



The U.S. Capital Markets Footprints of the Pentagon's "First Tranche" List of PLA-Affiliated Chinese Enterprises Operating in the United States

June 30, 2020

Executive Summary

On June 25, the Pentagon released a list of Chinese military-associated companies operating directly or indirectly in the United States. The list, originally commissioned by Congress in 1999 pursuant to Section 239 of the National Defense Authorization Act, includes several large, state-owned conglomerates with: extensive ties to the Chinese Communist Party and the People's Liberation Army (PLA); involvement in the illegal building and militarization of islands in the South China Sea; and track records of human rights abuses, advanced weapons manufacturing, proliferation, cyber-attacks and other malevolent behavior. Most of these Chinese corporations are publicly traded and present in the U.S. capital markets, with past track records presenting asymmetric financial risks to American investors. Worse still from an investor protection perspective, most – if not all – of them are skirting federal securities laws.

The presence of these Chinese enterprises within the United States has not only included joint ventures, taking minority and controlling stakes in American firms, and investments in commercial facilities, but it has also involved the penetration, on a substantial scale, of America's capital markets. This has given them the opportunity, in several cases, to raise tens of billions of dollars through equity and debt issuances (i.e., stocks and bonds) and even to gain inclusion in prominent index funds. This aspect of their presence in the United States has resulted in discretionary cash being made available to them that could have been used to fund the high-risk activities listed above.

A number of the PLA-affiliated companies listed by the Pentagon have webs of publicly traded subsidiaries – including several currently under U.S. sanctions or on the Department of Commerce Entity List – that have allowed these enterprises access to large amounts of badly-needed funding via listings on the New York Stock Exchange (NYSE), NASDAQ and the Over-the-Counter (OTC) market. These companies have also been included in prominent indices and index funds tracked by trillions of dollars of funds under management (notably Exchange-Traded Funds), state public employee pension systems and the issuance of billions of dollars in



U.S. dollar-denominated bonds listed on overseas exchanges that have ended up in the fixed-income portfolios of American retail investors.

U.S. index providers such as MSCI, FTSE-Russell, Dow-S&P and Bloomberg-Barclays have added hundreds of Chinese companies to their indices directly from domestic Chinese exchanges over the past 24 months. Aside from raising national security questions, given the inclusion of some of these companies on the Pentagon's "first tranche" of PLA companies, as mentioned above, it is also the case that many, if not all, of these companies fail to comply with U.S. federal securities laws and SEC material risk disclosure requirements.

Only last month, a decision by the Federal Retirement Thrift Investment Board (FRTIB), which administers the Thrift Savings Plan (TSP), to transition its \$45 billion International Fund from an index that solely includes companies from developed nations to the MSCI All-Country World Ex-US Index, which includes a significant number of high risk Chinese companies, was abruptly interdicted by the President for reasons of national security, human rights and investor protection. The prevalence of publicly traded entities on the list of Chinese military-associated companies released by the Pentagon last week further demonstrates the urgent need for enhanced security- and human rights-minded diligence by the U.S. investment community and greater regulatory oversight by the SEC, the Executive Branch and the Congress.

Pentagon-Listed Chinese Military-Associated Companies with a Presence in the U.S. Capital Markets

* *Companies with a presence in the capital markets highlighted in red.*

- **Aviation Industry Corporation of China (AVIC)**
- China Aerospace Science and Technology Corporation (CASC)
- China Aerospace Science and Industry Group Corporation (CASIC)
- China Electronics Technology Group Corporation
- China South Industries Group Corporation (CSGC)
- **China Shipbuilding Industry Corporation (CSIC)**
- China State Shipbuilding Corporation (CSSC)
- China North Industries Group Corporation (Norinco Group)
- **Hangzhou Hikvision Digital Technology Co., Ltd. (Hikvision)**

- Huawei
- Inspur Group
- Aero Engine Corporation of China
- China Railway Construction Corporation (CRCC)
- CRRC Corp.
- Panda Electronics Group
- Dawning Information Industry Co. (Sugon)
- China Mobile Communications Group
- China General Nuclear Power Corp.
- China National Nuclear Corp.
- China Telecommunications Corp.

	MSCI ACWI (All Country World Index)	iShares MSCI ACWI ETF (ACWI)	MSCI ACWI EX-US INDEX	iShares MSCI ACWI EX-US ETF (ACWX)	MSCI EM (Emerging Markets) Index	iShares MSCI EM ETF (EEM)	FTSE EM INDEX	Vanguard FTSE EM ETF (VVO)	S&P Emerging Market BMI Index	SPDR Portfolio Emerging Market ETF (SPEM)
AVIC			X	X	X	X	X	X	X	X
China Shipbuilding Industry Corporation (CSIC)			X	X	X	X	X	X	X	X
Hikvision	X	X	X	X	X	X	X	X	X	X
Inspur					X	X	X	X	X	X
CRRC Corp.	X	X	X	X	X	X	X	X		
Aero Engine Corporation of China					X		X	X		
China Railway Construction Co. (CRCC)			X	X	X	X	X	X	X	X
Panda Electronics Group								X	X	X
Dawning Information Industry Co.					X	X	X	X		
China Mobile Communications Group	X	X	X	X	X	X	X	X	X	X
China National Nuclear Corp. (CNNC)					X	X	X	X		
China General Nuclear Power Corp.									X	X
China Telecommunications Corp	X	X	X	X	X	X	X	X	X	X

Fig 1. Visual representation of PLA-affiliated companies (including publicly traded subsidiaries) presence in indexes used by U.S. investors and U.S.-listed ETFs

	Florida (FSBA)	California (CALPERS)	Wisconsin (WRS)	New York (NYSTRS)
AVIC	X	X	X	X
China Shipbuilding Industry Corporation (CSIC)	X	X	X	X
Hikvision	X	X	X	X
Inspur	X	X		
CRRC Corp.	X	X	X	X
Aero Engine Corporation of China		X		
China Railway Construction Co. (CRCC)	X	X	X	X
Panda Electronics Group		X		
Dawning Information Industry Co.	X	X		
China Mobile Communications Group	X	X	X	X
China National Nuclear Corp. (CNNC)	X	X		X
China General Nuclear Power Corp.		X		
China Telecommunications Corp	X	X	X	X

Fig. 2 Sampling of PLA-Affiliated Companies held by State Public Employee Pension Systems

Risk Profiles of Publicly Traded Companies in the U.S. Capital Markets

❖ **Aviation Industry Corporation of China (AVIC)**

LISTED: HONG KONG/SHENZHEN/SHANGHAI

- 1) AviChina is the “listing platform” for the Aviation Industry Corporation of China (AVIC) aircraft manufacturing business. AVIC and its subsidiaries develop and produce a range of aircraft (e.g., fighters, trainers, and helicopters), unmanned aircraft systems (UAS), and airborne weapons for the People’s Liberation Army Air Force (PLAAF), People’s Liberation Army Naval Air Force (PLANAF), and People’s Liberation Army Rocket Force (PLARF).
 - AVIC’s airborne weapons and equipment include the Wing Loong (Yilong/Pterodactyl) family of unmanned aerial vehicles (UAVs), which have the operational capability to reach all of the South China Sea from any Eastern Theater Command drone base and all of the East China Sea from any Southern Theater Command drone base.
 - AVIC also produces an export variant of the ship-launched YJ-12 (YingJi/Eagle Strike) anti-ship missiles carried by an array of bombers, fighter jets, and destroyers. The YJ-12B has been deployed in the South China Sea and has the capability to strike vessels within 295 nautical miles, including U.S. aircraft carriers.

- 2) AVIC and its subsidiaries have been sanctioned on five separate occasions by the U.S. for proliferation activities that played a key role in enabling Iran to develop its missile capabilities.
 - August 1993: Sanctioned for violating the Arms Export Control Act and the Export Administration Act in proliferating missile technology to Pakistan.
 - May 2002: Sanctioned for transferring cruise missile components to Iran in violation of the 2000 Iran Nonproliferation Act.
 - December 2004: Sanctioned for transferring equipment or technology in violation of the Iran Nonproliferation Act.

- December 2005: Sanctioned for transferring equipment or technology in violation of the Iran Nonproliferation Act.
 - December 2006: Sanctioned by the U.S. for transferring equipment or technology in violation of the expanded Iran, North Korea, and Syria Nonproliferation Act.
- 3) AVIC has 26 publicly listed subsidiaries, listed in Hong Kong, Shenzhen, and Shanghai. AviChina Industry & Technology Ltd. and AVIC International Holding Limited are listed in Hong Kong under 02357 and 00232, respectively.

❖ **China Shipbuilding Industry Corporation (CSIC)**

LISTED: SHANGHAI: 601989

- 1) In July 1999, the Chinese government divided state-owned shipbuilding conglomerate China State Shipbuilding Corporation (CSSC) into two separate corporations to create CSSC and China Shipbuilding Industry Corporation (CSIC). The shipyards, subsidiaries, and R&D institutes located north of Shanghai were grouped into CSIC, and CSSC retained control over the shipyards, subsidiaries, and institutes in and south of Shanghai. As of early 2017, CSIC has 12 state-level enterprise technology centers and nine state-level laboratories for national defense science and technology, in addition to over a dozen other state and local-level research institutions.
- 2) Naval equipment produced by CSIC includes guided missile destroyers, frigates, conventional submarines, nuclear-powered ballistic missile submarines, unmanned aerial vehicle (UAV) systems, and, most notably, aircraft carriers.
 - China's first carrier, the Type 001, popularly known as the Liaoning, was purchased from Ukraine and refitted at the Liaoning Province shipyard of CSIC's subsidiary, Dalian Shipbuilding Industry Corporation, before entering PLAN service in September 2012.¹ China's first domestically designed and built aircraft carrier, the Type 001A, was also manufactured at Dalian's Liaoning shipyard and began sea trials in May 2018.²

¹ <https://www.reuters.com/article/us-china-military-carrier/china-announces-formal-handover-of-first-aircraft-carrier-idUSBRE88O04Z20120925>

² <http://www.chinadaily.com.cn/a/201805/14/WS5af8864ca3103f6866ee80c3.html>

- A news release on the company’s website from October 12, 2017 details CSIC’s role in enhancing the image of defense-industrial enterprises in the capital markets, where CSIC has raised the funds to increase production capacity, reduce overhead, and implement key military projects. According to the release, CSIC plans to continue funding itself on Western capital markets to improve its naval R&D capabilities and ultimately produce “world-class equipment” for a “world-class military” to achieve China’s strategic defense goals.³
 - CSIC is presently working on China’s third carrier and first nuclear-powered carrier with a speculative completion date of 2025, when China plans to launch its fully integrated and networked blue-water navy. The new carrier will likely carry airborne early warning and control aircraft, anti-submarine helicopters, and stealth attack drones. CSIC’s nuclear ambitions were initially alluded to in a speech by CSIC Chairman Hu Wenming in November 2017 and articulated further in an outline of the company’s development strategy released in February 2018. CSIC issued its \$1 billion U.S. dollar-denominated bond on the Frankfurt Exchange the same month as the release of this strategy document. Mention of specific weapons systems in the document, including nuclear-powered aircraft carriers, was redacted within one day of its publication. According to the original strategy, CSIC is also developing “new types of nuclear submarines, quiet submarines, maritime unmanned intelligent countermeasure systems, and naval warfare comprehensive electronic information systems.”⁴
- 3) Former CSIC technical advisor Shan Shi was indicted in the U.S. District Court of the District of Columbia in June 2017 for conspiracy to commit theft of trade secrets, and in April 2018 for conspiracy to commit economic espionage.⁵ Through his role as president of Houston-based engineering firm CBM International (CBMI), which names Chinese company Taizhou CBM-Future New Material Science and Technology (CBMF) as its sole shareholder, Shi allegedly stole proprietary and trade secret data involving the development of dual-use syntactic

³ https://www.reuters.com/article/us-China-nuclearpower-offshore/China-close-to-completing-first-offshore-nuclear-reactor-idUSKBN1D0048?mkt_tok=eyJpIjoiWWpWbE5USXINamd3WIRaaSIsInQiOiJDam1YS0NFdVpVVA1VIFoNWd1QjhFWnhuMXM3UGxuOTV5ZVpHU1IISGtnY2MrOXEzbHVmMVltMVwvUnUwSk5lUINIRkRzUjYTFVORXRiSkhOV2QwbVE9PSJ9

⁴ <https://www.reuters.com/article/us-china-defence-nuke/china-has-plan-to-build-nuclear-powered-aircraft-carrier-idUSKCN1GC159>

⁵ <https://casetext.com/case/united-states-v-shi-87>

foam from multinational company Trelleborg SA. CBMF was tasked to develop China's marine engineering equipment manufacturing capability as a member of the National Team of Marine Engineering and planned to establish a facility in China to produce syntactic foam. The stolen technology was reportedly used in contracts with CSIC, also a member of the National Team of Marine Engineering, in 2013 and 2014.⁶

- CSIC merged with CSSC in November 2019 to become the world's largest shipbuilder by sales, now known as China Shipbuilding Group Co., Ltd., following months of speculation about a strategic restructuring or merger, and internal discussions about the potential integration of both companies' offshore assets.
- China Shipbuilding Group's stated mission is to "serve the national strategy, support national defense construction, and lead the development of the industry." The two companies' individual websites remain intact and their shareholding and control structures will remain largely unchanged.

❖ **China Mobile Communications Group**

LISTED: NYSE: CHL

- 1) China Mobile considers maritime coverage a top priority and has launched over 15 base stations to provide telecommunications services to the illegally claimed Parcel and Spratly Islands in the South China Sea. These include the following.
 - March 2003: China Mobile's Hainan branch established a mobile communications base station on Woody Island in the Paracels. There is also a China Mobile store located on Woody Island.
 - December 2007: Base stations were established on Pattle Island and Duncan Island, both in the Paracels.
 - January 2008: Three more base stations were established in the Paracels, on Triton Island, Money Island, and Lincoln Island.

⁶ <https://www.justice.gov/opa/page/file/1223496/download>

- May 2009: China Mobile's first 3G TD base station was established on Woody Island, markedly improving PLA communications across the Paracels.
 - May 2010: Fiery Cross base station was established, followed soon after by new base stations across the Spratlys on Cuateron (Huayang) Reef, Hughes (Dongmen) Reef, Subi (Zhubi) Reef, Gavin (South Smoke) Reef, Johnson (Chigua) Reef, and Mischief (Meiji) Reef.
 - April 2013: China Mobile's first 4G base station was established in the Paracels.
 - February 2018: China Mobile signed a framework agreement with the PLA Navy (PLAN) South China Fleet to upgrade 4G coverage in the Paracels and Spratlys with PLAN support and resources. China Mobile reportedly intended at the time to build additional telecommunication base stations and infrastructure to support its operations.
- 2) In May 2019, the U.S. Federal Communications Commission (FCC) denied China Mobile International's Section 214 application to provide international telecommunications services between the U.S. and foreign destinations. The decision was made after an extensive review by relevant Executive Branch agencies, which examined potential national security, law enforcement, foreign policy, and trade policy concerns, concluding that the application "raises substantial national security and law enforcement risks" due to "several factors related to China Mobile USA's ownership and control by the Chinese government."
- 3) The Chinese government's oppressive internet surveillance and censorship system is implemented with the full cooperation of China Mobile, China Telecom, and China Unicom. The communications blackout in Xinjiang during the July 2009 Urumqi riots was carried out through the suspension of the carriers' Urumqi branch phone services, including long-distance calling and broadband Internet services in the region.
- 4) China Mobile Communications Group is listed on the New York Stock Exchange under the ticker CHL.

❖ **China Telecom Corporation**

LISTED: NYSE: CHA

- 1) China Telecom has expanded its cellular activities and range to cover parts of the South China Sea and has provided logistics and communications support to expand coverage in the South China Sea.
 - The PLA Navy's South China Sea Fleet has signed framework agreements to cooperate with the Hainan branches of China Mobile, China Unicom, and China Telecom to improve the civilian cellular connection in occupied parts of the South China Sea.⁷
- 2) China Telecom has strong ties to the People's Liberation Army, and a 2013 report raised serious concerns about the entity's potential as a cybersecurity threat to the United States.⁸
- 3) In April of 2020, the U.S. Department of Defense, alongside the Department of Homeland Security, published an investigation which resulted in the urging of the Federal Communication Commission (FCC) to revoke the license of China Telecom Corporation that allows it to operate in the United States. These agencies cited their significant concern with regard to cybersecurity and espionage.⁹
- 4) China Telecom is listed on the New York Stock Exchange under the ticker CHA.

❖ **Sugon (Dawning Information Industry Company Limited)**

LISTED: SHANGHAI: 603019

- 1) On June 24, 2019, the U.S. Treasury designated Sugon (Dawning Information Industry Co., Ltd.) as having military end uses and military end users of its high-performance computers.
- 2) Sugon is listed on the Shanghai stock exchange under ticker 603019.

⁷ http://www.xinhuanet.com/english/2018-02/02/c_136944795.htm

⁸ <https://www.nytimes.com/2013/02/19/technology/chinas-army-is-seen-as-tied-to-hacking-against-us.html>

⁹ <https://news.cgtn.com/news/2020-05-19/Behind-the-FCC-s-possible-revocation-of-China-Telecom-s-U-S-license-QBY8y71QgE/index.html>

❖ **Hangzhou Hikvision Digital Technology Co., Ltd. (Hikvision)**

LISTED: SHENZHEN: 002415

- 1) Hikvision has its origins in a Chinese government research institute and manufactures security and video surveillance products that have been instrumental in the Chinese government's efforts to put in place a surveillance state in the Xinjiang Uyghur Autonomous Region (XUAR). Recent design, build, finance, operation, transfer (DBFOT) contracts awarded in the region have included the following.
 - April 2017: A \$79 million contract for the Ping'an City "social defense system" in the Urumqi Hi-Tech Zone (New Urban Area). The project scope included the installation of a front-end sensing system, video analysis center, video image information sharing system, and an integrated monitoring operation and maintenance system with 30,000 video surveillance cameras.¹⁰
 - July 2017: A \$46 million contract for the Moyu (Karakax) County "social defense system." Project scope included the installation of a front-end sensing system, security card system, electronic policing system, big data center, network security system, and the construction of a command center, computer room, community courtyard, grassroots organization meeting room, mosque video lecture system, integrated monitoring and operation system, and wireless communication system.¹¹
 - August 2017: A \$53 million contract for the Pishan (Guma) County facial recognition system. Project scope included the installation of a security monitoring system, security bayonet (mount) system, high-altitude look-out system, electronic policing system, big data center, network security system, video public safety platform, mosque video lecture system, and an integrated operation and maintenance system. Hikvision will also be responsible for constructing a command center, computer room, mosque video network system, judicial bureau education base monitoring system, and street retail alarm linkage system.¹²

¹⁰ http://www1.hikvision.com/cn/news_detail_63_i2394.html

¹¹ <http://www.7its.com/index.php?a=show&catid=41&typeid=&id=5080>

¹² <https://freewechat.com/a/MzIzOTI0NzE1Nw==/2651936541/3>

- 3) Former CCP Chief of the Tibet Autonomous Region, Chen Quanguo, who now serves as XUAR Party Secretary, used Hikvision technology to develop the system known as “technological totalitarianism.” Hikvision provided systems to secure the Qinghai-Tibet railway before the same technology was deployed in Xinjiang to equip the detention camps (which some have termed “concentration camps”) that reportedly hold well over a million Uyghurs and that are also reportedly installed elsewhere in the region for security and surveillance purposes. Its facial recognition capabilities have been refined to identify ethnic Uyghurs and monitor their movement for government usage.
- 4) Hikvision’s controlling shareholder (41.6%) is the state-owned China Electronics Technology Group Corporation (CETC). The U.S. Department of Commerce Bureau of Industry and Security (BIS) added 17 of CETC’s subsidiaries to its Entity List in August 2018 for “activities contrary to the national security or foreign policy interests of the United States.” More specifically, these subsidiaries of CETC are believed to be “involved in the illicit procurement of commodities and technologies for unauthorized military end-use in China.”¹³
- 5) The U.S. General Services Administration released an interim rule amending the Federal Acquisition Regulation (FAR) pursuant to the FY19 National Defense Authorization Act (NDAA) on August 7, 2019, prohibiting federal agencies from procuring telecommunications and video surveillance services or equipment from Hikvision (or any subsidiary or affiliate). The prohibition will become effective on August 13, 2019. A broader ban applying to contracts with companies using any equipment or services provided by Hikvision is scheduled to take effect in August 2020.¹⁴
- 6) The Bureau of Industry and Security (BIS) at the U.S. Department of Commerce added 28 Chinese entities, including Hikvision, for “acting contrary to the national security or foreign policy interests of the United States” to the Entity List on October 9, 2019. Specifically, Hikvision and the other 27 entities have been determined by the U.S. government to be involved in human rights violations and abuses in Xinjiang.¹⁵

¹³<https://www.federalregister.gov/documents/2018/08/01/2018-16474/addition-of-certain-entities-and-modification-of-entry-on-the-entity-list>

¹⁴ https://www.acquisition.gov/sites/default/files/earlypub/FAR_Case_2018-017-Interim_rule.pdf

¹⁵ <https://www.federalregister.gov/documents/2019/10/09/2019-22210/addition-of-certain-entities-to-the-entity-list>

7) Hikvision is listed on the Shenzhen stock exchange under ticker 002415.

❖ **China General Nuclear Power Co.**

LISTED: HONG KONG: 1816

- 1) China Guangdong Nuclear Power Holding Corporation was established in September 1994 at the completion of China's first nuclear power station, Daya Bay, and changed its name to China General Nuclear Power Corporation in April 2013 to reflect expanding operations. In the years that followed, CGNPC has signaled an outward push with acquisitions of global energy assets from corruption-ridden 1Malaysia Development Berhad (1MDB), wind and nuclear plants across the UK, and uranium projects in countries including Namibia, Australia, and Canada.¹⁶
- 2) China General Nuclear Power Co. has significant PLA and Chinese government ties, including the following.
 - Former Vice Chairman and Non-Executive Director Zhang Weiqing, who retired in July 2016, graduated from the PLA National University of Defense Science and Technology. Zhang had previously held roles as Deputy Director of the Institute of Information Technology document processing lab at the Commission for Science, Technology and Industry for National Defense (COSTIND); Director of the COSTIND computer lab; Director of the COSTIND Department of Science, Technology and Quality Control; and Deputy Director of the Intelligence Research Institute of the PLA General Armament Department. Zhang had been with CGNPC in various senior-level positions for fifteen years before retirement.¹⁷
 - On June 15, 2018, CGNPC and the PLA Air Force (PLAAF) Logistics Department signed an implementation plan on jointly constructing military water stations. CGNPC was to provide the PLAAF with approximately \$30 million worth of water purification equipment to build 20 water stations, which would provide clean drinking water to troops stationed in remote areas like the Tibetan Plateau and the Gobi Desert. The PLAAF was to be

¹⁶ CGN achievements shared at Boao Forum." China General Nuclear Power Corporation, 9 April 2018.

http://en.cgnpc.com.cn/encgn/c100035/2018-04/09/content_885c3d4e6b1d4741b42e221309dd01a2.shtml. Zheng Xin.

¹⁷ "The Second Board of Directors of China Nuclear Energy Industry Association [中国核能行业协会第二届理事会构成]." *China Nuclear Energy Industry Association* [中国核能行业协会], 21 April 2014. <http://www.china-nea.cn/html/lshgc.html>.

responsible for infrastructure construction, management, and maintenance. CGNPC and the PLAAF also signed an agreement to strengthen strategic cooperation in military-civil integration. At the launch ceremony, CGNPC pledged to support the PLAAF with its clean energy, nuclear technology, and other capabilities.¹⁸

- 3) CGNPC has a significant presence in illegally occupied territories in the South China Sea.
 - CGNPC is reportedly developing China's first floating nuclear reactor, the 200MW ACPR50S, expected to be completed by 2023 and deployed to Beijing's artificial islands in the South China Sea.¹⁹ China plans to put in place 20 offshore nuclear reactors by about 2020 to supply power for offshore oil exploration, desalination for PLA soldiers stationed on the islands, marine propulsion for ships, and energy security for Chinese facilities. According to the *Global Times*, the marine nuclear power platforms will support and sustain China's ability to develop and exercise control over the South China Sea region.²⁰ One outside expert consulted by RWR speculated a potential role for the floating nuclear reactors in supporting rail gun deployment.

- 4) CGNPC has faced significant and numerous allegations of espionage.
 - On August 31, 2017, U.S.-based CGNPC consultant Szuhsiung "Allen" Ho was sentenced to prison for conducting nuclear espionage on behalf of the Chinese government. From 1997 through April 2016, Ho and co-conspirators procured U.S. nuclear engineers, including an engineer with the Tennessee Valley Authority, to assist CGNPC and its subsidiary, China Nuclear Power Technology Research Institute, with developing and producing nuclear reactor components.²¹ Ho also executed contracts with U.S. nuclear industry experts who provided technical assistance and reports containing sensitive

¹⁸ "The first set of 'Central Military' water stations solved the drinking water problem for 21 Air Force units [首批'军中康泉'水站解决空军21个单位饮水难题]." *Xinhua News Agency*, 15 June 2018. http://m.xinhuanet.com/2018-06/15/c_1122993522.htm.

¹⁹ Shunsuke Tabeta. "China eyes offshore reactors as next step in nuclear goals." *Nikkei Asian Review*, 5 January 2018. <https://asia.nikkei.com/Business/Business-Trends/China-eyes-offshore-reactors-as-next-step-in-nuclear-goals>.

²⁰ "Huawei Risk Report." *RWR Advisory Group*, 13 February 2018. <https://www.rwradvisory.com/wp-content/uploads/2018/04/RWR-Huawei-Risk-Report-2-13-2018.pdf>.

²¹ "US Engineer Sentenced in Nuclear Espionage Case for Supporting China's Nuclear Energy Program." *King's College London, Centre for Science and Security Studies: Project Alpha*, 1 September 2017. <https://projectalpha.eu/us-engineer-sentenced-in-nuclear-espionage-case-for-supporting-chinas-nuclear-energy-program>.

information to CGNPC, in violation of the U.S. Atomic Energy Act.²² Along with Ho, CGNPC was also indicted in April 2016 on charges of conspiracy to develop and produce “special nuclear material” outside the United States.²³

5) CGNPC is listed on the Hong Kong Stock Exchange under ticker symbol 1816.

❖ **China Railway Construction Corporation (CRCC)**

LISTED: SHANGHAI: 601186

LISTED: HONG KONG: 1186

1) Multiple projects involving China Railway Construction Corporation (CRCC) have come under scrutiny for illegal activity, dual-use risk, human rights and environmental abuses, as well as delays and cost increases. Multiple contracts have been canceled, retendered, or rejected due to these bad practices and fear over military influence created through CRCC presence.²⁴

- China Railway Construction Corporation Limited and two of its subsidiaries, China Railway 23rd Bureau Group Co., Ltd. (CR23) and China Railway Construction Corporation (International) Limited (CRCC International), were debarred by the World Bank on June 4, 2019, for fraud and corruption.²⁵
- On February 2, 2015, China Railway Construction Corporation (CRCC) announced approval from the Ministry of Finance of Saudi Arabia to develop 36 land parcels into security premises for the Ministry of Interior for \$607 million.²⁶
- On November 29, 2016, China Railway Construction Corporation (CRCC) was awarded a contract to construct Qatar's 2022 World Cup stadium in the city of Lusail. In May 2016, Amnesty International exposed the exploitation

²² “U.S. Nuclear Engineer Sentenced to 24 Months in Prison for Violating the Atomic Energy Act.” *U.S. Department of Justice*, 31 August 2017. <https://www.justice.gov/opa/pr/us-nuclear-engineer-sentenced-24-months-prison-violating-atomic-energy-act>.

²³ “U.S. Nuclear Engineer, China General Power Company and Energy Technology International Indicted in Nuclear Power Conspiracy against the United States.” *United States Department of Justice*, 14 April 2016. <https://www.justice.gov/opa/pr/us-nuclear-engineer-china-general-nuclear-power-company-and-energy-technology-international>.

²⁴ <http://www.guardian.co.tt/news/curepe-interchange-land-talks-break-down-6.2.750240.3ecd4b6bd1>

²⁵ <https://www.worldbank.org/en/news/press-release/2019/06/05/world-bank-group-debars-china-railway-construction-corporation-ltd-and-two-subsidiaries>

²⁶ “CRCC (01186) gets Rmb3.8bn Saudi Arabia contract.” ET Net. February 2, 2015.

of migrant workers who helped to build the Khalifa International Stadium, as well as lack of basic safety precautions, but abuses on Qatar 2022 sites, such as Lusail, have reportedly continued.²⁷

- 2) China Railway Construction Corporation (CRCC) is listed on the Shanghai Stock Exchange under the ticker 601186, as well as on the Hong Kong Stock Exchange under ticker 1186.

❖ **China National Nuclear Corp. (CNNC)**

LISTED: SHANGHAI: 601985

- 1) In 2017, China National Nuclear Corp. began building floating nuclear power plants on the illegal man-made islands in the South China Sea.²⁸
- 2) China National Nuclear Corp., controlled directly by the Chinese government, is significantly involved with military and civilian nuclear activity in China and has significant control over nuclear development and research in China as well as abroad.²⁹ China National Nuclear Corp. has worked extensively on nuclear activity in Iran.³⁰
- 3) China National Nuclear Power Co. Ltd. is the core subsidiary of CNNC and is listed on the Shanghai Stock Exchange under the ticker 601985.

❖ **Panda Electronics Group**

LISTED: HONG KONG: 553

LISTED: SHANGHAI: 600775

- 1) Panda Electronics Group is a technological manufacturing company, which focuses on research and production of telephones, wireless network cards, and radio and electronic equipment. Panda Electronics Group is a major supplier to the Chinese army (PLA).

²⁷ <https://www.presstv.com/Detail/2017/05/19/522405/Qatar-World-Cup-2022-stadium-migrants-abuse>

²⁸ <https://asiatimes.com/2019/03/ocean-going-nuclear-plants-for-south-china-sea/>

²⁹ <https://www.nti.org/learn/facilities/707/>

³⁰ <https://www.voanews.com/middle-east/voa-news-iran/pandemic-not-likely-stop-china-building-influence-iran>

- 2) According to the annual report of Panda Electronics Group, “the Company has successively completed researches in a wide range of military civilian communications equipment products,” including “miniaturized access gateway for broadband mobile data, pico-cell base station, digital trunking, wireless video transmission, system terminal for Beidou Navigation Satellite System, portable satellite terminal, Internet of Things, and other related products.”
- 3) In 2019, it was found that Huawei had worked alongside Panda Electronics Group on projects for the North Korean government over several years.³¹
- 4) Lu Qing, the Vice Chairman of the Board of Nanjing Panda Electronics Group and Deputy General Manager of Panda Electronics Group, previously worked closely with the Military Communications side of the firm, including as Deputy General Manager-Military Communication Industry³².
- 5) Nanjing Panda Electronics Group, fully controlled by Panda Electronics Group, is listed on the Hong Kong Stock Exchange under the ticker 553 and listed on the Shanghai Stock Exchange under 600775.

❖ **CRRC Corp.**

LISTED: HONG KONG: 1776

- 1) CRRC, a state-owned enterprise, is closely connected to the Chinese government and People’s Liberation Army (PLA).
 - CRRC is one of the most heavily subsidized SOEs by the Chinese government and is considered a top priority for the Chinese government.
- 2) CRRC has collaborated with other risky entities, including Huawei³³, and has been considered a cybersecurity threat by the U.S. Government.³⁴

³¹ <https://www.cnn.com/2019/07/22/huawei-reportedly-helped-north-korea-build-its-wireless-network.html>

³² <https://es.wallmine.com/hkse/0553/officer/1717698/qing-lu.amp>

³³ <https://m.facebook.com/CRRCGC/posts/2151981158162615>

³⁴ <https://www.scmp.com/magazines/post-magazine/long-reads/article/3034335/us-sees-chinese-state-owned-rail-company-crrc>

3) CRRC is listed on the Hong Kong Stock Exchange under the ticker 1776.

❖ **Aero Engine Corporation of China (中国航空发动机集团有限公司)**

LISTED: SHENZHEN: 000738

- 1) Aero Engine Corporation of China is the major manufacturer of aircraft parts for the People's Liberation Army (PLA). AECC is a state-owned enterprise, although it was formerly partially owned by AVIC as well as The Commercial Aircraft Corporation of China (COMAC).
- 2) Aero Engine Corporation of China was spun off from AVIC in 2016³⁵, to focus on furthering military-focused development, as part of China's "Made in 2025" Program.³⁶
- 3) AECC Aero Engine Corporation of China is listed on the Shenzhen stock exchange as 000738.

❖ **Inspur (浪潮)**

LISTED: SHANGHAI: 600756

- 1) Inspur has significant connections to the government, including the Chinese military and security services.
 - The PLA uses Inspur equipment and computers, mapping technology, and communications equipment, according to a report from Defense One.³⁷
 - In 2018, Inspur moved into big data and cloud computing, with an emphasis on government cloud services. The CEO of the company noted at the time that, "his company helps operate government data, changing its task from 'babysitting' to 'housekeeping' of government data."³⁸

³⁵ https://www.rand.org/content/dam/rand/pubs/research_reports/RR1700/RR1755/RAND_RR1755.pdf

³⁶ <https://www.scmp.com/business/article/2170746/chinas-aviation-industry-has-steep-climb-made-china-2025-goals>

³⁷ <https://www.nytimes.com/interactive/2015/10/30/technology/US-Tech-Firms-and-Their-Chinese-Partnerships.html?mtrref=www.google.com&assetType=REGIWALL>

³⁸ <https://www.yicai.com/news/inspur-group-will-be-new-style-web-firm-separately-list-its-cloud-ceo-says>

- 2) Inspur also famously worked from 2013-2015 with China's National University of Defense Technology to build the world's fastest supercomputer, China's Tianhe-2, on an *863 Program* grant. As might be expected, the computer was reportedly mainly used for government security/military applications.³⁹
 - The 863 Program has been consistently accused of serving as a vehicle for espionage, intellectual property theft, and existing programmatically under the Chinese military.⁴⁰ According to a 2011 report from the U.S. Office of the National Counterintelligence Executive, “[the 863 Program] provides funding and guidance for efforts to clandestinely acquire U.S. technology and sensitive economic information.”⁴¹
- 3) Inspur is listed on the Shanghai Stock Exchange under the ticker 600756.

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³⁹ <http://www.netlib.org/utk/people/JackDongarra/PAPERS/tianhe-2-dongarra-report.pdf>

⁴⁰ <https://www.forbes.com/sites/williampentland/2011/01/22/entrepreneurial-espionage-made-in-china/#58ad1c75207c>

⁴¹ https://www.theepochtimes.com/investigative-report-china-theft-incorporated_1737917.html