

AFRICA AND THE US-CHINA TECH COMPETITION

JUNE 2023





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JUNE, 2023

2023 began with a 'new' wave of digital technologies: Generative AI platforms and the 'AI-tisation' of every possible aspect of social life, which have opened up a new dimension in geopolitics.¹ This emergence of new forms of artificial intelligence only points to one thing: the 'digital arms race' among major world powers would only continue to increase, as countries now view digital technologies as instruments of strategic and security importance, similar to how natural resources were regarded in the 19th and 20th centuries. These technologies will not only redefine the conduct of international politics, but they are now also major arenas of geopolitical and economic interests.

A prominent example of such 'digital arms race' is the ongoing US-China tech competition. This 'Great Tech Rivalry' as we know it broadly plays out in two forms: the first is the protectionist approach each party takes to limit the influence of the other's technologies on its economy. For instance, in the last few years, Washington has imposed tough sanctions on Chinese tech companies — including limiting their access² to critical American technologies such as semiconductors; banning³ the sale and import of services or products from Huawei and ZTE; and the recent scrutinisation of TikTok⁴, prohibiting its usage on US' state-owned devices. America is now also heavily concerned about the national security implications⁵ of its interdependence on Chinese technologies. Nonetheless, for all its recent decoupling efforts, Washington has historically been more open to technology relations with China than China has with it. On its end, Beijing is closed to all forms of foreign competition, not just with the U.S.; as evident in its highly restrictive import regime⁶ for digital services, a highly regulated internet space, and strong data localisation laws⁷.

The second way this competition plays out is in the attempt by both parties to export or internationalise their digital tech cultures (innovation, products, governance models, etc) abroad. This is an interesting paradox for China, which, on the one hand, seeks to limit foreign competition in its digital economy, yet takes an outward-facing approach in shaping the digital landscape in other countries of the world. For instance, the Chinese Communist Party (CCP) primarily views⁸ Beijing's Digital Silk Road initiative as an attempt to expand China's "rightful place" in the global technology domain, while limiting Western influence in the sector. Though a bit reactive to

¹ Larsen, B.C. "The geopolitics of AI and the rise of digital sovereignty", *Brookings Institution*, December 8, 2022. <https://www.brookings.edu/research/the-geopolitics-of-ai-and-the-rise-of-digital-sovereignty>

² Strumpf, D. "U.S. Tightens Restrictions on Huawei's Access to Chips", *The Wall Street Journal*, August 17, 2020. <https://www.wsj.com/articles/commerce-department-tightens-restrictions-on-huaweis-access-to-chips-11597671747>

³ The Associated Press. "U.S. bans the sale and import of some tech from Chinese companies Huawei and ZTE". NPR, November 26, 2022. <https://www.npr.org/2022/11/26/1139258274/us-ban-tech-china-huawei-zte#:~:text=WASHINGTON%20%E2%80%94%20The%20U.S.%20is%20banning.unacceptable%20risk%22%20to%20national%20security>.

⁴ Wong, S., Santaliz, K., and Brown-Kaiser, L. "Momentum builds in Congress to crack down on TikTok", *NBC News*, February 18, 2023. <https://www.nbcnews.com/politics/congress/congress-tiktok-ban-social-media-harms-teens-rcna70998>

⁵ Bateman, J. *U.S.-China technological "decoupling"*. Carnegie Endowment for International Peace, 2022. https://carnegieendowment.org/files/Bateman_US-China_Decoupling_final.pdf

⁶ Song, D. "China's Technology Import and Export Control Regime", *Field Fisher*, October 14, 2020. <https://www.fieldfisher.com/en/insights/introduction-on-china%E2%80%99s-technology-import-and-expo>

⁷ Dorwart, H. *Demystifying data localization in China: A practical guide*. Future of Privacy Forum, February 2022. <https://fpf.org/wp-content/uploads/2022/02/Demystifying-Data-Localization-Report.pdf>

⁸ Ohlberg, M., Lewis, D., Mohan, C.R., Santosh, P., Sharan, V., Padmanabhan, A. "China's Digital Silk Road: Implications for India", 2019. <https://www.kas.de/documents/264392/264441/Final+Report+Digital+Silk+Road.pdf/00a90b6f-5d15-c48e-1f7e-1d5231b90675?version=1.0&t=1576733092721>

Beijing's influence abroad, Washington has also lately been embracing a pragmatic approach to its digital partnerships in the developing world, including recently launching the Digital Transformation with Africa Initiative (DTA). Noteworthy though, American digital technology companies have had far greater global penetration⁹ and usage than Chinese companies.

Whichever way it swings, this tech competition could significantly impact smaller and newly digitising economies that rely on Chinese and American technologies. In recent years, both countries have been working to gain an edge and expand their influence in regions like Africa, where internet penetration is rapidly shaping socioeconomic growth. For China, the ICT sector is a strategic entry point in its quest for global economic dominance. For context, ICT constitutes about 38.6 percent¹⁰ of China's GDP. Beijing has also committed to positioning itself at the forefront of global technology innovation, as seen in its 14th 5-year plan (2021-2025) and President Xi Jinping's speech at the last CCP conference.

A recurrent discussion¹¹ in African policy circles is the need for African governments to maintain agency in their relationship with both countries, and to navigate this complex digital ecosystem in a way that benefits them without subserving the agenda of either side of the digital geopolitical divide. A key concern, however, is whether non-alignment — which scholars have argued¹² is a more pragmatic way for Africa to manage its foreign partnerships — is possible in an internet ecosystem mostly divided between the US and China.

This piece examines how the US-China tech competition plays out in African countries. It is divided into two sections. The first part identifies 3 key areas in Africa's digital ecosystem where China has been most active and where its activities intersect with Washington's interest on the continent, namely: digital infrastructure, digital services, and digital education or tech talent development. The second section discusses the geopolitical implications of these activities on the African continent.

Digital Infrastructure, digital services, and digital education: How China is closing the internet gap in Africa

Digital Infrastructure

Africa's digital development has improved over the years, although the continent still has a wide digital divide and lags behind all other parts of the world in internet

⁹ United Nations Conference on Trade and Development [UNCTAD]. Digital Economy Report 2019, 2019. https://unctad.org/system/files/official-document/der2019_en.pdf

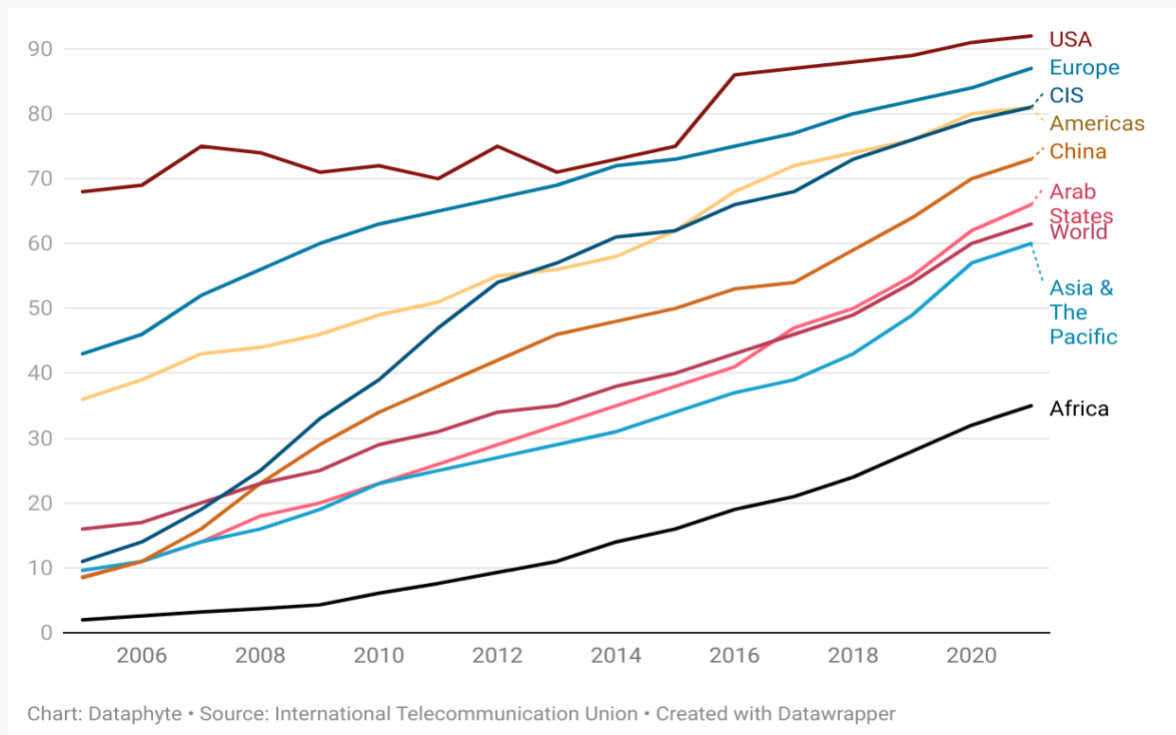
¹⁰ The State Council Information Office, The People's Republic of China. 'China forges ahead for brighter future in digital economy', April 15, 2022. http://english.scio.gov.cn/m/in-depth/2022-04/25/content_78185650.htm

¹¹ Clynch, H. "Are US-China tensions bad for Africa?", *African Business*, May 15, 2023. <https://african.business/2023/05/resources/are-us-china-tensions-bad-for-africa>

¹² Adebajo, A. "When two elephants fight: how the global south uses non-alignment to avoid great power rivalries", *The Conversation*, February 14, 2023. <https://theconversation.com/when-two-elephants-fight-how-the-global-south-uses-non-alignment-to-avoid-great-power-rivalries-199418>

penetration (as of 2021, only 35% of Africans have access to the internet, in contrast to 63% of the world average, 73% in China, and 92% in the U.S.). Africa’s growing digital economy is driven by mobile phone usage and increasing internet access, and China continues to play a pivotal role in providing the necessary investment driving this.

Figure 1: Internet usage by regions of the world



China’s role in Africa’s ICT sector could be viewed from a multiple role player perspective: a financier, infrastructure provider, owner, and operator of digital services. In recent years, Beijing has played a significant role in helping increase internet access in African countries. In fact, China is one of the major funders of ICT infrastructure on the continent. Beijing’s approach is unique in that it encourages Chinese major tech companies like Huawei and ZTE to develop local experience of Africa’s ICT space by building relationships and partnering with domestic internet service companies. For example, in Nigeria, Huawei partnered¹³ with MTN to provide the first 5G service to mobile phone users in the country, enabling users of Huawei and Xiaomi phones to be the first users of the service, earlier than other brands such as iPhone or Samsung. In Kenya, Huawei is working with¹⁴ Kenya’s largest telecoms provider, Safaricom, to implement 5G services, develop ICT talents, and train public service officials on digital skills. China’s private companies are also very deliberate about providing digital services for underserved areas in Africa, enabling them to

¹³ Business Day. “Huawei, Xiaomi owners are early gainers as MTN 5G service goes live”, *Business Day*, August 24, 2022. <https://businessday.ng/technology/article/huawei-xiaomi-owners-are-early-gainers-as-mtn-5g-service-goes-live/>

¹⁴ Comms Update. “Safaricom, Huawei partner for 5G experience centres in Nairobi”, *Comms Update*, March 17, 2023. <https://www.commsupdate.com/articles/2023/03/17/safaricom-huawei-partner-for-5g-experience-centres-in-nairobi/>

capture new markets and expand their reach on the continent. For instance, through its 'Rural Star'¹⁵ programme in Ghana¹⁶ and Nigeria¹⁷ Huawei has teamed up with MTN to provide internet services in the hardest-to-reach parts of these countries, allowing it to reach millions of new customers.

Apart from providing the necessary funding and infrastructure installation, Huawei and ZTE also maintain the infrastructure they provide and equip stakeholders with the relevant digital training to manage them. In addition to learning the African market, this approach has enabled Chinese firms to gain extensive competitive advantage and earn African countries' preference over their Western counterparts.

This influence continues to grow. According to the Australian Strategic Policy Institute's *Mapping China's Tech Giant*¹⁸ database which examines the reach of 27 Chinese tech firms in Africa's ICT sector, as of 2019, Chinese companies have implemented 257 ICT-related projects or partnerships in Africa, including digitally-driven smart cities, R&D labs, research partnerships, 5G & 4G networks, data centres, surveillance technologies, among others. Of these, Huawei, ZTE, Baidu, Alibaba, and Tencent lead investments or business operations in Africa's digital ecosystem. This data does not include projects or finance outrightly implemented by China's policy banks.

Interestingly, many of these projects predate the Digital Silk Road (DSR) initiative, which began only in 2015 as a component of the Belt and Road Initiative (BRI). Evidently, Chinese technologies have for long captured the African market, even before Beijing took a programmatic approach to its overseas expansion in the ICT sector.

Two key reasons have enabled this advantage: First, Chinese companies offer relatively cheaper technological devices. As Africa's digital penetration is primarily driven by mobile phone usage, (influenced by its relatively young population), Chinese companies have been able to offer mobile technology devices that strongly appeal to this population affordable prices and technical designs tailored for the African market (camera quality, battery life, audio strength, etc).

The second reason Chinese tech companies have gained more ground in Africa is that, for much of its fears about the risks of Chinese tech in Africa, the West not until recently has not provided equally affordable and safer alternatives on the continent. As an FP article¹⁹ puts it, "for Africa, Chinese-built internet is better than no internet at all". Even for simpler forms of technologies such as mobile phones, South Korea, a

¹⁵ Huawei. "RuralStar: Remote Doesn't Mean Out of Reach", Huawei, n.d., <https://www.huawei.com/za/tech4all/stories/ruralstar>

¹⁶ Staff Writer. "MTN, Huawei target rural areas with affordable internet access". *IT Web*, February 28, 2023. <https://itweb.africa/content/5yONP7ErmxkMXWrb>

¹⁷ Eleanya, F. "Huawei's digital inclusion drive deepens internet access to millions of Nigerians", *Business Day*, March 28, 2019. <https://businessday.ng/technology/article/huaweis-digital-inclusion-drive-deepens-connectivity-to-millions-of-nigerians/>

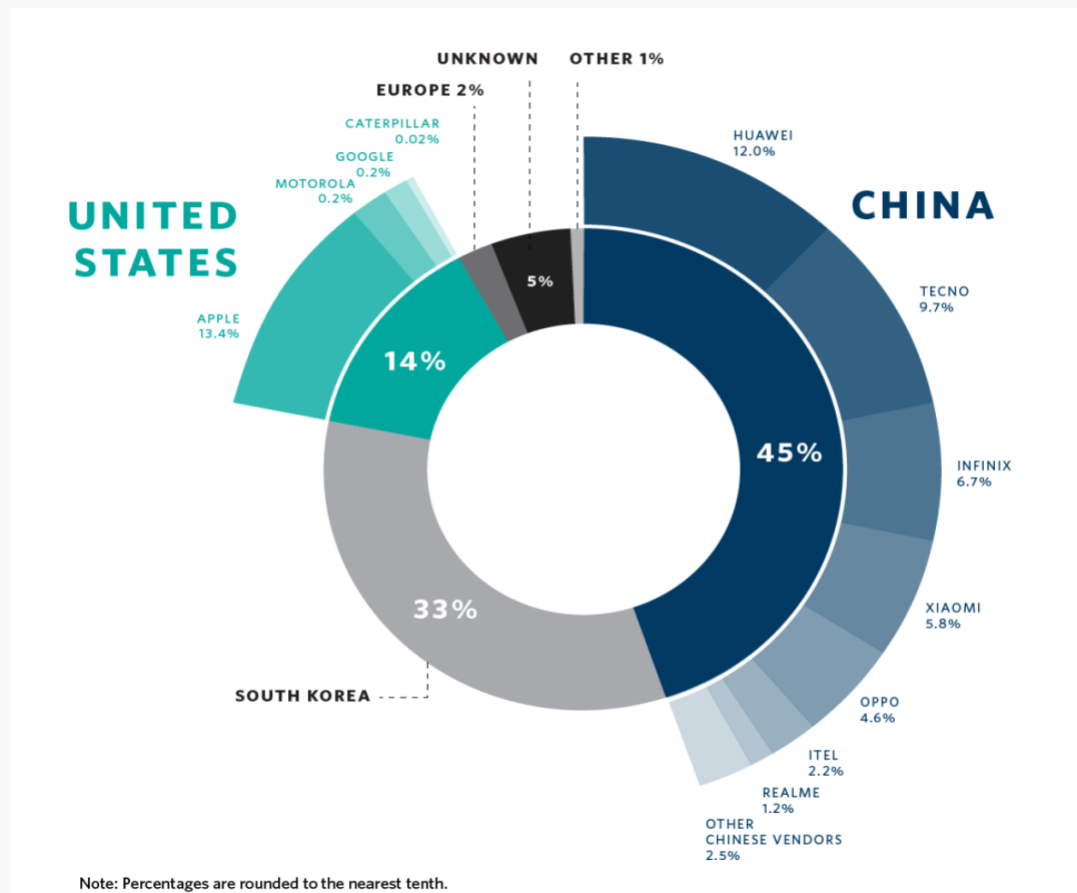
¹⁸ Australian Strategic Policy Initiative. 'Mapping China's Tech Giants' [Database]. <https://chinatechmap.aspi.org.au/#/data/>

¹⁹ Mackinnon, A. "For Africa, Chinese-Built Internet Is Better Than No Internet at All", *Foreign Policy*, March 19, 2019. <https://foreignpolicy.com/2019/03/19/for-africa-chinese-built-internet-is-better-than-no-internet-at-all/>

country with relatively safer, less compromised, but more expensive forms of technology than China, leads the U.S and Europe in mobile phone supply to Africa.

A report²⁰ by Carnegie Endowment on the impact US-China tech rivalry on Africa’s mobile phone sector shows Africa’s mobile phone market share by source country.

Figure 2: Africa’s mobile phone market by source country



Source: Munga and Denwood (2022)

Interestingly, while Beijing now claims to focus more on ‘small is beautiful’ and less capital-intensive projects on the African continent, its investment in digital infrastructure has been increasing. For instance, ICT is one of the top 4 industry sectors China has invested in in the last twenty years, the rest being mining, power, and transport. Likewise, of the four industries it directed its investment towards in the year 2020 (ICT, Power, Transport and Banking), ICT had the second largest share of total investment.

²⁰ Munga, J., Denwood, K. ‘How Will U.S.-China Tech Decoupling Affect Africa’s Mobile Phone Market?’, Carnegie Endowment for International Peace, October 3, 2022. <https://carnegieendowment.org/2022/10/03/how-will-u.s.-china-tech-decoupling-affect-africa-s-mobile-phone-market-pub-88034>

Figure 3: Chinese Investment in Africa by sector (% of total investment)

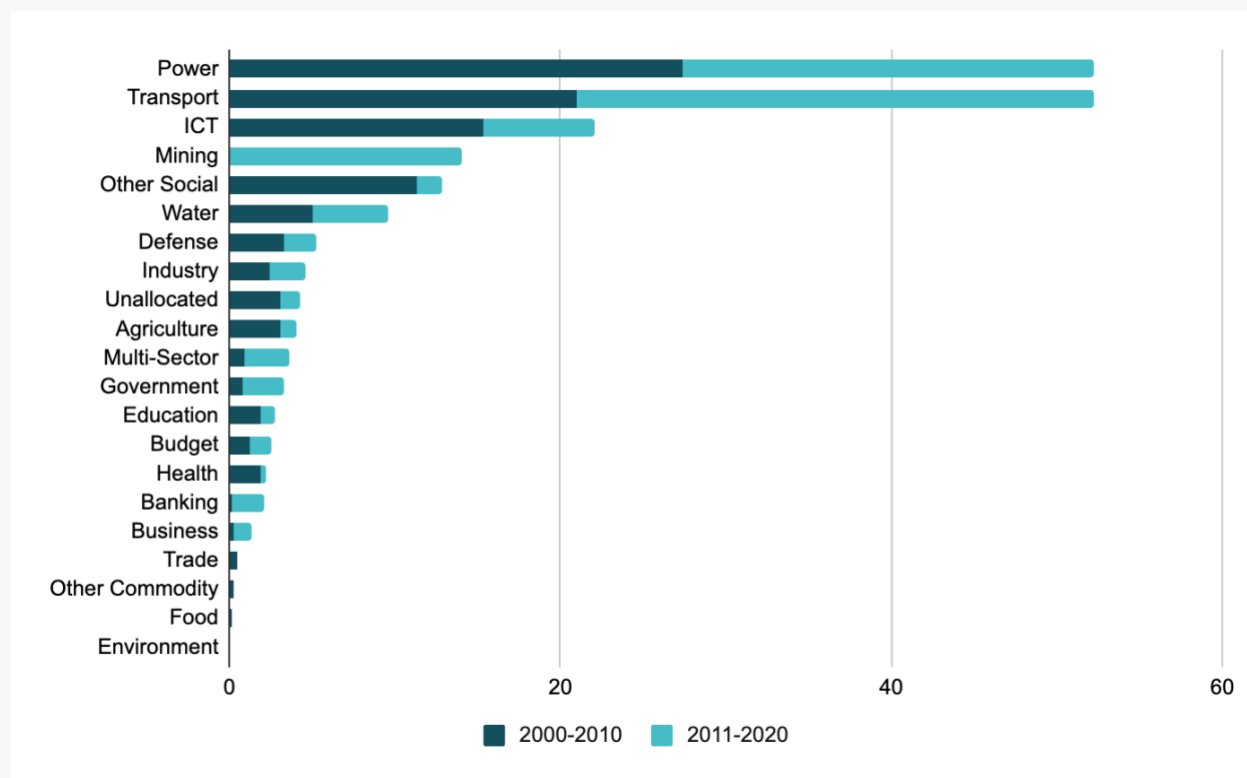


Chart: Dataphyte | Data Source: Chinese Loans to Africa Database, Global Development Policy Center

More visuals below show a quick breakdown of China’s investment in Africa’s ICT sector, based on the Global Development Policy Center’s *Chinese Loans to Africa*²¹ Database.

Between 2000 and 2020, China has invested more than 13.5 billion USD in Africa’s ICT sector. Breaking the dataset into two periods of a decade each (i.e., 2000-2010, and 2010-2020), Chinese investment in Africa’s ICT sector between 2010 to 2020 more than doubled the figures in the first decade (See Table 1 below). In the first decade, nearly 45% of this investment came from China’s private technology companies, and about half from its policy banks. By the second decade however, the share of ICT financing from China’s Policy Banks had increased to 77%, while the private sector share shrank to 19%. This is an interesting data point, as typically in recent years, Chinese policy banks mostly provide the funding for ICT infrastructure while Chinese firms such as Huawei implement them. The point here is that Chinese tech companies like Huawei are almost inseparable from Beijing when it comes to the way they operate in Africa (more under the ‘Geopolitical Implications’ section).

²¹ Global Development Policy Centre. ‘Chinese Loans to Africa Database’ [Database]. <https://www.bu.edu/gdp/chinese-loans-to-africa-database-data-download/>

Chinese Investment in Africa's ICT, by financier (\$m)

	2000-2010	2010-2020
Policy Banks	2,628	6,634
Private Contractors	2,179	1,644
Commercial Banks	59	319
Other CN Govt Sources	61	5
Total	4,927	8,602

Table: Dataphyte • Source: Global Development Policy Center (2022) • Created with Datawrapper

*Private contractors include Huawei Technologies, ZTE, StarTimes Group, and other private Chinese tech companies.

*Chinese commercial banks include: the Industrial and Commercial Bank of China (ICBC), the Bank of China (BOC), and other private lenders.

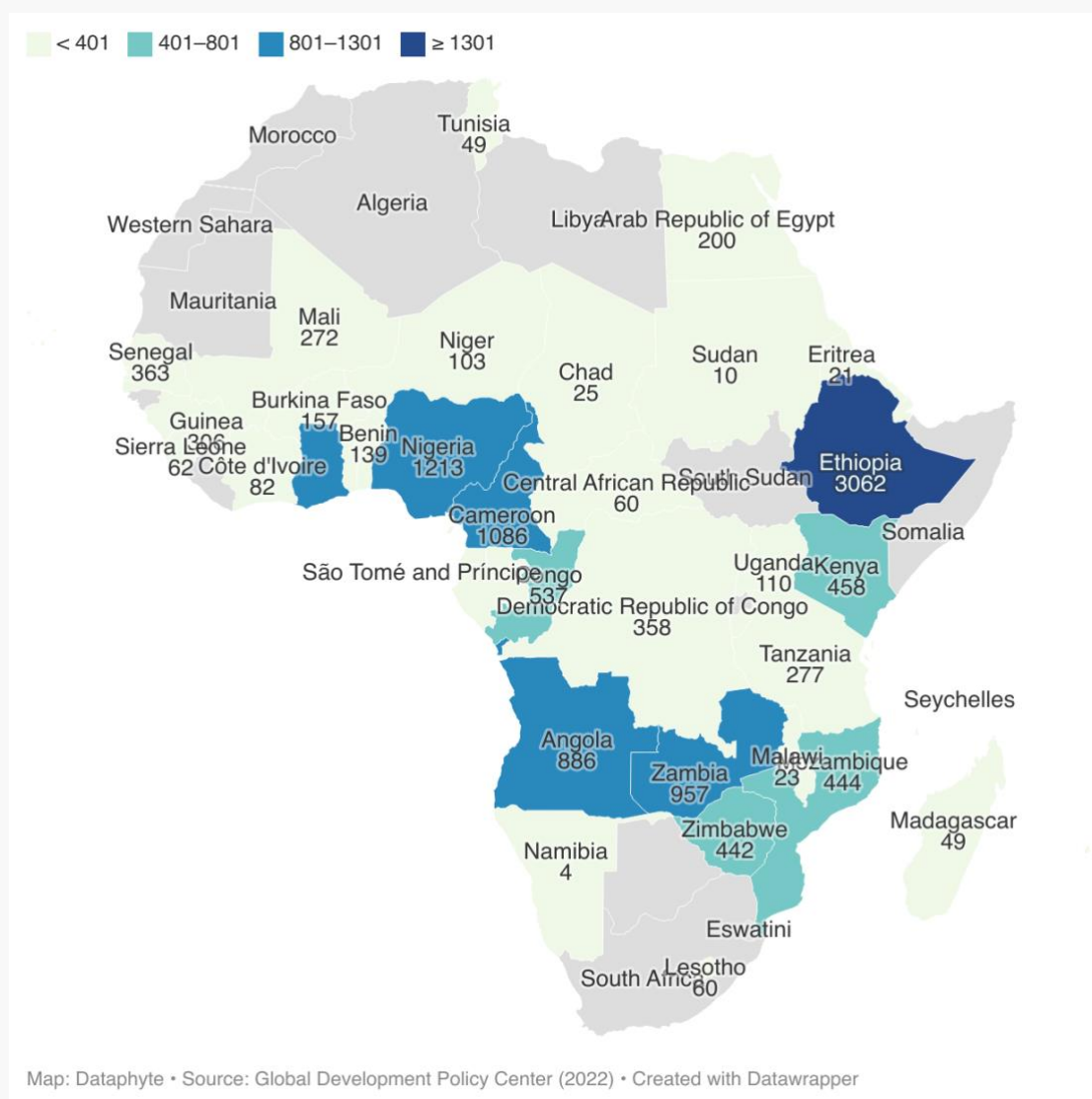
* Chinese Policy Banks include the China Development Bank (CDB), the Export Import Bank of China (CHEXIM), but excludes the Agricultural Development Bank of China as it does not provide overseas infrastructure financing.

A breakdown by country shows Ethiopia, Nigeria, and Cameroon, respectively, are the top 3 recipients of Chinese ICT financing in Africa. In the first decade (2000 to 2010) Ethiopia, Nigeria and Angola received the highest amount of ICT financing, at \$ 1.9 billion, 779 million, and 704 million, respectively. The second decade in the data set sees a bit of a shift, with Ethiopia, Cameroon and Zambia being the top 3 recipients, at \$1.1 billion, 954 million, and 949 million respectively. Interestingly, while 4 of these 5 countries — Ethiopia, Angola, Nigeria and Zambia— feature²² more commonly as China's priority in Africa's ICT, it is Algeria, Egypt, Tunisia, Morocco and South Africa that are the top markets²³ for Chinese telecoms on the continent.

²² Quadri, S. "The Next Wave: Should Africa be worried about Chinese tech dominance?", *Tech Cabal*, May 16, 2022. <https://techcabal.com/2022/05/16/the-next-wave-should-africa-be-worried-about-chinese-tech-dominance/>

²³ Institute of Developing Economies. 'China's Telecommunications Footprint in Africa', n.d. https://www.ide.go.jp/English/Data/Africa_file/Manualreport/cia_09.html

Figure 4: Chinese Investment in Africa's ICT sector, by countries (\$m, 2000-2020)



Yet, despite global push backs against Chinese technologies in the West, China continues to expand the influence of its top technology companies in Africa. In 2020, when the U.S government announced its Clean Network Initiative²⁴, targeted at limiting Huawei’s 5G technology globally, no African country agreed to this pact. On the other hand, Chinese tech companies continue to have an increasing level of influence in Africa, signing numerous bilateral agreements, loan commitments and featuring in major digital partnership programmes including the BRI, the DSR, the

²⁴ U.S Department of State. 'The Clean Network', n.d. <https://2017-2021.state.gov/the-clean-network/index.html#:~:text=The%20Clean%20Network%20program%20is,as%20the%20Chinese%20Communist%20Party>

Digital Innovation Program²⁵ of the China-Africa Cooperation Vision 2035, the China-Africa Media Cooperation Forum²⁶, among others.

The U.S on the other hand, has historically lacked a similarly coordinated digital partnership in Africa as Beijing at least, not until December 2022, when the Biden administration announced²⁷ a new partnership the Digital Transformation in Africa (DTA) initiative that would see American government invest approximately \$300 million and facilitate about \$450million financing for Africa’s digital development. Under the initiative, the US government promised²⁸ to invite African telecoms regulators to Washington to provide technical support for its regulatory ambitions, and to hold an Open Radio Access Network (RAN) dialogue in Africa.” It is yet to convene such a gathering. Of course, earlier partnerships existed which generally focused on emerging markets, and not specifically on Africa, such as the Digital Connectivity and Cybersecurity Partnerships (DCCP)²⁹. Evidently, a 2022 initiative versus one that existed 7 years before, leaves much gap to be covered.

This raises a dilemma: despite increasing concerns about the safety of Chinese technologies, including evidence of surveillance, digital sovereignty concerns, and the likelihood to influence digital authoritarianism on the African continent, there are not many alternative partners operating at the same scale as Beijing does in Africa. The US, for all its intent to ensure a safer internet ecosystem in Africa, needs to implement a thoroughly programmatic approach to ICT development on the continent, beyond the current efforts from US big tech firms.

Digital Services

Beside digital infrastructure, another area of interest in Africa’s ICT space is digital services. At the 2021 China-Africa Internet Development and Cooperation Forum³⁰, China committed to promoting the integration of its digital services into Africa’s economy, helping to improve overall digitisation for businesses and public sector organisations. Currently, much of Africa’s fintech space is powered by Chinese players³¹. In Nigeria, Chinese fintechs such as PalmPay and Opay are becoming more popular³² with citizens than traditional banks, due to their seamless service

²⁵ Consulate General of the People’s Republic of China in Lagos. “Africa will benefit from nine programs”. December 6, 2021. http://lagos.china-consulate.gov.cn/eng/zlszc/202112/t20211206_10462694.htm

²⁶ PR News Wire. ‘The 5th Forum on China-Africa Media Cooperation Promotes Digital Media Development, Strengthens Strategic Partnership’, *PR News Wire*, August 30, 2022. <https://www.prnewswire.com/news-releases/the-5th-forum-on-china-africa-media-cooperation-promotes-digital-media-development-strengthens-strategic-partnership-301614427.html>

²⁷ Forland. S. ‘Investing in Africa’s Digital Future’, *New America*, January 18, 2023. <https://www.newamerica.org/digital-impact-governance-initiative/blog/investing-in-africas-digital-future/#:~:text=Through%20the%20new%20initiative%2C%20the,to%20bolster%20Africa's%20digital%20transformation.>

²⁸ The White House. “FACT SHEET: New Initiative on Digital Transformation with Africa (DTA)”, December 14, 2022. <https://www.whitehouse.gov/briefing-room/statements-releases/2022/12/14/fact-sheet-new-initiative-on-digital-transformation-with-africa-dta/>

²⁹ USAID. ‘Digital Connectivity and Cybersecurity Partnership (DCCP)’, n.d. <https://www.usaid.gov/digital-development/digital-connectivity-cybersecurity-partnership>

³⁰ Ministry of Foreign Affairs of the People’s Republic of China. ‘China will work with Africa to formulate and implement a China-Africa Partnership Plan on Digital Innovation’, August 24, 2021. https://www.fmprc.gov.cn/mfa_eng/wjbxw/202108/t20210825_9134687.html

³¹ Adeyemi, D. ‘M-Pesa, Opay, Telebirr, Palmpay: How Chinese tech is powering African fintech’, *Tech Cabal*, October 7, 2021. <https://techcabal.com/2021/10/07/chinas-growing-influence-is-transforming-african-tech/>

³² Onukwe, A. “Chinese-owned apps are the big winners after Nigeria’s cash crisis”, *Semafor*, March 27, 2023. <https://www.semafor.com/article/03/27/2023/fintechs-opay-palmpay-nigeria-cash>

integrations, fast and easy cash transfers, and network effect. Yet, this situation comes with enormous risks, as several Chinese loan apps (some of which operate without an approval from Nigeria's Central Bank) have reportedly³³ plunged citizens into precarious financial situations due to their ridiculous loan interests, short payment timelines, violation of citizens' privacy, and harassment.

Beijing is also setting up digital services hubs in China, to support Chinese firms' e-commerce exchange with African countries. In February, 2023, the Chinese government launched³⁴ a China-Africa Digital Services Hub in Changsha to support cross-border communications, socioeconomic data exchange, digital data sharing and training support between Chinese and African technology companies.

Additionally, many Chinese mobile devices in Africa, such as Xaomi, Tecno and Oppo come with pre-installed Chinese digital platforms such as *Boomplay*, *China Literature*, *Xender*, among others. This should ordinarily not be a challenge as non-Chinese mobile devices such as the iPhone and Samsung also come with their own pre-installed services. The difference however is that Chinese mobile phone brands specifically tailor these apps for the African market, enabling a digital capture in a way. Besides, reports³⁵ of alleged pre-installation of malwares on more than fifty thousand Tecno phones sold in Cameroon, Ghana, Egypt, Ethiopia, and South Africa raise cause for concern.

The pronounced risks from Chinese digital services nonetheless, American technologies are still the leading providers of digital services such as fintech, operating systems, cloud services and digital platforms. The challenge, however, with these services is that they charge premium prices which are not affordable for most of Africa's population. Certainly, more credible alternatives are needed to safeguard African users' digital security, but the fact that competing brands from the U.S and other parts of the world are not very much affordable makes this challenging.

Digital Education

Not only is China leading in infrastructure financing in Africa's ICT, it is also leading strides in developing Africa's tech talent. For example, Huawei has recently announced it would train about three million African youth³⁶ in digital skills. It is also organising several technology competition programmes and short trainings for university students and civil servants in countries like Nigeria³⁷ and Zimbabwe³⁸.

³³ Abba, A. "How fintech loan sharks in Nigeria cyberbully, trap customer in debt", *International Centre for Investigative Reporting*, October 27, 2021. <https://www.icirnigeria.org/how-fintech-loan-sharks-in-nigeria-cyberbully-trap-customers-in-debt/>

³⁴ Maritime Gateway. "China-Africa Digital Trade Services Hub In Hunan", *Maritime Gateway*, n.d. <https://www.maritimegateway.com/china-africa-digital-trade-services-hub-in-hunan/>

³⁵ BBC News. "Chinese phones with built-in malware sold in Africa", August 25, 2020. <https://www.bbc.com/news/technology-53903436>

³⁶ VOA News. "Nigeria China Africa ICT USAGM", September 2, 2021. <https://www.voanews.com/a/6203783.html>

³⁷ Daybreak. "Huawei to provide free ICT training for 30,000 Nigerians", April 27, 2022. <https://daybreak.ng/huawei-to-provide-free-ict-training-for-30000-nigerians/>

³⁸ Xinhua News. "Feature: Chinese tech giant Huawei's program strengthens ICT skills of Zimbabwean students". May 30, 2021. http://www.xinhuanet.com/english/africa/2021-05/30/c_139979249.htm

Of course, when it comes to digital skills development, Chinese and American firms have an almost equal footprint in Africa. For example, the Google Digital Skills Africa programme has, since launched, equipped more than 1 million Africans with digital skills. Its peer, Microsoft has also implemented several initiatives to develop Africa's young tech talents, including a partnership³⁹ program with the AfDB and the Technology for Social Change and Development Initiative⁴⁰ which has trained millions of African youth in tech skills.

The implication of such tight competition in Africa's digital education is that African countries have a diverse pool of talents to develop their digital ecosystem and are as such not bound to one mode of technology. The other implication is that whichever of the U.S and China is able to capture Africa's tech talent ecosystem can influence its digital cultures. In this sense, one can expect that trainings from American firms would entrench America's liberal-tech values in Africa's tech development, while a China-driven training would likely replicate China's closed internet model.

What are the geopolitical implications of this in Africa?

3 key points are worth noting on how China-US tech competition might affect Africa.

1. Chinese private telecoms and Beijing are inseparable, but Washington and its big techs operate distinctively in Africa.

It is perhaps an open secret that many Chinese tech companies maintain a close relationship with the Chinese Communist Party (CCP). A report⁴¹ by the Australian Strategic Policy Institute notes that China's big tech companies have the highest number of internal CCP committee members who are in the business sector. Many Chinese startups such as Didi have also openly embraced the CCP activities by establishing party organisations⁴² and appointing CCP party members as role models for their start-ups.

Specifically, China's biggest private tech company, Huawei, has been reported⁴³ to work directly with China's Public Security Bureau in implementing its project in Africa, even though the company has on several occasions denied any partnership with the Chinese government. Additionally, all Huawei's financial transactions on the African

³⁹ Ajakaiye, F. "Microsoft Strengthens Partnership with AfDB to Fast-track Africa Youth entrepreneurship", *This Day*, September 2022. <https://www.thisdaylive.com/index.php/2022/09/27/microsoft-strengthens-partnership-with-afdb-to-fast-track-africa-youth-entrepreneurship>

⁴⁰ Endurance, O. "Microsoft equips half a million Nigerian youth with digital skills training", *Business Day*, February 5, 2020. <https://businessday.ng/technology/article/microsoft-equips-half-a-million-nigerian-youth-with-digital-skills-training/>

⁴¹ Cave, D., Hoffman, S., Joske, A., Ryan, F., Thomas, E. *Mapping China's Technology Giants*. Australian Strategic Policy Initiative, 2019, Report no. 15. https://ad-aspi.s3.ap-southeast-2.amazonaws.com/2019-05/Mapping%20China%27s%20technology%20giants.pdf?VersionId=EINwiNpste_FojtqOPriHtIFSD2OD2tL

⁴² Pham, S. "Why China's tech giants are cozying up to the Communist Party", *CNN Business*, November 4, 2018. <https://edition.cnn.com/2018/11/02/tech/china-tech-communist-party/index.html>

⁴³ Cave D., Ryan, F., Xu, V.X. *Mapping More of China's Technology Giants: AI and Surveillance*. Australian Strategic Policy Initiative, 2019, Report no. 24. <https://ad-aspi.s3.ap-southeast-2.amazonaws.com/2019-12/Mapping%20more%20of%20Chinas%20tech%20giants.pdf?VersionId=wpDVHlKgXJHzeK8rZ.kmy0Ei63RxXMO>.

continent are handled by the Chinese Exim Bank; in fact, both the Exim Bank and the China Development Bank (CDB) provided⁴⁴ Huawei and other Chinese companies with loans that gave them much of the head start they enjoyed in Africa's ICT space. Operations-wise, Chinese laws also require Chinese technology companies to abide by its national intelligence and cybersecurity laws, which require them to share information with the Chinese government. A relevant example here is the much-reported case⁴⁵ of Beijing using Huawei CCTV cameras to secretly monitor activities in the Chinese-funded AU Headquarters for five years. The company has also been responsible for implementing the majority of the ICT infrastructures⁴⁶ in the over 180 African government buildings constructed or renovated by China.

This sort of pair operations has been mostly absent in the way the U.S government and its private technology companies operate in Africa. For the most part, U.S technology companies have been investing heavily in Africa's digital services, separately from government-led initiatives. American tech giants such as Google and Microsoft also provide significant aid and technical support for Africa's digital services sector. In 2021, Google announced⁴⁷ a \$1 billion investment to support Africa's digital transformation; Microsoft is likewise supporting African start-ups with \$500 million in funding. All this investment and aid have happened without government impetus. Understandably though, this is due in part to America's liberal and market-led economy, which emphasises the separation of the state from the market, and thus sees Washington and American big techs to operate independently even abroad. This however does not prohibit stimulating state and private sector partnerships. Lately, the U.S government has begun fostering more public-private partnerships in Africa's ICT space, such as the Africa Tech For Trade Alliance (AT4T)⁴⁸ which includes top tech firms such as Google, Mastercard, and Visa. It remains to be seen to what degree this can match up to China's level of state-private sector engagement in Africa.

2. Both the U.S and China seek to expand their digital governance norms in Africa, but Washington much less.

First, going beyond infrastructure and service provision, both parties are now striving to leverage their ICT presence to influence the development of technological norms on the continent. For example, Xi Jinping, has on several occasions announced⁴⁹ Beijing's intent to develop China into the world's Cyber Superpower and to "to push China's proposition of internet governance toward becoming an international

⁴⁴ Institute of Developing Economies. 'The role of China's Financial Institutions, n.d. https://www.ide.go.jp/English/Data/Africa_file/Manualreport/cia_11.html

⁴⁵ Meservey, J. 'How China has been using Huawei-made cameras to Spy on the African Union Headquarters', The Heritage Foundation, December 23, 2020. <https://www.heritage.org/africa/commentary/how-china-has-been-using-huawei-made-cameras-spy-the-african-union-headquarters>

⁴⁶ Meservey, J. 'Government buildings in Africa are a likely vector for Chinese spying'. The Heritage Foundation, May 20, 2020. <https://www.heritage.org/sites/default/files/2020-06/BG3476.pdf>

⁴⁷ Pichai, S. 'Our \$1 billion investment in Africa's digital transformation', Google, October 6, 2021. <https://blog.google/around-the-globe/google-africa/google-for-africa/>

⁴⁸ Prosper Africa. 'Prosper Africa Tech for Trade Alliance', n.d. <https://www.prosperafrica.gov/prosper-africa-tech-for-trade-alliance/>

⁴⁹ Kania, D., Sacks, S., Triolo, P., Webster, G. "China's Strategic Thinking on Building Power in Cyberspace", New America, September 25, 2017. <https://www.newamerica.org/cybersecurity-initiative/blog/chinas-strategic-thinking-building-power-cyberspace/>

consensus". The point here is that China is rising to challenge current global internet governance norms, which is fragmented⁵⁰ into an "open, free and secure internet" led by the U.S and the EU, versus a "closed and authoritarian" digital space led by China. While Beijing-led internet technical standards are very unlikely to be accepted in developed countries, it is already succeeding on the African continent through its 'Digital Sovereignty' rhetoric. In adopting this model, many African countries are implementing near-authoritarian internet laws, including for example, the imposition of 'social media' or 'blogger' taxes⁵¹ in Uganda, Zambia, Benin and Tanzania; internet and/or social media shutdowns⁵² in Cameroon, Sudan, Nigeria, Chad, Ethiopia, among others; and the adoption of Chinese surveillance technologies⁵³ to spy on citizens in Kenya, Zambia, and Uganda.

On the American front, one thing is certain: Washington does not view the current age of global digitisation with much optimism as it did in the early 90s when the internet revolution first began. Now, government officials are mostly concerned about the national (digital) security implications of a globalised internet ecosystem. This is unsurprising, given that a vast majority of Americans now believe⁵⁴ that their data is being tracked by tech companies and that they have no control over their privacy. Nevertheless, Washington, like Beijing, is also keen on influencing digital norms abroad. This is evident in its spearheading of the *2022 Declaration for the Future of the Internet*⁵⁵, which seeks to promote an inclusive, affordable and multistakeholder internet ecosystem that fosters trust and human rights among democratic nations. In April 2023, the U.S Congress also passed the Countering Untrusted Telecommunications Abroad Act⁵⁶ which specifically aims to limit the risks posed by Chinese technologies on U.S embassies abroad and among American allies and partners. However, it appears that America, unlike China, has been less successful in influencing digital governance norms in Africa. For instance, of the 61 countries that signed the Declaration for the Future of the Internet, only 3 were African.

3. China is not the only major player in Africa's ICT Sector.

The second point worth noting is that, while China is an important player in Africa's ICT sector, it is not the only major supplier or partner. African countries currently have a diversified portfolio of global ICT partners, including other African countries;

⁵⁰ Hawkins, Z. "Internet Governance Doublespeak: Western Governments and the Open Internet", Council on Foreign Relations, January 4, 2023. <https://www.cfr.org/blog/internet-governance-doublespeak-western-governments-and-open-internet>

⁵¹ Gravett, W. 'Digital neo-colonialism: The Chinese model of internet sovereignty in Africa', *African Human Rights Law Journal*, 20(1), 2020. <http://www.scielo.org.za/pdf/ahrj/v20n1/06.pdf>

⁵² Ayantola Alayande. 'Digital Technology's Long Shadow over Elections and Democracy: Twitter and Nigeria's 2023 Elections', *Dataphyte*, September 1, 2022. <https://www.dataphyte.com/latest-reports/elections/digital-technologys-long-shadow-over-elections-and-democracy/>

⁵³ Dahir, A.L "Chinese firms are driving the rise of AI surveillance across Africa" *Quartz*, September 18, 2019. <https://qz.com/africa/1711109/chinas-huawei-is-driving-ai-surveillance-tools-in-africa>

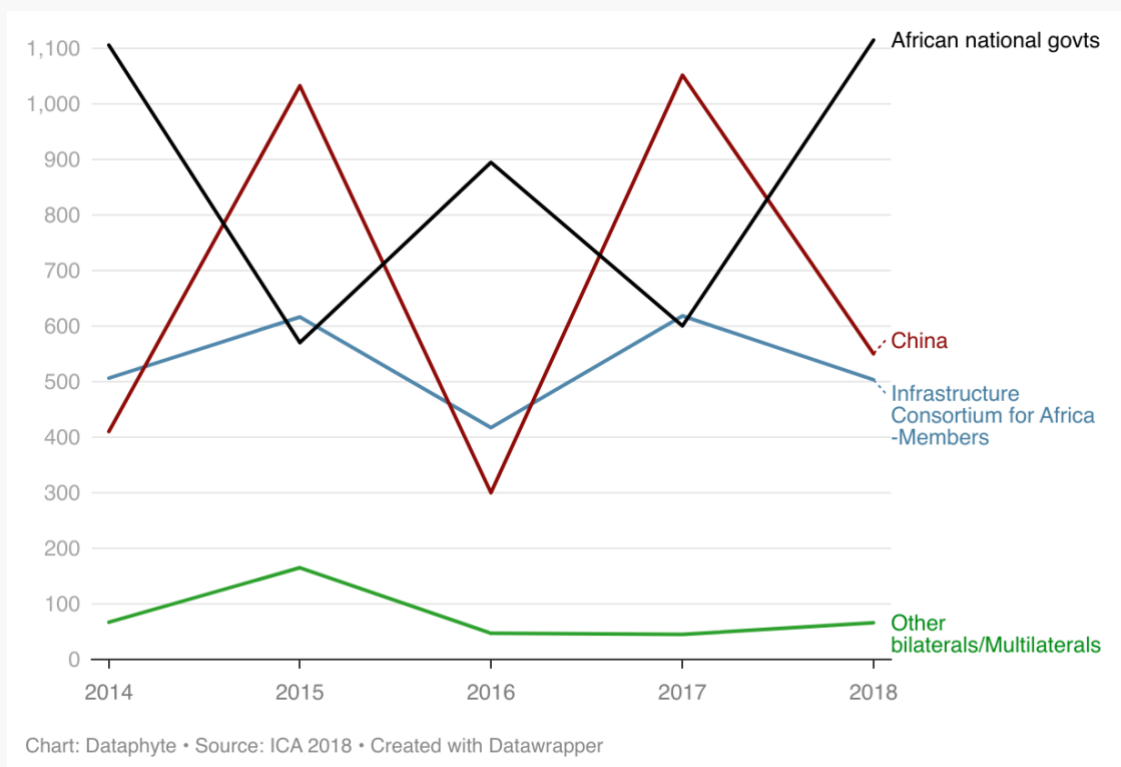
⁵⁴ Auxier, B., Rainie, L., Anderson, M., Perrin, A., Kumar, M., Turner, E. *Americans and Privacy: Concerned, Confused and Feeling Lack of Control Over Their Personal Information*. Pew Research Center. <https://www.pewresearch.org/internet/2019/11/15/americans-and-privacy-concerned-confused-and-feeling-lack-of-control-over-their-personal-information/>

⁵⁵ White House. 'A Declaration for the Future of the Internet'. <https://www.whitehouse.gov/wp-content/uploads/2022/04/Declaration-for-the-Future-for-the-Internet-Launch-Event-Signing-Version-FINAL.pdf>

⁵⁶ Revell, E. "House passes bill cracking down on use of Chinese telecom firms' tech over spying concerns", *Fox Business*, April 19, 2023. <https://www.foxbusiness.com/politics/house-passes-bill-cracking-down-use-chinese-telecom-firms-tech-over-spying-concerns>

EU member states such as Estonia; Israel; American big techs such as Meta, Microsoft, and Google; and multilateral development banks. In fact, as of 2018, Chinese finance still constituted less than 10 percent⁵⁷ of the total ICT infrastructure finance in Africa. In fact, at the moment, no single actor fully dominates Africa's ICT space. While China is a major player in infrastructure development, Africa's software platforms, search engines, cloud services and fintechs are mostly dominated by American⁵⁸ companies.

Figure 5: Total ICT Investment by financing source (\$m)



Besides, there are big concerns with a heavily bipolarised digital governance (the U.S versus China) discussion in Africa. First, it overshadows the fact that many African countries also have their own individually distinct internet governance and digital partnership approaches.

Secondly, it obliterates the presence of other regional actors on the continent. The global tech ecosystem has numerous national, regional, and organisational tech governance models, driven largely by differing political, economic, and cultural values. India for instance operates an ambiguous hybrid⁵⁹ model which emphasises digital sovereignty and the protection of infant digital businesses.

⁵⁷ The Infrastructure Consortium for Africa. *Infrastructure Financing Trends in Africa – 2018*, 2018. https://www.icafrica.org/fileadmin/documents/IFT_2018/ICA_Infrastructure_Financing_Trends_in_Africa_-_2018_Final_En.pdf

⁵⁸ Allen, N.D.F., Sambuli, N. "Why U.S Tech Giants Need Africa", *Project Syndicate*, May 24, 2023. <https://www.project-syndicate.org/commentary/us-tech-companies-challenges-opportunities-in-africa-by-nate-d-f-allen-and-nanjira-sambuli-2023-05>

⁵⁹ Voelsen, D., Wagner, C. 'India as an Ambivalent Partner in Global Digital Policy', *German Institute for International and Security Affairs*, February 2022. https://www.swpberlin.org/publications/products/comments/2022C10_IndiaGlobalDigitalPolicy.pdf

The key takeaway here is the conversation on 'agency': much as China is looking to fill its investment gap abroad, African countries also need to fill a gap in their ICT infrastructure deficit, and as such they seek support wherever they can find it even if that includes the easily accessible, often-less conditional, and risky techs from Beijing. For example, when Senegal decided to move⁶⁰ all government data and digital platforms to a domestic data centre built by Huawei, its justification was 'digital sovereignty'; that the country could now host all of its own data within its national boundary rather than abroad. Not to mention the fact that many Western alternative data centre providers such as Nokia and Ericson have a limited presence⁶¹ on the continent. Yet, the conversation in many Western and African media hardly acknowledges this nuance; rather, the focus is often disproportionately on the risks that China-built data centres pose to citizens' privacy.

Conclusion and recommendation

China's entry into Africa's ICT space is not a recent endeavour, although the U.S and the rest of the world just began paying attention to the risks and challenges with such partnership. With both major tech powers now striving for dominance in Africa's ICT landscape, African countries find themselves in a position of increasing importance and opportunity. But they also must grapple with the challenges of navigating such complex digital geopolitics: striking a balance between strategic digital cooperation with China and the U.S while maintaining Africa's digital sovereignty without compromising citizens' rights, privacy, and other ethical values.

There are also important lessons for the U.S and other strategic partners interested in helping African countries foster a more liberal and democratic internet space. First, there is need to repurpose existing U.S government initiatives on the African continent to foster collaboration with grassroot players⁶² in Africa's digital space. In the grand scheme of things, Africa's innovation system would have to be led by locally grounded innovators who understand the nuances of African markets. The Chinese tech giant, Huawei, has over the years perfected this model through its partnership with domestic players like MTN and Safaricom in African countries.

Washington would also need to leverage its existing strategic alliances and partnerships with other like-minded countries to promote a digital ecosystem that is open, democratic, inclusive, and transparent. This is important, given that Africa's current ICT space is multi-layered and involves multiple partners, each with varying interests.

⁶⁰ van der Made, J. "Senegal to move all government data to Huawei-run data center", *RFI*, June 25, 2021. <https://www.rfi.fr/en/africa/20210625-senegal-to-move-all-government-data-to-huawei-run-data-center-china-africa-macky-sall-information-technology>

⁶¹ Govender, M. "The West looks on as Africa opts for China's Digital Silk Road programme". *Business Day*, July 18, 2021. <https://www.businesslive.co.za/bd/opinion/2021-07-18-the-west-looks-on-as-africa-opts-for-chinas-digital-silk-road-programme/>

⁶² Munga, J. 'How the United States Can Effectively Implement Its New Digital Transformation with Africa Initiative'. Carnegie Endowment for International Peace, May 17, 2023. https://carnegieendowment.org/files/202305-Munga_US-Africa_Digital1.pdf

Finally, African countries cannot limit their digital partnerships with Chinese tech companies simply on the grounds of solidarity with Western nations that have done so. However, they must continually pay attention to the inherent risks associated with a China-dependent digital sector — some of which have been discussed in this piece. What is important in the bigger picture is for Africa to continue to diversify its ICT financing source in a way that reduces its dependence on Chinese technologies but does not make it bound to any other national or regional partner.

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