

# Indonesia

Potential 2035 economic impact of the metaverse

**US\$28-52**<sub>B</sub> per year



# Indonesia

As the next facet of the internet, the metaverse can fuel Indonesia’s US\$70 billion internet economy growth engine.<sup>1</sup> Recording a staggering 49% growth in 2020, the country’s internet economy is projected to reach US\$146 billion by 2025.<sup>2</sup> President Jokowi has championed the digital economy as a key pillar to propel Indonesia into the top 10 global economies by 2030.<sup>3</sup> The Digital Indonesia Road Map 2021–2024 seeks to accelerate this digital transition by laying out four strategic areas of focus – digital infrastructure, government, economy and citizens.<sup>4</sup>

Indonesia seeks to leverage the metaverse to help micro, small and medium enterprises (MSMEs) grow. If successful, this would quickly catalyze broad-based economic benefits. MSMEs currently employ 97% of Indonesia’s workforce<sup>5</sup> and contribute to over 60% of the national GDP.<sup>6</sup> PT Telkom Indonesia, the state carrier, has been tasked by the government to develop a metaverse for local MSMEs to compete with larger foreign businesses.<sup>7</sup> MSMEs are likely welcoming of such platforms having experienced the value of digital merchandising, which kept close to 80% of the MSMEs surveyed open during the pandemic.<sup>8</sup>

“ Don’t let other countries create a new world with their own payment system, while the market remains in Indonesia. Then we will regret it. ”

**Erick Thohir, Indonesia’s Minister of State-Owned Enterprises, at the launch of Indonesian metaverse platform “metaNesia”, Aug 2022**

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2. Asia Nikkei, “[Indonesia Seeks Industry Upgrades to Join World’s Top 10 Economies](#)”, accessed October 3, 2022.  
3. Antara, “[Minister Outlines Priorities Within Digital Indonesia Road Map](#),” Antara News, March 23, 2022.  
4. World Economic Forum, “[How Digitalization is Accelerating the Growth of MSMEs in Indonesia](#),” accessed October 3, 2022.  
5. Alpha Beta, [Skills For the Future: Capturing the Economic Opportunity of Digital Skills in Indonesia](#), 2021.  
6. Business Times, “[Indonesia Launches Owns Metaverse to Promote its Small Businesses](#),” August 1, 2022.  
7. World Economic Forum, [Why e-Commerce is Key to Indonesia’s Small Businesses](#), accessed October 3, 2022.  
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# Macroeconomic Determinants

- With one of the largest youth populations in the world behind India and China, Indonesia's next generation stands to gain from the metaverse.
- Manufacturing and raw resources make up the bulk of Indonesia's economy, with the three largest sectoral contributors to Indonesia's economy being manufacturing (20.6% of GVA), followed by agriculture, forestry and fishing (14.2%) and wholesale and retail trade (13.4%). Manufacturing is one of the first sectors expected to be impacted by the metaverse.
- As a lower middle income country with a GDP per capita of US\$11,446 in 2020, affordability may be an issue for some of its citizens.
- Indonesia is ranked 75th in the world on the Global Innovation Index 2022, lagging behind its Asian peers.
- It has produced 11 unicorn start-ups, one of the most amongst Southeast Asian countries.<sup>9</sup> This constitutes 31% of Southeast Asia's share of unicorns.

## INDONESIA IN NUMBERS

Potential 2035 economic impact of the metaverse:

**US\$28-52B per year, 1.3-2.4% of GDP**

2020 GDP:

**US\$1.03T**

Per capita  
(Constant 2017 US\$):

**US\$11,446**  
(low middle income)

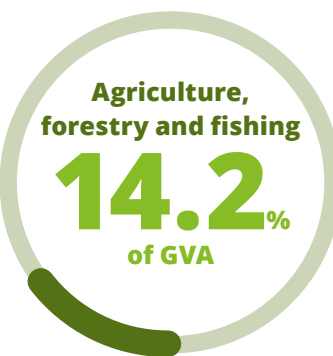
Population:

**274M**

 **44%** below 25

 **48%** unbanked

Key sectors:



ICT sector:

Global  
innovation index:

**#75**<sub>/132</sub>

EIU business  
environment ranking:

**#54**<sub>/99</sub>

Digital  
readiness index:

**#73**<sub>/141</sub>

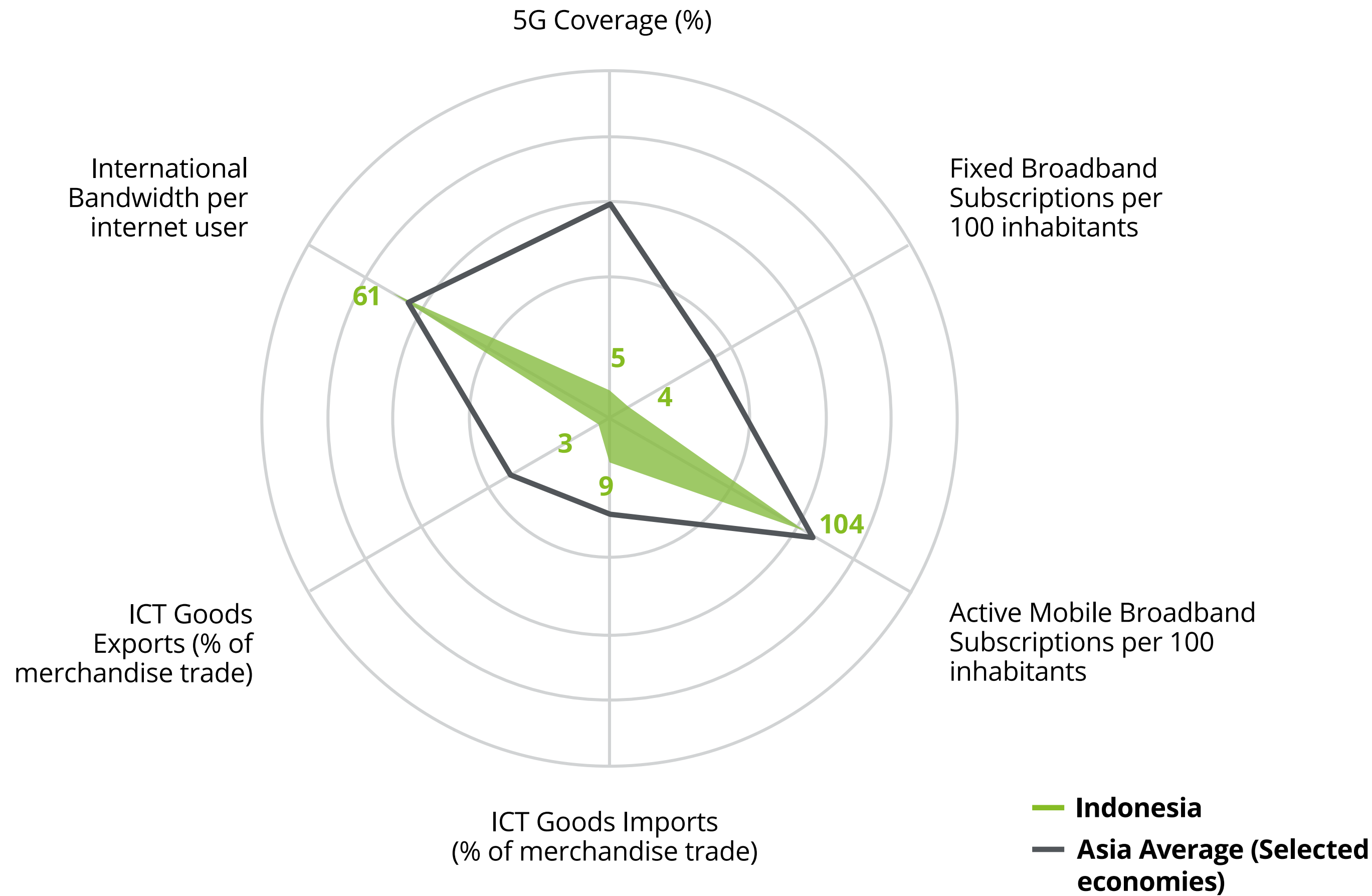
9. Choo Yun Ting, [More ASEAN Start-Ups Become Unicorn Thanks to Robust Funding, Rising Middle Class: Report](#), Straits Times, October 21, 2021.

Sources: World Bank World Development Indicators 2020, Our World in Data 2017, ITU Digital Development Dataset 2019, World Bank Global Findex, UN Data

# Technology Fundamentals

- Indonesia is a mobile-first nation, and has the fourth most number of smartphone users globally.<sup>10</sup>
- Indonesia is expected to lead Asia in overall IT spending over the next four years, reaching US\$6 billion by 2024.<sup>11</sup>
- The establishment of physical cloud infrastructure in Indonesia by global players like Alibaba, Google and Amazon will reduce latency of connection.<sup>12</sup>
- The adoption of digital payments is currently lagging behind the other selected Asia economies.<sup>13</sup>

10. Statista, "Number of Smartphone Users by Leading Countries in 2021", accessed September 29, 2022.  
11. Hidayat Liu & William Bakara, "The Technology Trends that Could Turbocharge Indonesia's Economy", McKinsey & Company, April 26, 2022.  
12. ibid  
13. World Bank Global Findex, "Received Digital Payments (% Age 15+)", accessed September 29, 2022.



Sources: GSMA Mobile Connectivity Index 2021, ITU Digital Development Dashboard 2020, UNCTADStat 2019

# Ecosystem Enablers

## Digital Skills

As part of the Digital Indonesia Roadmap, Indonesia aims to provide 12.5 million Indonesians with trainings in basic digital skills, digital culture, digital ethics, and digital safety, and 100,000 workers with intermediate digital skills in areas such as cloud computing, artificial intelligence, the internet of things, cybersecurity, and big data analytics.<sup>14</sup> These create the foundations for Indonesia to realize its economic potential in the metaverse. But Indonesia may need much more to sustain its digital economy growth, with the World Bank estimating that 9 million additional ICT workers are needed by 2030.<sup>15</sup> Support from multinationals like Google, Huawei and ZTE could fill this gap. Huawei has pledged to contribute to Indonesia's digital upskilling efforts, and is planning to train 100,000 digital workers to be competent in cloud computing and 5G in the next 5 years.<sup>16</sup>

A digitally competent populace will provide growth impetus for Indonesia's MSMEs, where human capital development is a key barrier for growth.<sup>17</sup> The government has helped to onboard 10.2 million MSMEs onto digital platforms under the #BanggaBuatanIndonesia campaign (Proudly Made in Indonesia).<sup>18</sup> Further growth potential in the metaverse could entice the build-up of digital skills amongst its talent and businesses.

## Accessibility

Indonesia's vast geography spans across thousands of islands, which could pose a hurdle to the deployment of metaverse technologies requiring fiber optic and broadband cables, and worsen the digital divide.<sup>19</sup> The Palapa Ring Project, which sought to extend the reach of its fiber optic and wireless network nationwide, was completed in 2019. It has helped to bridge internet connectivity and reduced the inequality in mobile network experience across the archipelago, especially compared to Java, Indonesia's political and economic center.<sup>20</sup> The average 4G availability and download speed experience has improved by 12% and 59% respectively across all regions since 2018.<sup>21</sup>

Indonesia's WIR Group has its sights on creating a metaverse platform to bridge the link between businesses and local consumers, many of whom reside in the country's rural areas with limited access to digital technology and financial services.<sup>22</sup> The platform is anticipated to enable consumers in Tier 2 to 3 cities and suburban retail stores to create digital avatars through its kiosks.

In 2019, 94 million adults across Indonesia did not have access to mobile internet.<sup>23</sup> The expansion of digital infrastructure and platforms will allow Indonesians to have more equitable access to the economic opportunities in the metaverse.

14. International Trade Administration, [Indonesia: Digital Economy Opportunities](#), U.S. Department of Commerce, December 9, 2021.

15. *ibid*

16. Asia Business Law Journal, "[Forbidden not Forgotten](#)," accessed September 29, 2022.

17. Camilla Holmemo, "[Human capital development is key to Indonesia's future](#)," World Bank Blogs, September 26, 2019.

18. The Jakarta Post, "[Govt aims for 10 million MSMEs to go digital by year end](#)," accessed September 29, 2022.

19. Carnegie, Endowment for International Peace, "[Localization and China's Tech Success in Indonesia](#)," accessed September 29, 2022..

20. Open Signal, "[Palapa Ring has Successfully Improved Mobile Connectivity in Remote Indonesian Islands](#)," accessed September 29, 2022..

21. *Ibid*.

22. Ardi Wirdana, "[Indonesia's WIR rides metaverse IPO success, but revenue stream raises questions](#)," accessed September 29, 2022.

23. International Trade Administration, [Indonesia: Digital Economy Opportunities](#), U.S. Department of Commerce, December 9, 2021.



# Sectors to Watch

## Start-Up

Indonesia has emerged as one of the foremost emerging start-up ecosystems globally, with Jakarta ranked 3rd on the Global Startup Ecosystem Report 2021.<sup>24</sup> The country has produced 11 unicorns, one of the most amongst Southeast Asian countries.<sup>25</sup> Although still maturing, Indonesia also boasts one of the largest venture capital markets in Southeast Asia.<sup>26</sup> The momentum kickstarted in Jakarta has also spread to other cities, such as Yogyakarta and Tasikmalaya.<sup>27</sup>

Ajaib, an online brokerage platform, has adopted Bored Ape Yacht Club NFT #2831 as its mascot to support Indonesia’s adoption of metaverse and Web 3.0 technologies.<sup>28</sup> The newly-crowned unicorn intends to tap on the Bored Ape to educate the public about crypto assets and blockchain technology.<sup>29</sup> Good Games Guild, a budding metaverse startup, has its sights set on creating the largest virtual world economy by incentivizing greater participation in play-to-earn games.<sup>30</sup> It offers scholarships to sponsor play-to-earn gamers, and builds tools to enhance the experience of gaming in the metaverse.<sup>31</sup> Indonesian NFT project, Karafuru NFT, and USS Feed launched the Karafuru Carnival in Jakarta in April 2022. The offline festival featured local NFT projects to the broader public, making it more accessible for a larger audience.<sup>32</sup> Overall, the metaverse is sure to have an impact on the development of the startup ecosystem in Indonesia.

## Finance

Islamic finance, or Shariah-compliant financing (SCF) has grown at an estimated compound annual growth rate of 17% since 2009.<sup>33</sup> Being one of the fastest growing sectors in the global financial ecosystem, it has amassed US\$1.9 trillion in total assets since 2015. Catering to the largest Muslim population globally, the Jokowi administration has sought to advance the growth of SCF within Indonesia.

Indonesia could play an influential role in how the financial rails of the metaverse are developed in a Shariah-compliant manner that addresses concerns with cryptocurrencies. Bank Syariah Indonesia, formed from a 2021 merger of three state-owned banks, has inked an agreement with the WIR Group to develop virtual banking services in the metaverse.<sup>34</sup> Despite the cryptocurrency ban by Indonesia's National Ulema Council, observers, observers have identified the greatest potential in economic transactions in the Islamic metaverse.<sup>35</sup> Seizing on the burgeoning opportunities in Indonesia, IBF Net, a blockchain company, has set-up a center of excellence in Jakarta to study and develop possibilities within an Islamic metaverse economy.<sup>33</sup> Bank Indonesia, Indonesia's central bank, is also planning to issue a white paper on Central Bank Digital Currency (CBDC) development in end-2022.<sup>37</sup>

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25. Choo Yun Ting, [“More ASEAN Start-Ups Become Unicorn Thanks to Robust Funding, Rising Middle Class: Report,”](#) Straits Times, October 21, 2021.

26. Vertex Holdings, [“Venture Capital Landscape in Southeast Asia,”](#) accessed August 10, 2022. 32

27. KrAsia, [“Indonesia’s Innovative Startups are the Catalyst for Increasing Investments,”](#) accessed September 29, 2022.

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30. Dunia Games, [“Good Games Guild, an Indonesian Startup Company that Brings the Future to Gaming and Metaverse,”](#) accessed September 29, 2022.

31. Good Games Guild, [“Whitepaper V.1,”](#) accessed October 5, 2022.

32. Cision, [“Karafuru NFT and USS Feed Presents the Indonesia’s Biggest NFT Real-Life Experience Project,”](#) PR Newswire, April 1, 2022.

33. Asian Development Bank, [“Islamic Finance,”](#) accessed October 5, 2022.

34. Technology for Indonesia, [“Cooperating With WIR Group, Bank Syariah Indonesia Develops Metaverse Service,”](#) accessed October 5, 2022.

35. Zawya, [“IBF Net’s COE to Configure Islamic Meta Economy,”](#) accessed October 5, 2022.

36. iFN Fintech, [“IBF Eyes Islamic Metaverse: Sets Up Indonesian COE,”](#) accessed October 5, 2022.

37. Bank Indonesia, [“Bersiap kembangkan CBDC, BI segera rilis white paper,”](#) press release, July 28, 2022.

