
Cybersecurity

The EU's Position in the China-US 5G Digital Competition

Stefania Jiang

Executive Summary

The fifth generation (5G) of mobile telecom networks has already become part of our new reality. In recent years, China and the US have been leading the technological competition for global supremacy. While many countries around the world have been siding with one of the two powerhouses, the European Union (EU) represents an interesting case. Due to its lack of cohesiveness in terms of 5G strategies, the EU falls behind in the global race, as European companies have yet to develop a comprehensive framework towards 5G. Accordingly, this policy memo explores the reality of cyber security, the significance of the introduction of 5G technology for the EU and the EU's position in the China-US digital competition. Consequently, a few policy options are considered, and, in the end, a policy recommendation is proposed to address the current issue of cyber security in the EU – i.e., the coordination of a common 5G strategy at the regional level.

Issue Description: What Is 5G, China-US Competition, Huawei Ban

Since the development of first receivers in the 1980s to the present day, four generations of telecommunications technology succeeded one another.^① While 3G offered mobile internet and 4G provided mobile broadband, 5G represents the newest generation of connectivity infrastructure today.^② It is predicted that alongside 5G, a new range of products and services will be introduced that will cover all sectors of society.^③ More precisely, 5G is an essential tool for artificial intelligence systems; it is supplying real-time data for collection and analytical purposes.^④ Additionally, it will upgrade the cloud service “by enabling the distribution of computing and storage, such as edge cloud, and mobile edge computing.”^⑤

① Lorenzo Mariani and Micol Bertolini, “The US-China 5G Contest: Options for Europe,” *Istituto Affari Internazionali Commentaries* 19, no.16 (2019): 2.

② European Commission, “The EU Toolbox for 5G Security,” *European Commission Website*, January 29, 2020. <https://digital-strategy.ec.europa.eu/en/library/eu-toolbox-5g-security> (accessed June 20, 2021).

③ *Ibid.*

④ European Commission, “5G,” *European Commission Website*, April 26, 2021. <https://digital-strategy.ec.europa.eu/en/policies/5g> (accessed June 20, 2021).

⑤ *Ibid.*

Two 5G key technological achievements have been recorded to this day: “enhanced machine-type communication and narrowband Internet of Things.”^① These two milestones have been reached by American telecommunications equipment company Qualcomm, and Chinese telecommunications company Huawei, respectively. Yet, China is currently a step ahead of the US, and it is leading the digital competition.^② Following closely after China and the US, the EU represents the third global hub for the development of 5G technology.^③ Based on 5G-technology market share, the EU is home to prominent high-tech companies, Ericsson and Nokia. These come in second and third place right after Chinese company Huawei.^④

In this regard, the use of 5G technology ignited a competition between two of the greatest leaders dominating the world technology scene: China and the US. This is because the introduction of this innovative wireless technology is predicted to impact our societies and economies to a greater extent.^⑤ Moreover, China-US rivalry has been going on for several years, as both great powers see 5G in geopolitical terms.^⑥ For the US, the main problem is associated with security risks of 5G networks: especially if Huawei is the company who developed these. Not surprisingly, in 2014 the US banned Huawei from telecom development in the country.^⑦

At the same time, the Trump Administration put pressure on its allies in Europe and elsewhere to not include Huawei in their national plans to develop 5G technology.^⑧ In essence, Washington tried to push its European partners to comply with the ban of Huawei technology by putting limitations on US cooperation, even in crucial areas like intelligence sharing cooperation.^⑨ As a consequence, a few European countries had no other choice but to comply with Trump’s policy to halt Huawei cooperation. However, the majority of EU member states have not yet adopted this strategy.^⑩

Stakes Analysis: Cybersecurity and Data Protection

① Qualcomm Technologies, “eMTC and NB-IoT,” *Medium*, August 2, 2017. <https://medium.com/iotforall/emtc-and-nb-iot-2339dd3833e1> (accessed June 22, 2021).

② Sheryl Tian and Tong Lee, “China Races Ahead of the U.S. in the Battle for 5G Supremacy,” *Bloomberg*, August 2, 2019. <https://www.bloomberg.com/news/articles/2019-08-01/china-bets-on-5g-socialism-in-push-to-lead-global-tech-race> (accessed June 22, 2021).

③ Mariani and Bertolini, “The US-China 5G Contest: Options for Europe,” 14.

④ *Ibid.*

⑤ *Ibid.*, 1.

⑥ Francesca Ghiretti, “Europe’s Maneuvering on 5G Technology: The Case of Italy,” *Istituto Affari Internazionali Commentaries* 20, no.67 (2020): 1.

⑦ Gabriele Carrer and Otto Lanzavecchia, “Italy Feels the Pressure of Trump’s Ultimatum over Huawei Tech,” *Formiche*, August 18, 2020. <https://formiche.net/2020/08/italy-feels-the-pressure-of-trumps-ultimatum-over-huawei-tech/> (accessed June 20, 2021).

⑧ *Ibid.*

⑨ Mariani and Bertolini, “The US-China 5G Contest: Options for Europe,” 18.

⑩ *Ibid.*

One of the main concerns surrounding the use of 5G technology is the risk of mishandling private data online. China, the US and the EU all have different approaches when it comes to 5G and the handling of online data. Cyber security is a pressing issue in our contemporary world, as it involves virtually every citizen. Basically, anyone who has a smartphone and connection to the Internet has to deal with security while navigating online. In other words, cyber security is a crucial reality for everyone, since smartphones have become an integral part of our daily lives.

In particular, the EU has a long history of regulating data protection. One of the most recent scandals involved UK-based consulting firm Cambridge Analytica and US social media network Facebook. In 2018, a case was opened, where the former was found out to be collecting 2.7 million EU Facebook users' personal data without prior consent.^① In particular, Cambridge Analytica collected information from Facebook's private profiles for several political campaigns (e.g., Leave campaign for 2016 Brexit referendum and former US President Trump's electoral campaign in 2016). Following the scandal, Facebook was fined \$5 billion by the US Federal Trade Commission for privacy violations.^② In the end, Facebook had to include a new section in its Terms and Services: while it does not require any subscription fee, it has to ask for the user's consent before sharing their data for commercial ends.^③

Policy Options

Banning Huawei

Although the EU shares the US' concerns on national security, the total exclusion of Chinese technology is not a feasible option for Europe for two main reasons. First, the European Commission aims to keep a diversified and sustainable 5G supply chain in order not to form long-term dependency.^④ Therefore banning Huawei from the EU digital markets goes against the promotion of fair and open competition that the EU advocates for. Second, cutting out Chinese telecommunications companies may cause serious collateral damages, as Beijing is playing a leading role in today's global value chains.^⑤

Consequently, the one-way US strategy against Chinese companies appears to be counterproductive, considering that it is not evenly adopted by all American allies.^⑥ In this regard, the strategy of the EU to work towards a "coordinated and multilateral strategy seems to be having a more positive and effective

① Catherine Stupp, "Cambridge Analytica harvested 2.7 million Facebook users' data in the EU," Euractiv, April 9, 2018. <https://www.euractiv.com/section/data-protection/news/cambridge-analytica-harvested-2-7-million-facebook-users-data-in-the-eu/> (accessed June 18, 2021).

② Julia Carrie Wong, "Facebook to be fined \$5bn for Cambridge Analytica privacy violations - reports," *The Guardian*, July 12, 2019. <https://www.theguardian.com/technology/2019/jul/12/facebook-fine-ftc-privacy-violations> (accessed June 18, 2021).

③ European Commission, "Facebook changes its terms and clarify its use of data for consumers following discussions with the European Commission and consumer authorities," *European Commission Website*, April 9, 2019. https://ec.europa.eu/commission/presscorner/detail/en/IP_19_2048 (accessed June 18, 2021).

④ European Commission, "The EU Toolbox for 5G Security."

⑤ Mariani and Bertolini, "The US-China 5G Contest: Options for Europe," 18.

⑥ *Ibid.*, 19.

impact.”^① Put briefly, banning Chinese technology altogether does not represent a winning strategy for the EU, who would not be able to catch up to its competitors and could potentially become overly-dependent on the US.^②

Hedging

The current China-US digital rivalry will lead to the creation of a bipolar global reality with two hubs. The majority of countries around the world will choose to adopt hedging strategies, including both American and Chinese technology. As explained by Professor Yan (2020), the hedging strategy can be distinguished from the non-alignment and neutrality strategies. While the latter two refer to the abstinence from taking sides, the hedging strategy favors interchangeably siding with one or the other party on a case-to-case basis. One classical example of hedging strategy is following China for economic reasons and the US for security-related reasons.^③

In addition, some European countries are discussing setting up a system compatible with both American technology and Huawei 5G, in order to avoid taking sides.^④ After the American threat to stop sharing intelligence data, this is the pragmatic solution that some EU member states are resorting to.^⑤ Yet, the current EU trend of decentralization makes it difficult for European member states to develop a comprehensive European telecommunications group.^⑥ Some instances of countries who successfully established their own independent telecommunications networks include South Korea and Japan, whose national systems cannot be accessed by foreign mobile phones.^⑦

Coordinating a Common Strategy at the EU Level

The reason why the EU is stuck between China-US competition is because it is unable to act independently. The EU cannot easily keep up with its global competitors, as it still highly depends on foreign technologies to develop 5G infrastructures.^⑧ In addition, the EU struggles, because of a significant lack of (1) investment in research and development (R&D), and (2) solidarity among member states to develop a common framework towards 5G technology to compete with the rest of the world.^⑨ The lack of a shared strategy has led to the creation of a diversified reality, marked by the presence of plenty of minor

① Mariani and Bertolini, “The US-China 5G Contest: Options for Europe,” 19.

② Ibid., 17.

③ Xuetong Yan, “Bipolar Rivalry in the Early Digital Age,” *The Chinese Journal of International Politics* 13, no.3 (2020): 332.

④ Ibid., 339.

⑤ Mariani and Bertolini, “The US-China 5G Contest: Options for Europe,” 18.

⑥ Xuetong Yan, “Bipolar Rivalry in the Early Digital Age,” 335.

⑦ Ibid., 339.

⑧ Mariani and Bertolini, “The US-China 5G Contest: Options for Europe,” 14.

⑨ Ibid.

operators and different standards scattered all across the continent.^① In other words, the EU is advancing at a slower pace compared to the US and China. This is because of the plurality of 5G deployment among member states.^② Nevertheless, the European Commission aims to “facilitate coordination between member states regarding standardization to achieve specific security objectives and developing relevant EU-wide certification schemes.”^③

Policy Recommendation

Soon, most of the global economy will become dependent on 5G networks. All in all, while the development of 5G technology guarantees more efficiency, it could also significantly expose many sectors to potential risks.^④

The case of Cambridge Analytica and Facebook showed how the EU has previously dealt with data sharing without consent, adopting a stern position. Therefore, in the case of 5G too, the EU should guarantee a solid legal and technical support to minimize the danger posed on people’s data; this data could be subject to cyber-attacks by hackers or by intelligence agencies.^⑤

At the present moment, the EU member states are stuck in a difficult position between China and the US in the international technological race. So far, the hedging strategy has worked and may continue to work in the short term, however, it is time for the EU to seriously address the issue of cyber security and 5G. Due to its nature of being a supranational entity, the EU should establish a regional framework and promote a common digital policy on the development of 5G in Europe. This is crucial for three reasons: first, to bring together and maximize the potential that each member state has to offer. Second, to invest in local technology and support European tech leading companies.^⑥ Third, to become less dependent on foreign technologies and, at the same time, increase competitiveness. This will form a united response to the China-US race to dominate the international digital scene. To sum up, instead of trying to compete with the US or China, the EU should take advantage of its plurality and progressively start to develop an independent telecommunications network.

① Mariani and Bertolini, “The US-China 5G Contest: Options for Europe,” 14.

② Ibid.

③ European Commission, “The EU Toolbox for 5G Security.”

④ Mariani and Bertolini, “The US-China 5G Contest: Options for Europe,” 18.

⑤ Ibid.

⑥ Ibid., 16.

Bibliography

- [1] Carrer, Gabriele and Otto Lanzavecchia. "Italy Feels the Pressure of Trump's Ultimatum over Huawei Tech." *Formiche*, August 18, 2020. <https://formiche.net/2020/08/italy-feels-the-pressure-of-trumps-ultimatum-over-huawei-tech/> (accessed June 20, 2021).
- [2] European Commission. "5G." *European Commission Website*, April 26, 2021. <https://digital-strategy.ec.europa.eu/en/policies/5g> (accessed June 20, 2021).
- [3] European Commission. "Facebook changes its terms and clarify its use of data for consumers following discussions with the European Commission and consumer authorities." *European Commission*, April 9, 2019. https://ec.europa.eu/commission/presscorner/detail/en/IP_19_2048 (accessed June 18, 2021).
- [4] European Commission. "The EU Toolbox for 5G Security." *European Commission Website*, January 29, 2020. <https://digital-strategy.ec.europa.eu/en/library/eu-toolbox-5g-security> (accessed June 20, 2021).
- [5] Ghiretti, Francesca. "Europe's Maneuvering on 5G Technology: The Case of Italy." *Istituto Affari Internazionali Commentaries* 20, No.67 (2020): 1-6.
- [6] Mariani, Lorenzo and Micol Bertolini. "The US-China 5G Contest: Options for Europe." *Istituto Affari Internazionali Commentaries* 19, No.16 (2019): 1-25.
- [7] Qualcomm Technologies. "eMTC and NB-IoT." *Medium*, August 2, 2017. <https://medium.com/iotforall/emtc-and-nb-iot-2339dd3833e1> (accessed June 22, 2021).
- [8] Stupp, Catherine. "Cambridge Analytica harvested 2.7 million Facebook users' data in the EU." *Euractiv*, April 9, 2018. <https://www.euractiv.com/section/data-protection/news/cambridge-analytica-harvested-2-7-million-facebook-users-data-in-the-eu/> (accessed June 18, 2021).
- [9] Tian, Sheryl and Tong Lee. "China Races Ahead of the U.S. in the Battle for 5G Supremacy." *Bloomberg*, August 2, 2019. <https://www.bloomberg.com/news/articles/2019-08-01/china-bets-on-5g-socialism-in-push-to-lead-global-tech-race> (accessed June 22, 2021).
- [10] Wong, Julia Carrie. "Facebook to be fined \$5bn for Cambridge Analytica privacy violations - reports." *The Guardian*, July 12, 2019. <https://www.theguardian.com/technology/2019/jul/12/facebook-fine-ftc-privacy-violations> (accessed June 18, 2021).
- [11] Yan, Xuetong. "Bipolar Rivalry in the Early Digital Age." *The Chinese Journal of International Politics* 13, No.3 (2020): 313-41.
-