technologies and anticipate areas where international cooperation may be warranted; and

- Coordinating visits of U.S. government officials, foreign ministers, and foreign heads of state to Silicon Valley. Coordinate visits of Silicon Valley tech leadership to international destinations.

Formation of a League of Digital Democracies

Technology companies are setting the rules of engagement and establishing governance in the digital world, leaving countries to fend for themselves to reign the companies in. Countries with a shared interest in leveraging technology to promote democracy should form a digital alliance to set norms and standards across the globe, share data, and work to develop a global governance framework to challenge the current system.

There have been calls in the past for the formation of a T-10 or T-12

(the T standing for technology, with the group being similar to the G-10 or G-12) which would include the U.S. and Korea.³⁸ A digital alliance outside of the G-7 and the Quad would allow technologically advanced countries like Korea to collaborate more frequently with their counterparts in emerging technology areas such as the metaverse and semiconductors. A T-12 would also allow for regulatory leaders like Korea to be part of developing a global governance model.

³⁸Cohen, J & Fontaine, R. (2021, November 24). *Uniting the Techno-Democracies: How to Build Digital Cooperation*. *Foreign Affairs*. Retrieved May 30, 2022, from <https://www.foreignaffairs.com/articles/united-states/2020-10-13/uniting-techno-democracies>



CONCLUSION

In the five years since the first tech diplomat was appointed to Silicon Valley, there has been a shift in the tech industry. Tech companies have begun to reevaluate their business models and move away from profit maximizing strategies that can harm society. For the first time in 2020, Meta (then called Facebook) banned ads that tried to delegitimize lawful methods of voting. The COVID-19 pandemic has changed the way companies address misinformation and disinformation. Before the

pandemic, it was nearly impossible to moderate health-related content that could pose a danger to society. Now, platforms like Meta and Twitter allow users to flag health misinformation so that misleading content can be removed. With the invasion of Ukraine, we have seen a number of tech companies shut down their operations in Russia and work with Ukrainian officials to thwart disinformation attempts. Companies like AirBnB have leveraged their platforms to directly

help the Ukrainian people. These shifts may have come too late in some cases, but it does reveal a tech industry willing to come to terms with the fact that they have the ability to cause severe damage to the fabric of society.

In Silicon Valley, there is more understanding around digital governance issues and there is hope that we are now seeing a tech industry that will come to embrace digital governance, as a step in its

evolution. Tech companies have embraced the techno-diplomatic community and even joined some of their initiatives, such as the Tech Diplomacy Playground. Therefore, Korea engaging with this community will highlight Korea's leadership in reigning in big tech. Furthermore, increasing tech diplomacy between Korea and the tech giants will increase the Korean government's influence in the governance of these technologies and therefore increase Korea's soft power.

As tech diplomacy becomes more established statecraft, the vision is that society will see the end of market-driven self-regulation and on the horizon is a path to collaboration between government, the tech industry, and civil society. Only with this type of collaboration will we see a transformation in the ability of technology to improve societal discourse and strengthen democratic values.



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www.gov.uk/world/organisations/british-consulate-general-san-francisco

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www.coldquanta.com

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United Nations Human Rights and Technology Team

www.digitalhub.ohchr.org

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