# Thematic Snapshot: Covid-19 Impact

China's technology giants, like most global technology companies, enjoyed a boom during the coronavirus pandemic as vastly increased demand for technology services lifted their fortunes. In the ASPI ICPC policy brief _Reining in China's Technology Giants_ we document the growth and expansion of these companies under COVID-19 conditions which stimulated global demand not only for online services, including e-commerce and online education, but also for new products more strictly related to pandemic response efforts, such as mobile tracking apps for COVID-19 infections, thermo scanner cameras, and new avenues for artificial intelligence and biotechnology health applications.

Many of the Chinese technology companies featured on our website attempted to turn the crisis into a public relations opportunity by providing financial or material assistance to countries struggling to control the pandemic. Despite their efforts and the short-term boost to their businesses, many of the Chinese technology companies we tracked face considerable headwinds at home, with increased regulatory scrutiny, and abroad, as multiple jurisdictions move away from their supply chain reliance on China.

| COMPANY | COVID-19 IMPACT |
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| Alibaba | In a May 2020 article, _Reuters_ defined Alibaba as 'one of China's biggest corporate winners of the coronavirus crisis', as its online traffic went through the roof and the government expanded its reliance on Alibaba's cloud services to respond to the pandemic. In April 2020, the company announced that it would invest over US$28 billion in cloud infrastructure, in a push that was caused mainly by an increased reliance on the digital economy due to Covid-19 lockdowns.<br><br>The company has also been donating billions of dollars, not only to local small enterprises but also to overseas governments, in the form of masks and other Covid-19 protective equipment, as well as supporting efforts to accelerate vaccine production in China. Among other things, Alibaba opened an additional e-commerce platform exclusively dedicated to connecting overseas medical suppliers to Chinese hospitals. In Australia, the company has offered its cloud services to assist Australian universities with online education for their international students stranded in China. |
| ANT GROUP | In response to Covid-19, Ant Group assisted the Chinese Government in developing and implementing the Alipay Health Code. The health code system tracks an individual's travel, contact history and biometric data through their smartphone. People are required to enter their personal information and are assigned a coloured QR code based on their level of health risk. A green code indicates that the person can travel within their city, a yellow code indicates that they must quarantine for 7–14 days, and a red code indicates that they must quarantine for 14 days.<br><br>Ant Group's platform, Xiang Hu Bao, launched in 2018, provides members with up to US$42,000 to cover medical bills for critical illnesses, including Covid-19, for as little as US$4 per year. In February 2020, Xiang Hu Bao also introduced a temporary one-time protection scheme that offered a payout of up to ¥100,000 for individuals who die from Covid. The payouts were reportedly 'entirely born by Ant Group'. |

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| | In October 2020, Alipay advertised that its partner, bKash, provided public subsidies to millions of female garment workers in Bangladesh who were forced to stay home due to Covid-19. |
| Baidu百度 | In 2020, to fight the coronavirus pandemic, Baidu built an AI algorithm to predict the secondary structure of the ribonucleic acid (RNA) sequence of the virus and support vaccine development. The algorithm, called LinearFold, was made accessible worldwide. Later in the year, Baidu also unveiled a new 'machine learning-based bio-computing framework aimed at facilitating the development of vaccine design, drug discovery, and precision medicine', *the MIT Technology Review* reported. As early as February 2020, Baidu had launched an online Covid-19 self-diagnosis tool that allows people to determine their infection risk levels using the Chinese Government's diagnosis and treatment plan. In the following months, Baidu continued its commitment to fighting the virus through several initiatives. The company: <ul><li>released the Big data search report on Covid-19</li><li>updated online products with pandemic-related functions</li><li>launched the 'Fight against Covid-19 Channel' on its app, as well as the 'Fever Clinics Map'</li><li>provided free medical consultations through its platform 'Ask Doctors'</li><li>funded a philanthropic project to assist Chinese people overseas</li><li>collaborated with education partners to improve home schooling</li><li>donated smart devices to medical staff in Hubei</li><li>used intelligent big-data distribution to run charity programs</li><li>pledged to invest ¥300 million to support disease control and medical R&D organisations</li><li>developed fever-screening and mask-detection systems using its AI and facial-recognition technologies across China</li><li>offered disinfection and supply delivery services through its autonomous vehicle platform, Apollo</li><li>provided medication, face masks and food deliveries through its Baidu Brain's AI Developers Fighting the COVID-19 Protection Program</li><li>set up a program to help small and medium-sized enterprises by providing open-source AI technology.</li></ul> |
| BeiDou | The BeiDou satellite system was completed during the first peak of the Covid-19 pandemic, despite the pandemic's impacts on the space industry, at a time when broadband- and satellite-based internet services were in increasingly high demand. For instance, when Wuhan was experiencing the height of its coronavirus outbreak, the government used equipment based on the BDS to provide high-precision positioning services for the construction of two hospitals. It also used BDS terminals to send epidemic prevention information to vehicles. |

| COMPANY | COVID-19 IMPACT |
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| 华大基因 BGI | In August 2020, BGI said that it had sold 35 million Covid-19 rapid-testing kits to 180 countries and built 58 labs in 18 countries. Some of the equipment had been donated by BGI's philanthropic arm, the Mammoth Foundation. In March 2020, BGI's Covid-19 tests received US Food and Drug Administration emergency-use authorisation, which had already been authorised or approved by Europe's CE-IVD and China's National Medical Products Administration.<br><br>In addition to distributing Covid-19 testing kits, BGI's Covid response also included donating its 'Fire Eye' laboratories globally. The Fire Eye Lab (火眼实验室) was developed by BGI as a temporary, automated laboratory that has the ability to conduct high volumes of Covid-19 tests. The equipment for the labs is produced by BGI's subsidiary, MGI. The Fire Eye labs have won hundreds of millions of US dollars in contracts with traditional US allies, including Israel, the UAE and Saudi Arabia. In the US, the state of California rejected BGI's offer to sell supplies and assist in setting up entire labs for the state. The University of Kansas, in contrast, formed a partnership with BGI Group and received 50,000 test kits along with lab automation equipment.<br><br>In March 2020, a Fire Eye lab was built in the Qiannan Prefecture Military–Civil Fusion Bioprecision Medicine Basic Laboratory in an effort to continue promoting scientific research and the transformation of biomedicine and genomic medicine. This is expected to play a role in carrying out prenatal genetic testing in the Qiannan Prefecture, which is a Bouyei and Miao autonomous prefecture.<br><br>BGI's global Covid-19 presence has caused fears that widespread Covid testing could provide an opportunity for Chinese state-affiliated companies to compile DNA databases for research and genetic-based surveillance. Those concerns stem from BGI's role in administering China's National Genebank, which is a project launched by the Chinese Government that aims to 'develop and utilize the world's valuable genetic resources, safeguard national security in bioinformatics, and enhance China's capability to seize the strategic commanding heights' in the biotechnology industry. BGI's access to the genetic information of individuals globally, in conjunction with its previous announcement stating its plans to build a gene and a judicial collaboration centre in Xinjiang, raise concerns regarding BGI's involvement in Covid-19 testing. |
| ByteDance | In 2020, ByteDance ranked as the world's third largest financial donor in response to Covid-19. Some of its largest donations include ByteDance's donation of US$10 million to the World Health Organization's Solidarity Response Fund and TikTok's donation of US$250 million globally to provide help to healthcare workers, global organisations, educators, first responders and vulnerable communities.<br><br>According to the Wuhan Internet Information Office, ByteDance used its platforms to disseminate official information regarding the Covid-19 outbreak. It also played an important role in censoring 'harmful' content related to Covid-19, including information from abroad. The office claims that, by 23 February 2020, ByteDance had censored more than 1,200 articles and more than 68,000 comments on its platforms. |

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| CETC | CETC is one of the key companies that supported epidemic prevention and control in China by using big data. It imported data from agencies such as the National Health Commission, the Ministry of Transportation, China Railway and the Civil Aviation Administration. In early February 2020, it launched the Close Contact Detector mobile app. In late February, it developed the One Network for All Big Data Analysis System to help decision-makers understand the trend of the epidemic in real time, predict the development of the epidemic, and formulate epidemic prevention and control measures and policies on the resumption of work and production. Its app produces four colours of the 'travel smoothly code' that can be used by individuals at various health inspection sites. The system was applied in Didi Chuxing and various other travel, grocery and food-delivery apps.<br><br>For overseas contributions, CETC sent more than 2,000 sets of medical equipment to the Sri Lanka National Infectious Disease Hospital and major public hospitals to help fight the pandemic in May 2020. |
| 中國移動 China Mobile | China Mobile's response to Covid-19 has been primarily in supporting the Chinese Government in its actions to contain the virus domestically. In Wuhan, all three China telecommunication companies, including China Mobile, set up 5G base stations to deliver wireless connectivity to two field hospitals set up by the government. The three carriers broadcast the construction of the two field hospitals live through 5G using 4K high-definition and 360-degree panoramic virtual reality cameras.<br><br>The epidemic has very much been a catalyst for the implementation of China Mobile's 5G network within China. Rollout has been faster and more extensive, and, according to a report from China Academy of Information and Communications Technology, 5G applications were used heavily in the medical care, public security, education, manufacturing and logistics sectors during the Covid-19 outbreak.<br><br>Since the Covid-19 epidemic started in China at the beginning of 2020, China Mobile has lost nearly 7.5 million mobile customers in just one year. Stories emerged on social media that the drop in mobile users in China was proof that the coronavirus had killed millions more people than were being reported in the official count. However, Associated Press found that the reason was more likely to be changes in people's lifestyles because of the measures taken to combat the spread of the virus: customers no longer needed to maintain multiple SIM cards for business activities. |
| 中国电信 CHINA TELECOM | China Telecom's response to Covid-19 has been primarily in supporting the Chinese Government in its actions to contain the virus domestically. In Wuhan, all three China telecommunication companies, including China Telecom, set up 5G base stations to deliver wireless connectivity to two field hospitals set up by the government. The three carriers broadcast the construction of the hospitals live through 5G using 4K high-definition and 360-degree panoramic virtual reality cameras.<br><br>While there were fears that the 5G rollout would have been negatively affected by the pandemic, it has offered an opportunity to showcase the value of 5G in combating the disease. China Telecom has also partnered with Chinese technology company ZTE to connect more than 200 |

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| | hospitals in 82 cities with both 4G and 5G technology to facilitate digital remote diagnostics and other cooperative efforts. |
| China Unicom | As the coronavirus pandemic hit China early in 2020, China Unicom supported the government's efforts to contain the spread of Covid-19. For example, the company helped hospital operations in Wuhan, the first epicentre of the pandemic, by using its '5G+Cloud+Network' ICT. The telco also collaborated with Huawei to release China's first eAI-accelerated education broadband and improve online education efforts during the various lockdowns. That preceded China Unicom's new 'smart education joint venture', which was launched in May 2020 in collaboration with other national companies and institutions. |
| CloudWalk | In June 2020, CloudWalk, along with other Chinese AI companies, was praised by China's Ministry of Industry and Information Technology for its performance in the fight against the Covid-19 pandemic using science and technology. |
| dahua | During the Covid-19 pandemic, Dahua has both donated and sold various types of thermal equipment around the world. The company has donated thermal kits that are being used in hospitals, airports, schools and other government buildings in at least 14 countries. For example, its equipment is now used at Beirut Rafic Hariri International Airport in Lebanon, Llandough Hospital in the UK, the Ministry of Health in Panama and Harrow International School in Bangkok.<br><br>Besides donations, Dahua's solutions in response to the pandemic, in areas such as retailing, people counting, flow control and thermal monitoring, have been sold to private businesses, industrial parks, residential areas and public transport systems. Thus, according to the company, its revenue skyrocketed by 374% in Brazil in May 2020. Business decisions to procure Dahua products have come under scrutiny in the US, where the company is on the government's Entity List. US senators sent a letter to Amazon over its purchase of Dahua screening products. |
| DJI | Drones have been used widely to disinfect public areas and patrol streets during the pandemic. In April 2020, DJI's public relations director said on Weibo that DJI had been providing drone technology support to fight against the coronavirus across five continents. He specifically pointed out that DJI had helped more than 40 police, fire and public safety agencies in 22 states of the US by distributing 100 drones. Other countries that use DJI drones to tackle the pandemic include France, Norway, Italy, the Philippines, Spain and Indonesia. In China, DJI established a ¥10 million (US$1.5 million) fund in February 2020 to help contain the outbreak. |
| HIKVISION | In response to Covid-19, Hikvision released cameras and other products equipped with infra-red sensors. Several of those products also include mask-detection capabilities. According to our data, several US secondary schools purchased Hikvision thermal cameras to assist in preventing the spread of Covid-19. |

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| **HUAWEI** | In response to the Covid-19 pandemic, Huawei Cloud announced that it would be providing its AI and cloud services for free globally. Huawei also worked with Advanced Global Solution (AGS), an Italian-based enterprise, in March 2020 to jointly launch an AI medical CT image diagnosis system to assist with the diagnosis and treatment of Covid-19. |
| **iFLYTEK** | In late January 2020, iFlytek donated medical equipment, supplies and educational technology to help Wuhan fight the coronavirus epidemic. iFlytek's AI medical imaging system was also used as part of the official response coordinated by the Chinese Academy of Sciences. In addition to its AI technology, iFlytek donated 'over 12,000 respirators, 3,000 sets of protective suits, and more than 13,000 goggles to hospitals in Hubei Province', which was the epicentre of the outbreak in China.<br><br>In addition to medical technology, iFlytek has provided technical support for 'cloud classroom' initiatives by local governments in China. Binzhou's Bureau of Education, along with iFlytek, established a platform enabling students to log in with uniform accounts, view the weekly curriculum and arrange proper daily learning plans.<br><br>iFlytek has also partnered with South Korean technology company Hancom Group to launch Accufly.AI in South Korea. Accufly.AI is an AI outbound calling system and is to be used to assist the South Korean Government with contact tracing communication.<br><br>Despite being on the US's Entity List, the company received an export licence from the US Department of Commerce to purchase medical supplies to help combat Covid-19. |
| **inspur** | In response to Covid-19, Inspur provided hospitals with network systems for building new pandemic prevention wards. The company built network systems for the Rizhao People's Hospital and the Beijing Huimin Hospital. Inspur also helped to develop a medical health and service platform app for Inner Mongolia.<br><br>In September 2020, Inspur provided the John Paul II Hospital (Poland's largest healthcare organisation) with data-storage solutions to support the hospital during the pandemic. The solutions, which provided the hospital with a 'real-time, fully shared, and round-the-clock medical platform', will also be used by the hospital in the development of treatments for other diseases. |
| **MEGVII 旷视** | In response to the Covid-19 outbreak in China, Megvii's R&D team proposed an AI-enabled temperature-detection solution that, according to Megvii vice-president Xie Yinan, 'integrates body detection, face detection and dual sensing via infrared cameras and visible light'. The system was eventually deployed in some hospitals, supermarkets, campuses and offices in major cities, including Beijing and Nanjing.<br><br>Megvii has deployed this AI-enabled temperature-screening solution at multiple locations across China and overseas to protect essential personnel and communities during the Covid-19 pandemic. According to the company, the system can take the temperature of several people per second, with an accuracy level of ±0.3 Celsius (0.5 Fahrenheit). Individuals don't need to remove their face masks for temperature checks. |

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| | Like many other Chinese tech giants, Megvii donated more than [100,000 medical-grade face masks](#) to help fight the coronavirus outbreak in Hubei Province and major Chinese cities. |
| **MeiYa PiCO**<br>美亚柏科 | Meiya Pico has primarily responded to Covid-19 domestically, within China. In response to the pandemic, the company and its subsidiaries developed [three no-contact temperature measurement products](#): <ul><li>a robot capable of conducting infra-red thermal imaging and detecting human body temperature from two metres away that uses facial-recognition technology and can detect whether people are wearing masks</li><li>a door-frame infra-red sensor temperature detector, which can be used at entrances in locations such as airports, train stations, schools and businesses</li><li>an [infra-red cube sensor](#), which can identify the temperature of a targeted individual.</li></ul> |
| **威视**<br>NUCTECH | In early 2020, as the Covid pandemic began to affect countries around the world, Nuctech swiftly developed a series of [ anti-epidemic products](#). Its FeverBlock Infrared Face Temperature Screening System [reportedly](#) took only 20 days to develop. The company has sold multiple sets of the FeverBlock system to countries such as [ Australia](#) and [ Argentina](#). In May 2020, Nuctech donated some of its anti-epidemic products to [ Serbia](#). |
| **平安科技**<br>PING AN TECHNOLOGY | In the Covid-19 outbreak in Wuhan, Ping An launched a [smart audio screening system](#) to 'strengthen epidemic control and prevention with artificial intelligence (AI) technology'. Local epidemic prevention personnel in Wuhan had the capacity to complete only around 300 phone screenings a day to gather information about such things as the symptoms and body temperature of residents. Ping An's smart audio screening system enabled them to make up to 1.5 million calls per day. In March 2020, Ping An claimed that, since the system's launch on 18 February, [its technology had completed more than 580,000 screenings](#) in 47,000 households in 17 communities in Wuhan, and successfully identified more than 1,600 suspected cases for tracking.<br><br>During the pandemic, Ping An Insurance announced that it would [donate medical supplies](#) worth approximately ¥10 million (US$1.56 million) to the UK. The donated supplies included medical equipment such as Covid-19 diagnostic test kits, surgical masks, protective clothing, ventilators and safety goggles. |
| **商汤**<br>sensetime | The pandemic [hastened](#) the Chinese state's adoption of AI-based facial-recognition technology, [boosting](#) SenseTime's business. In August 2020, the company predicted that its 2020 revenue would reach US$1.3 billion, up 80% from 2019. In May 2020, the company [said](#) that it was aiming to raise US$1 billion.<br><br>In 2020, SenseTime [unveiled ](#)a series of new technologies aimed at containing the spread of Covid-19, such as the '[Smart AI Epidemic Prevention Solution](#)' and the '[SenseMeteor Smart Commute System](#)'. As early as February 2020, [the company said](#) that it was rolling out 'a facial-recognition product that incorporates thermal imaging cameras to help spot people with elevated temperatures, and send pop-up alerts to users of the software'. It [added](#) that its mask |

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algorithm was not only able to detect people who aren't wearing face masks, but could also identify those wearing face coverings with 'high accuracy'.

After deploying these technologies in mainland China, the company started exporting. For example, Malaysian tech company G3 Global Berhad reportedly acquired SenseTime's Nebula-ITMDT and Thunder-E Thermal Imaging solutions to fight the spread of Covid-19. In June 2020, SenseTime International announced that it had been working with Singaporean telecommunications company M1 to deliver its contactless AI thermal scanner, SenseThunder-E mini, to Singapore's small and medium-sized enterprises.

SenseTime also started new overseas research partnerships related to the Covid-19 pandemic. For instance, in February 2020, it collaborated with South Korean information and communication technology firm LG CNS to develop an AI-based biometric entry service.

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**腾讯**
**Tencent**

Due to its status as one of China's top technology giants, Tencent has rolled out a series of initiatives to help governments and consumers manage the Covid-19 pandemic. According to the company, it has:

- established a US$100 million global anti-Covid-19 fund and rolled out a global Covid-19 information platform
- launched a package on Tencent Cloud that enables remote collaboration and online medical consultations and helped governments promote access to reliable information
- made several of its applications open source so that organisations around the world can use them in their fight against the pandemic, including an AI-powered self-triage assistant that helps users check any symptoms and access prevention advice.

Tencent has also launched a videoconferencing app for the overseas market for people to embrace the work-from-home model, putting the company in direct competition with international players such as Zoom.

A research team jointly established by Tencent AI Lab and a group of Chinese public health scientists unveiled a deep-learning-based model that can predict the risk of coronavirus patients developing critical illness.

When incidents of racial attacks on Asian-Americans increased during the pandemic, WeChat groups became an essential tool for people to report emergencies in neighbourhood self-help 'buddy' systems organised by volunteers. WeChat groups also helped groups of Chinese volunteers facilitate donations of surgical masks.

Tencent has made a number of donations of personal protective equipment, including US$10 million to the World Health Organization's COVID-19 Solidarity Response Fund, and agreed to open source its digital health solutions to assist the global fight against the pandemic.

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**uniview**

In response to the outbreak of Covid-19, Uniview has provided temperature-screening solutions to its clients around the world. The company's screening cameras are used in both the government and private sectors, including by the Thai Government, 37 primary schools in Paris, South Korea's Jeju International Airport, police headquarters in Indonesia and the Government

| COMPANY | COVID-19 IMPACT |
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| | Housing Bank in Thailand. Uniview also donated equipment to countries such as Panama and Malaysia. |
| WuXi AppTec | Since the spread of Covid-19, first in China and then across the globe, WuXi AppTec Group has seen its business boom, despite manufacturing disruptions in certain locations:<br><br>• WuXi Biologics hit a record high revenue of US$301 million in the first half of 2020.<br>• In February 2020, WuXi AppTec Partners Fund donated over ¥15 million for Jiangsu's epidemic response.<br>• One of the biggest international operations related to the coronavirus was a research collaboration in May 2020 with British drug discovery company E-therapeutics, in which WuXi provided experimental testing for a potential Covid cure.<br>• As mentioned in WuXi AppTec Group's _Interim report 2020,_ Covid-19 disrupted the company's US laboratory operations and resulted in slower growth.<br><br>In January 2021, WuXi Biologics announced that it would begin to produce Covid-19 vaccine components at its manufacturing facility in Wuppertal, Germany. Earlier, the company also said that it was working on 10 different antibody Covid treatments, and CEO Chris Chen told _CNBC_ that the company expected approval for one of the treatments by early 2021. |
| YITU | In late January 2020, YITU launched the Intelligent Evaluation System for chest CT imaging in response to Covid-19. The system is AI powered and is the first AI-equipped diagnostic assistant, which YITU says significantly improves the efficiency of identifying Covid-19 using automatic detection and quantitative analysis. YITU developed the system under the guidance of the Shanghai Public Health Clinical Centre. |
| ZTE | Despite a slowdown in 5G rollouts across China due to US interventions, the Covid-19 pandemic in 2020 provided numerous sources of revenue for Chinese 5G vendors. For example, ZTE collaborated with multiple partners to deliver a varied array of applications aimed at fighting the spread of the virus, facilitating online business and education, providing security through AI technology and assisting the national healthcare effort.<br><br>The company's Covid-19 response also involved its overseas subsidiaries, such as ZTE Austria, which collaborated with the Austrian Government on telecom solutions aimed at easing the effects of Covid-19 lockdowns. In 2020, the Chinese vendor also pledged to ramp up digitalisation efforts in Africa and expand 4G networks across the continent. |