

## Chinese Telecommunications Companies in Africa

Alignment with African Countries' Interests in Developing their ICT Sector?

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**To bridge the telecom gap between people in rural and urban areas, and between landlocked and coastal countries, African governments and the African Union have supported the continent's infrastructure development in the Information and Communication Technology (ICT) sector. At the same time, China has increasingly shown an interest in investing in ICT in Africa in order to export its manufacturing products, develop its technology and acquire foreign technology, as well as contributing to its global influence in ICT as stipulated in China's 12th Five-Year Plan (2011–2015) and 14th Five-Year Plan (2021–2025). China's increasing interest in ICT and the growing presence of Chinese telecom companies in Africa have contributed to a resurgence of the European Union's motivation to re-engage in Africa's ICT sector. This Policy Brief discusses whether, in the development of the African ICT sector, there is an alignment between Chinese telecom companies' engagement in Africa and the interests of African countries. It argues that while Chinese investment interests meet Africa's need for the development of its ICT sector, help bridge the telecom gap and contribute to connectivity across the continent, there are risks, challenges and concerns surrounding China's engagement in African countries' ICT sector.**

Digitalisation and internet penetration in Africa are primarily driven by mobile usage. Since 2019, Africa has experienced outstanding growth in this area, with an annual growth rate of 4.6 percent, and such growth is expected to continue until 2025.<sup>1</sup> In 2018, only 24.4 percent of Africans were internet users,<sup>2</sup> while at the end of 2020 the proportion of Africans who were mobile internet users had reached 28 percent.<sup>3</sup> According to the Global System for Mobile Communications Association (GSMA), the mobile market in Africa will reach several important milestones over the next three years: 1 billion mobile connections in 2024, and 50 percent subscriber penetration by 2025, with 614 million mobile subscribers.<sup>4</sup> However, the continent lags behind other regions in terms of overall internet penetration, as well as in the types of mobile network coverage (see Table 1 and Figure 1).

<sup>1</sup> Global System for Mobile Communications Association (GSMA). 2019. "The Mobile Economy: Sub-Saharan Africa." GSMA. p. 2.

<sup>2</sup> International Telecommunication Union (ITU). 2018. "Internet uptake has accelerated during the pandemic." ITU.

<sup>3</sup> Global System for Mobile Communications Association (GSMA). 2021. "The Mobile Economy: Sub-Saharan Africa." GSMA. p. 32.

<sup>4</sup> Global System for Mobile Communications Association (GSMA). 2020. "The Mobile Economy: Sub-Saharan Africa." GSMA. p. 6.

## Population coverage by type of mobile networks by region, 2021

Source: International Telecommunication Union (ITU, 2021).

Regions	4G	3G	2G
Africa	49 %	33 %	7 %
Americas	92 %	4 %	4 %
Europe	99 %	-	1 %
Arab States	70 %	25 %	5 %
Asia-Pacific	96 %	1 %	1 %

The growing need to modernise the ICT infrastructure, the divide in broadband connectivity, and the high demand for access to internet and digital platforms since the beginning of the Covid-19 pandemic have contributed to urgent calls for a modern and interconnected telecom and digital environment across the continent. In this regard, a key focus for African governments is on cooperation with their international partners (mainly China, the European Union (EU) and the United States) in ICT projects that will interconnect the continent and contribute to its digitalisation.

The observed growth patterns align with Beijing's strategy to support Chinese telecom companies to expand their operations in overseas markets – including in Africa.

Telecommunications is a key sector in China's economy and part of its Outward Foreign Direct Investment (OFDI). In 2020, China's digital economy accounted for 38.6 percent of the country's GDP.<sup>5</sup> With its 14th Five-Year Plan (2021–2025), the Chinese government has made it a priority to position Chinese companies at the forefront of global ICT and to provide innovative solutions and technologies in competitive markets. In 2018, Chinese funds accounted for USD 25.7 billion of the total USD 100.8 billion committed to Africa's infrastructure funding.<sup>6</sup> ICT funding amounted to USD 7.1 billion, of which USD 550 million was finance from China.<sup>7</sup>

Not surprisingly, the African Union considers China as a major funder of infrastructure development across the continent, since it dominates foreign investment in the infrastructure sector, in particular through instruments pertaining to the Belt and Road Initiative. With financial and political support from China's government, Chinese companies can venture into foreign markets by investing in the construction, renovation and rehabilitation of ICT and telecom infrastructure, and providing tailor-made and innovative solutions and technologies. In 2020, even though China's overall funding to Africa decreased, China's loans to the ICT sector in Africa increased.<sup>8</sup>

This Policy Brief seeks to understand the alignment between the need to develop African countries' ICT sector and China's investment in ICT infrastructure. It discusses Chinese telecom companies' presence in Africa, analyses various aspects of Africa–China ICT partnerships, and highlights risks, challenges and concerns surrounding China's engagement in Africa's ICT sector. The analysis shows that the need for Africa to modernise and develop

<sup>5</sup> China Academy of Information and Communications Technology (CAICT). 2021. "White paper on the development of Chinese digital economy." China Academy of Information and Communications Technology (CAICT). 29 April 2021. English summary here.

<sup>6</sup> The Infrastructure Consortium for Africa (ICA). 2018. "Infrastructure financing trends in Africa – 2018." ICA Report 2018. p. 1.

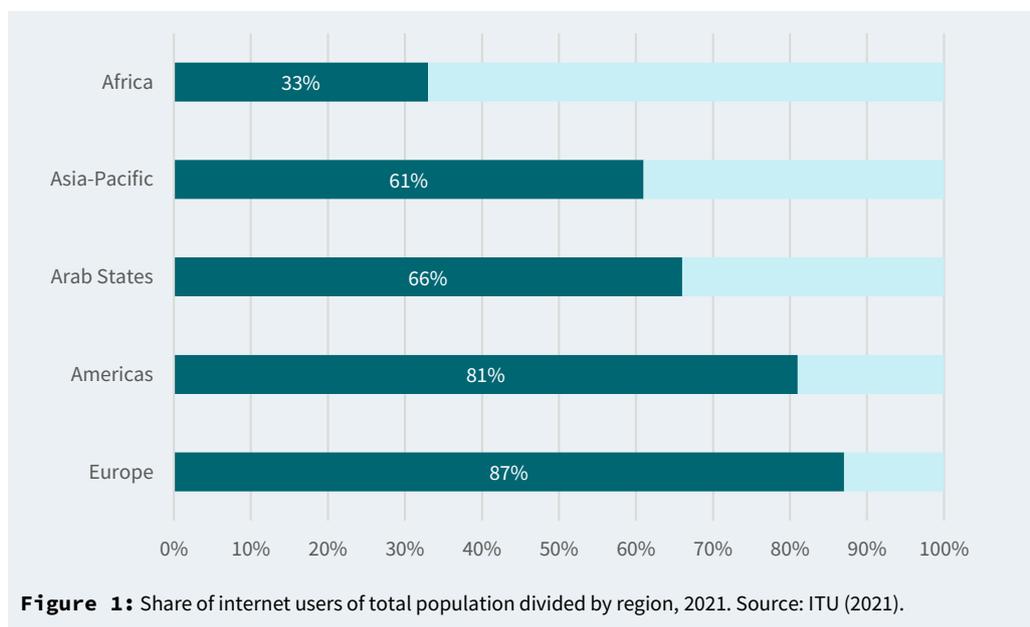
<sup>7</sup> Ibid. pp. 1 and 49.

<sup>8</sup> In 2020, China's loans to the ICT sector in Africa amounted to USD 568 million; to be the second largest after the transport sector. See: Hwang, Jyhjong, Oyintarelado Moses, Lucas Engel and Sobia Shadba. 2022. "Chinese loans to Africa during the Covid-19 pandemic." Global Development Policy Centre, Boston University. Global China Initiative Policy Brief 012. April 2022.

its ICT sector aligns with China's strategic interest in having its companies invest in Africa. However, China's engagement in Africa's ICT sector raises questions related to ICT security, internet control, surveillance, restriction of freedom of speech, information and infrastructure sovereignty.

## Chinese telecommunications companies in Africa

Chinese telecom companies possess strategic advantages when investing in the ICT sector in Africa, including political and financial support from China's central government which enables them to offer competitive prices. Chinese telecom companies have developed strategic partnerships with the main African network providers such as MTN, Sonatel, Algérie Télécom, and Maroc Télécom. Such partnerships allow Chinese telecom companies to gain the technical expertise, networks, and customer base of their African partners. In collaboration with their African telecom partners, Chinese telecom companies set up base stations<sup>9</sup> in rural zones in Africa.<sup>10</sup> After providing customers with telecom network equipment, Chinese companies Huawei and ZTE offer long-term maintenance services to ensure the reliable operation of local networks.<sup>11</sup> They achieve customised solutions to offer people in remote areas better information access. In Nigeria, for instance, Huawei has teamed up with MTN to provide telecom services to about 20 million people in underserved and unserved rural areas.<sup>12</sup> In addition, Huawei and ZTE's partnerships with MTN of South Africa contributes to Chinese telecom companies' market expansion in Africa, as MTN operated in 17 African countries in 2021.<sup>13</sup> With their comparative and competitive advantages in the



<sup>9</sup> Base stations provide the connection between mobile phones and the wider telephone network. In wireless communications it is a transceiver connecting a number of other devices to one another and/or to a wider area. They also enables internet connection.

<sup>10</sup> Karlsson, Madeleine and Genaro Cruz. 2018. "Rural connectivity innovation case study: Using light sites to drive rural coverage - Huawei RuralStar and MTN Ghana."

<sup>11</sup> Pawlicki, Peter. 2017. "Challenger Multinationals in Telecommunications: Huawei and ZTE." European Trade Union Institute (ETUI) Research Paper.

<sup>12</sup> Techeconomy. 2019. "RuralStar: MTN, Huawei project bridging connectivity gaps in rural areas." Techeconomy. 18 December 2019.

<sup>13</sup> MTN Group Limited. 2021. "Leading digital solutions for Africa's progress." MTN Group Limited Integrated Report for the year ended 31 December 2021. p. 3.

telecom equipment industry, Huawei and ZTE mainly build telecom infrastructure and networks while operating in the ICT sector in Africa.<sup>14</sup>

Alongside making forays into African telecom infrastructure building, Huawei and ZTE invest in global brand awareness, including in African markets. Huawei, for instance, has targeted the global market through investments in branding, advertisement, marketing, sponsoring, public relations and lobbying. The partnerships and collaborations Chinese companies establish with African telecom companies enable them to penetrate the African market by extending their brands to a degree based on the African telecom companies' market shares.

Chinese investment in ICT comes with preferential loans to governments which acquire Chinese telecom equipment and infrastructure. Financially supported by Chinese financial institutions (China Exim Bank, China Development Bank, China-Africa Development Fund), Chinese telecom companies' operations in Africa also involve tied loans between the Chinese and African governments.<sup>15</sup> The Chinese financiers provide African governments with loans to buy only equipment from Chinese telecom companies to develop their telecom equipment and services. Such loans, called vendor-guaranteed loans, come directly from the Chinese companies, which receive credit lines from Chinese financial institutions to invest in Africa.<sup>16</sup> They contribute to African countries' dependence on Chinese ICT infrastructure and technologies and raise concerns about ICT sovereignty across the continent.

## China's engagement in Africa's ICT sector: a partnership for the development of Africa's telecommunications industry?

Many African countries aspire to bridge the telecommunications divide among their populations and between rural and urban areas at the same time as participating in the global telecommunications industry with their partners.<sup>17</sup> The development of the ICT sector in Africa should enable and empower African societies and countries rather than simply addressing external economic and political interests.<sup>18</sup>

Financing and establishing partnerships has become vitally important in connecting the continent through modern and world-class infrastructure. Increasingly, Africa's emerging partners (mainly China and Turkey) fund infrastructure projects in the ICT sector across the continent. Alongside African governments' commitments to finance the ICT and telecom sector across the continent, bilateral and multilateral partners contribute to closing the gap in the need for improved ICT infrastructure networks. Financing for ICT infrastructure in

<sup>14</sup> Chanakira, Maxwell. 2010. "The impact of Chinese investment in telecommunications industry in Africa." Harare Institute of Technology.

<sup>15</sup> Cissé, Daouda. 2015. "FDI in Africa: Chinese enterprises and their business strategies." In *The Routledge Companion to Business in Africa*, edited by Sonny Nwankwo and Kevin Ibeh, 298-314. New York: Routledge.

<sup>16</sup> Institute of Developing Economies Japan External Trade Organization (IDE-JETRO). 2009. "China in Africa: a strategic overview." IDE-JETRO.

<sup>17</sup> Ponelis, Shana R. and Marlene A. Holmner. 2015. "ICT in Africa: Enabling a Better Life for All [Editorial]." *Information Technology for Development*, 21 (1): 1-11.

<sup>18</sup> Ibid.

Africa amounted to USD 7 billion in 2018, with USD 1.1 billion committed by African governments, USD 550 million by China, USD 503 million by ICA members,<sup>19 20</sup> USD 66 million by other bilateral and multilateral partners, and the European Investment Bank (EIB) committing USD 57 million (see Table 2).<sup>21</sup> Of the USD 7 billion committed to ICT investments in 2018, well over half – USD 4.8 billion – originated from the private sector.<sup>22</sup>

To support the ICT industry, Africa needs investments in infrastructure development, capacity building, skills transfer at professional schools, universities, research and development centres and innovation centres for value-added services and commitments to funding ICT for development. Such a structural transformation requires active government intervention in three areas to catalyse sustainable development: investments in human development, energy and innovations in ICT.<sup>23</sup>

The development of the telecommunications industry could contribute to enhancing other sectors of African economies. Africa's telecommunications industry has contributed to the creation of numerous new jobs and has catalysed economic and social transformation for the growing workforce that will continue to increase.<sup>24</sup> By 2035, Africa's work force will be larger than China's.<sup>25</sup> The development of the telecommunications sector, coupled with an adequate training and skills transfer, could enable the growing number of Africa's young people to create their own sustainable jobs in various sectors of the economy (i.e. finance, mobile banking, outsourcing, e-commerce, agriculture, IT, education). ICT and telecommunications infrastructure development are critical resources for education and socio-economic growth.<sup>26</sup>

### Africa's ICT sector financing by source (2014–2018) in USD million

Source: The Infrastructure Consortium for Africa Report, 2018. P. 69.

Year	African national governments	China	ICA members	Other bilateral and multilateral partners
2014	1,105	410	506	67
2015	570	1,032	616	165
2016	894	300	417	47
2017	600	1,051	618	45
2018	1,114	550	503	66

<sup>19</sup> The Infrastructure Consortium for Africa (ICA). 2018. "Infrastructure financing trends in Africa – 2018." ICA Report 2018. p. 69.

<sup>20</sup> ICA members include: the governments and development agencies of all G7 countries (Canada, France, Germany, Italy, Japan, United Kingdom and United States), the Republic of South Africa (RSA), the African Development Bank Group, the European Commission, the European Investment Bank, and the World Bank Group. African membership is led by the African Development Bank and the African Union Commission, the NEPAD Planning and Coordinating Agency and the Regional Economic Communities participate as observers in ICA meetings.

<sup>21</sup> The Infrastructure Consortium for Africa (ICA). 2018. "Infrastructure financing trends in Africa – 2018." ICA Report 2018. p. 39.

<sup>22</sup> Corrigan, Terence. 2020. "Africa's Information and Communication Technology (ICT) deficit is a major brake on its development prospects." South African Institute of International Affairs (SAIIA) Policy Briefing No 197. June, 2020. p. 5.

<sup>23</sup> Armah, Bartholomew and Seung Jin Baek. 2018. "Three interventions to foster sustainable transformation in Africa." *The Journal of Social, Political and Economic Studies*, Volume 43, Number 1 & 2, Spring & Summer 2018.

<sup>24</sup> Poneis, Shana R. and Marlene A. Holmner. 2015. "ICT in Africa: Enabling a Better Life for All [Editorial]." *Information Technology for Development*, 21 (2): 163-177.

<sup>25</sup> Berman, Jonathan. 2013. "Vision Statement: Seven reasons why Africa's time is now." *Harvard Business Review*, October 2013, 91(10): 34-35.

<sup>26</sup> The African Union Commission. 2017. "ICT development offers great opportunities to advance Africa's digital economy." The African Union Commission press release, 02 August 2017.

There are already bilateral converging interests between China and several African countries to meet the market demand and learn from each other in sectors related to ICT. Under various platforms (the Forum on China-Africa Cooperation (FOCAC), Belt and Road Initiative, Agenda 2063) African countries collaborate with China in various domains such as ICT innovation, digitalisation, communication networks and artificial intelligence.

China's 2015 Action Plan on the Belt and Road Initiative seeks to advance the joint construction of cross-border optical cables and other communications track line networks, enhance information technology and improve international communications connectivity.<sup>27</sup> In January 2015 the African Union and China signed a Memorandum of Understanding (MoU) for cooperation on infrastructure development and industrialisation.<sup>28</sup>

The African Union, with its Agenda 2063 and its partnership with China, contributes to establishing regional negotiation mechanisms to collectively engage with China through the African Development Bank (AfDB) as well as Regional Economic Communities (RECs). For instance, the Southern African Development Community (SADC) has been harmonising national infrastructure investment plans within a regional framework and SADC's relationship with China has developed into a practical co-operation, fulfilling the agendas set out by the African Union to lead to the adoption of a Regional Infrastructure Master Plan 2012–2027.<sup>29</sup>

Even though a more regional approach in Africa is needed to engage with China, challenges exist as powerful states (i.e. South Africa, Nigeria) are worried about losing control of their bilateral relationships with China, and smaller states are worried about being excluded as numerous bilateral projects are underway.<sup>30</sup>

Actions are required from African governments to speed up the interconnectedness of people and different regions through the accumulation of finance for the implementation and the development of telecommunications infrastructure that could bring about continental integration in various areas of African economies. In May 2014, the launch of the Africa-China Growing Together Fund through the People's Bank of China and the AfDB already provided new opportunities for infrastructure projects in Africa.<sup>31</sup>

## Chinese telecom companies in Africa's ICT sector: risks, challenges and concerns

Even though Chinese telecom companies' engagement in Africa brings opportunities, it presents political risks and challenges related to information and infrastructure sovereignty, digital sovereignty, African countries' dependency on Chinese ICT alongside surveillance, censorship, cybersecurity, governance, IT freedom, internet control and filtering, control of citizens among others. Many African countries have decided to move all government data and digital platforms from foreign servers mainly in the United States and

<sup>27</sup> The State Council, the People's Republic of China. 2015. "Action Plan on the Belt and Road Initiative". 30 March 2015.

<sup>28</sup> Demissie, Alex; Moritz Wiegel and Xiaoyang Tang. 2016. "China's Belt and Road Initiative and its implications for Africa." WWF Study, WWF Kenya, Nairobi, Kenya. December 2016.

<sup>29</sup> Terrefe, Biruk and David Bénazéraf. 2015. "China and the African Regional Economic Communities: Transforming Multilateral Cooperation." Centre for Chinese Studies (CCS) Policy Briefing. November 15.

<sup>30</sup> Alden, Chris; Cobus van Staden and Yu-Shan Wu. 2018. "Ties between African countries and China are complex. Understanding this matters." South African Institute of International Affairs (SAIIA). 16 October 2018.

<sup>31</sup> Vhumbunu, Clayton Hazvinei. 2016. "Enabling African Regional Infrastructure Renaissance through the China-Africa Partnership: A Trans-Continental Appraisal." *International Journal of China Studies*, Vol. 7, No. 3, December 2016.

Europe to data centres on the continent built by Chinese telecom companies.<sup>32</sup> While African governments claim that such a move contributes to boosting digital sovereignty, concerns arise about the digital future of Africans whose data will be collected and managed through Chinese technologies and digital platforms.

Chinese telecom companies' engagement in Africa has brought about concerns related to ICT security through spying and internet censorship exerted by officials, particularly in countries which lack freedom of speech and with either partially democratic or authoritarian governments, with the assistance of Chinese companies.

While, in general, Chinese-financed infrastructure initiatives and projects in Africa have been subject to scrutiny and broader debates about their motivations, financial modalities and environmental, social and governance impacts, in the ICT sector the more prominent concerns are social impacts stemming from the development of digitalisation in Africa, such as data security, data collection, data management, social cohesion and safety management risks.<sup>33</sup>

About 20 years ago, Africa's internet market was tiny and internet usage did not pose threats to African governments. The rapid growth of internet usage on the continent in recent years as a means of communication of diverse thoughts and opinions has led to internet control and censorship. With investment in ICT infrastructure across the continent, many African governments, particularly authoritarian regimes, fear the development of and access to the internet as a platform for expression, contestation, freedom of speech and contrary views and opinions.

Through China's engagement in Africa's ICT sector, Chinese telecom companies are collaborating with African governments to filter and monitor internet usage in order to track down Africans who use online platforms to express divergent opinions. In other words, Chinese telecom companies assist African governments to enforce their censorship laws. In authoritarian regimes, governments' intolerance for opposing views has led to the development of sophisticated web monitoring and censoring systems. Websites and blogs are frequently blocked and internet searchers disrupted.<sup>34</sup>

In Ethiopia and Uganda, for instance, Chinese telecom companies are involved in the process of surveillance, monitoring and control of the internet usage of citizens; including political opponents. Following China's ties with authoritarian African regimes and important investments by its financial agencies and companies in the ICT sector to finance and build ICT infrastructure, R&D centres, e-government networks, data centres among others, Chinese telecom companies have sold African governments tools and services in the field of internet control, censorship and surveillance at a lower price than their competitors. At times, African governments engage with other foreign companies (European or American) involved in these fields, but use Chinese technologies and/or devices. Authoritarian regimes in Africa also engage with their national telecom operators and providers to exert internet control, monitoring, surveillance and censorship among populations by intercepting phone calls, emails and mobile phone messages. Such methods contribute to controlling and restricting citizens' opinions and rights and empower authoritarian regimes. In Zimbabwe, for instance, the Interception of Communications Bill 2006 compelled operators to install software and hardware to enable them to intercept and store information, as directed by the state and service providers, and will also be asked to link their message-

<sup>32</sup> Quadri, Sultan. 2022. "The Next Wave: Should Africa be worried about Chinese tech dominance?". TechCabal Newsletters. 16 May 2022.

<sup>33</sup> Agbebi, Motolani; Gong Xue and Zheng Yu. 2021. "China-powered ICT Infrastructure: Lessons from Tanzania and Cambodia." South African Institute of International Affairs (SAIIA) Policy Briefing 252. November 2021.

<sup>34</sup> Burnett, Patrick. 2005. "Internet censorship on the rise in Africa?" Hunger Notes. 05 May 2005.

monitoring equipment to the government agency.<sup>35</sup> With the financial and technical support the Zimbabwean government received from China over the years, it is speculated that Chinese telecom companies engage in the selling of technologies to facilitate digital control, filtering and surveillance.<sup>36</sup>

In 2019, opposition politicians, and local activists in Uganda warned about the potential abuse and human rights implications of an invasive surveillance system bought by the government from China's telecoms giant Huawei. In so doing, the government of Uganda fostered authoritarianism, lack of transparency, bad governance, and corruption instead of enabling the internet to contribute to transparency, freedom of speech, increased citizen participation, improved local governance and a strengthened civil society. In their role in assisting authoritarian regimes to develop and use technologies for digital control, surveillance and censorship, Chinese telecom companies' engagement in Africa's ICT has important stakes in terms of fundamental rights, from freedom of expression to privacy to the rule of law.<sup>37</sup>

The presence of Chinese telecom companies in Africa creates new dependencies for African countries, but it also has implications for global competition (for markets, technologies and access to data) and geopolitics, considering the diverse interests and strategies of foreign actors (China, United States and EU) and their companies in the field of ICT. While cooperation between the European and Africa exists for ICT regulations and policies, European telecom companies seem to be less engaged than their Chinese and US counterparts in Africa's ICT sector. Beside their contribution to bringing affordable connectivity, Chinese companies are gradually shaping digital ecosystems across the continent and the Chinese government could gain influence over the architectures, rules and norms underpinning Africa's digital transformation, with Chinese companies likely to give the party-state access to vast amounts of data through their involvement in smart city systems, e-commerce, e-payment platforms, and social media.<sup>38</sup>

## Conclusion and recommendations

Africa needs the modernisation, development and integration of its ICT sector. Chinese telecom companies' presence in Africa indicates new actors' growing interests in Africa's ICT as they gain new markets, finance and build ICT infrastructure across the continent.

While Chinese telecom companies' contribution to the development of Africa's ICT sector brings socio-economic benefits, governments and civil society organisations should pay more attention to concerns and risks (political freedom, sovereignty, freedom of speech, surveillance and censorship) around China's engagement in African countries' ICT sector. The presence of Chinese telecom companies creates new dependencies for African countries and also has implications for global competition and geopolitics considering the diverse interests and strategies of foreign actors and their companies in the field of ICT.

To harvest the benefits of the digital revolution without creating new dependencies, African governments need to invest more time, resources and political clout in supporting

<sup>35</sup> Columbia University. n.a. "China and ICT investment in Africa." The Columbia School of International and Public Affairs (SIPA), New Media and Development Communication course.

<sup>36</sup> Ibid.

<sup>37</sup> MacKinnon, Rebecca. 2012. *Consent of the Networked: The Worldwide Struggle for Internet Freedom*. New York: Basic Books.

<sup>38</sup> Arcesati, Rebecca. 2021. "China's evolving role in Africa's digitalisation: from building infrastructure to shaping ecosystems." Italian Institute for International Political Studies (ISPI) Commentary. 29 July 2021.

regional initiatives for connectivity across Africa via communication and telecommunications cables: submarine fibre optic cables, mobile network cables, data centre cables, telephone cables, LAN cables and coaxial cables. China's increasing global interests in ICT and the growing presence of Chinese telecom companies in Africa have contributed to the resurgence of the European Union's motivations to re-engage in Africa's ICT sector. While such a re-engagement by the EU is centred on regulations and norms to assist African countries in ICT governance, more is needed from EU institutions and governments. European telecom companies present in African countries since the 1980s and 1990s, are now being outcompeted by the arrival of new players such as Chinese telecom companies.

Diversified investments through partnerships between several institutional private and public actors could mitigate the risks and threats posed by Chinese telecom companies and a number of African countries that engage in censorship, surveillance, and internet control practices to the detriment of peoples' rights to freedom of speech, citizen participation, and access to information. Even though such practices are not unique to Chinese telecom companies, the EU as an institution that sets ICT regulations, policies, norms and standards for European telecom companies could contribute to a safe and more transparent environment for investment in Africa's ICT and ease concerns around cybersecurity, espionage, sovereignty, transparency and governance. The EU should hold African authoritarian regimes that use surveillance and censorship tools for digital authoritarian practices accountable for their actions. By engaging with the EU, African countries could learn from good practice to set regulations, norms and standards in order to safeguard their ICT sector. Such an engagement could lead to a more sustainable development of Africa's ICT sector with the presence of a myriad of partners with diverse political, economic and social interests.

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