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Chinese Demographic Signals Bode Ill for Future Development
By Elizabeth Chen

A new study published February 8 by the Ministry of Public Security of the People's Republic of China (PRC) (MPS, 中华人民共和国公安部, *zhonghua renmin gongheguo gongan bu*) reported that there were 10.035 million registered births in 2020, down from 11.79 million in 2019. This represents a 15 percent decrease following the coronavirus pandemic (Guancha.cn, February 8). Although the number of registered births—that is, newborns recorded in the household registration hukou (户口) system—is not the same as China's official birth rate, the decline has concerned analysts that a long-forewarned demographic crisis may be approaching faster than expected.

National birth and population figures for the previous year are usually released in January but have been delayed until April this year as China's National Bureau of Statistics (NBS) compiles its decennial census. In the meantime, data released by some provinces and cities in January has appeared to confirm the implications of the MPS study. Data released from the capital city of Guangdong province—which saw the highest number of births per province in 2019—showed that birth rates in Guangzhou were down by 17 percent year-on-year and mirrored broader trends across the rest of the province. In Zhejiang, China's wealthiest province, the cities of Wenzhou and Taizhou reported that new births in 2020 fell by 19 percent and 33 percent respectively compared to 2019 (SCMP, February 2).

Image: A hospital worker feeds a newborn under isolation conditions at Tongji Hospital on February 8, during the height of the coronavirus outbreak in Wuhan (Image source: People's Daily).

These statistics belayed earlier optimism that the pandemic could have fueled a 'quarantine baby boom' that would have helped offset years of birth rate decline (CGTN, October 29, 2020, Yicai, January 31). And although China was the only major economy to experience GDP growth last year, the demographic data has sharply exposed the fragility of its recovery from COVID-19 as well as underscoring long-term weaknesses in its labor market that bode poorly for future development.

Entering the "Low Fertility Trap"

Even before the pandemic, official statistics showed that China's birth rate had declined for three years. In 2019, NBS reported that the total number of new births was 14.65 million, which was itself the lowest number seen since 1961. It is plausible that the total number of births in 2020 will be the lowest on record since China

became a nation-state in 1949. Independent analysts have argued that the situation may be even more severe that official numbers indicate and that the 2015 reform of national family planning policy did little to ameliorate ongoing factors contributing to birth rate decline, including high costs of childcare; a serious demographic contraction following the implementation of the One Child policy in 1980 and ongoing efforts to repress ethnic minorities stunting population growth in lower-income western regions (China Brief, February 28, 2020; Jamestown Foundation, July 21, 2020).

Experts worry that China may have fallen into the so-called "low fertility trap," in which self-reinforcing mechanisms lead to continuous birth decline (SCMP, February 9). Demographers generally hold that the replacement level fertility rate—defined as the average number of children born per woman—necessary to sustain existing population levels should be about 2.1. But the World Bank has pegged China's fertility rate at under 1.7 since 1995 (World Bank, accessed February 9). Although positive migration has allowed China's total population to continue growing thus far, a report by the state-affiliated Chinese Academy of Social Sciences (中国社会科学院, *zhongguo shehui kexueyuan*) estimated that China will begin to see negative population growth as early as 2027 (CASS, January 4, 2019). More pessimistic analysis by the Evergrande Research Institute (恒大研究院, *hengda yanjiuyuan*) has predicted that negative growth will begin during the 14th Five Year Plan (2021-2025) (FYP) (Yicai, February 3). Even the most conservative experts have begun to signal their concerns about these population changes: in December, the president of the China Population Association (专访中国人口学会, *zhuanfang zhongguo renkou xuehui*) said in an interview that the national family planning policy should be changed and the population be allowed to make their own decisions regarding childbirth during the 14th FYP (Jiemian News, December 15, 2020).
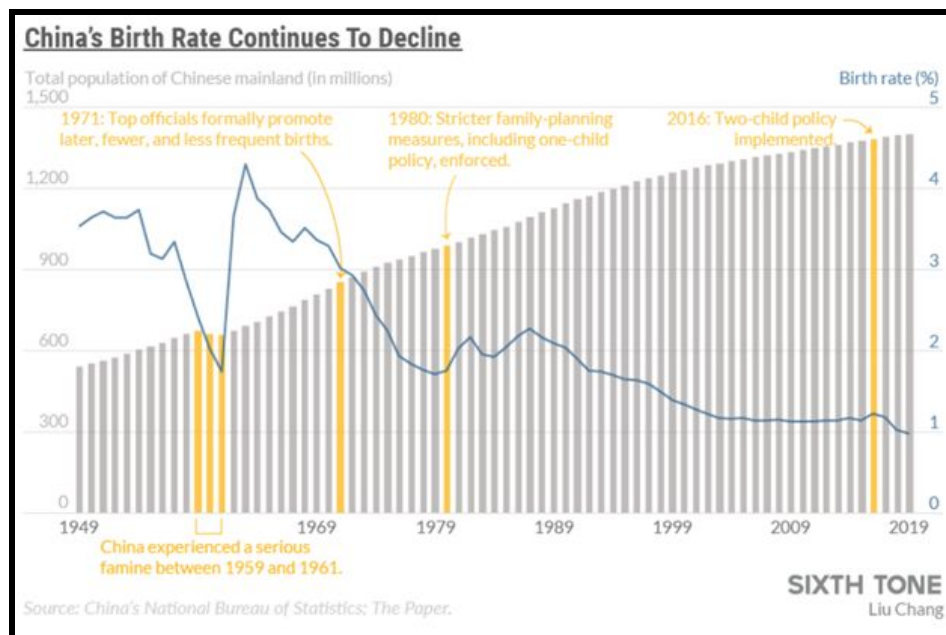

Image: A graph created by Sixth Tone shows the impact of national family planning policies on China's birth rate and population growth since the nation's founding in 1949 (Image source: Sixth Tone).

A Silver Wave

China's birth rate crisis has been paralleled by the simultaneous and related problem of a rapidly aging population. According to a report by the Ministry of Civil Affairs (MCA, 中华人民共和国民政部, *zhonghua renmin gongheguo minzhengbu*), the number of people over the age of 65 in China will hit 300 million during the 14th FYP ([The Paper](), October 23, 2020). A more pessimistic projection by the Evergrande Research Institute suggests that China will become an aged society—defined by the UN as a society in which more than 14.3 percent of the country's population is over the age of 65—by 2022 ([Evergrande](), accessed February 11).

Declining birth rates and an increasing elderly population are expected to put pressures on China's working age population (defined as the population between the ages of 15 to 64) from both sides. UN population projections anticipate that China's working age population will fall by 200 million by 2050. The dependency ratio (defined as the ratio of the population over 65 to the population aged 15-64), which began rising in 2011 after a 30 year decline, is projected to increase rapidly to 75 percent by 2055 ([CASS](), January 4, 2019) (*see graph below*). Based on current estimates, it is likely that China will have an aged society before it becomes a high-income country. In other words, China faces the problem of "becoming old without becoming rich" (未富先老, *weifu xianlao*) ([Yicai](), February 3).
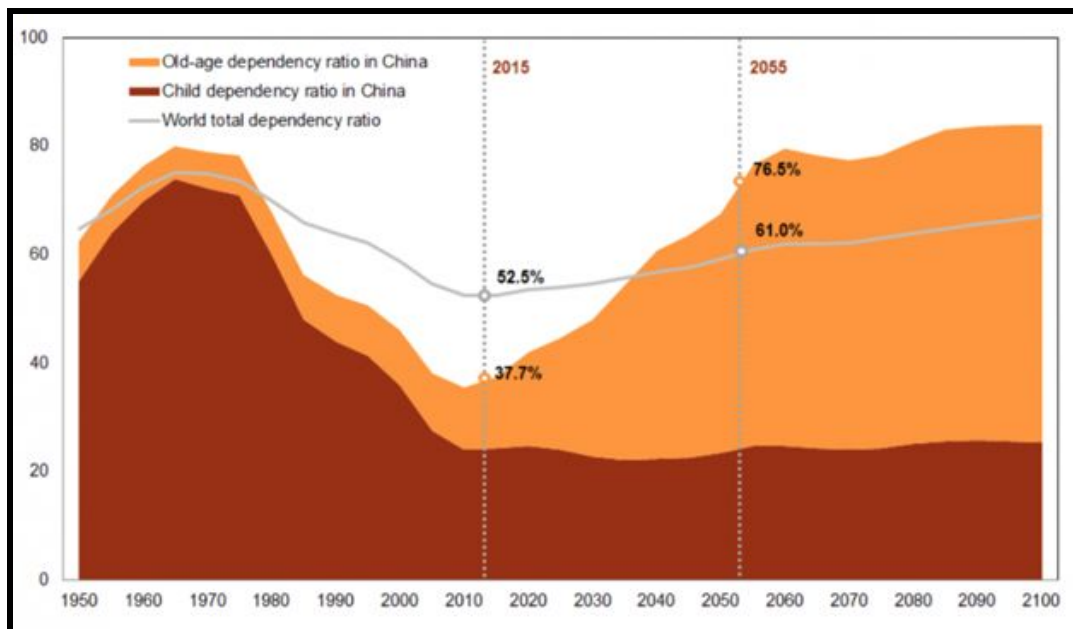

Image: UN data from 2017 shows China's dependency ratio has begun rising after a 30 year decline that ended in 2011. The dependency ratio broadly measures pressures on the working class population, which bears broad implications for policymakers (Image source: [Unicef]()).

Added to this is the fact that social security reforms—already lagging behind the pace of demographic changes—have been hard hit by the pandemic. A 2019 study by the Chinese Academy of Social Science found that the main state pension fund was expected to run out of money by 2035, with the projected gap between contributions and outlays rising after 2027 (SCMP, April 12, 2019). As part of policies to drive economic recovery after nationwide shutdowns aimed at controlling the COVID-19 outbreak early last year, the central government announced that businesses could reduce or stop contributions to already under-financed provincial pension and insurance funds during the first half of 2020. In response, one expert warned that "there is [already] a massive gap which is unsustainable" (SCMP, April 7, 2020).

Signals Ahead of the 14th FYP

Because maintaining stability is intrinsically tied to the legitimacy of the ruling Chinese Communist Party (CCP), the Chinese state has prioritized social reforms ahead of the 14th FYP (The Paper, October 23, 2020). Following the Fifth Plenum, which took place from October 26-29, 2020, the CCP Central Committee released its "Proposals for Formulating the 14th Five-Year Plan for National Economic and Social Development and the Long-term Goals for 2035" (中共中央关于制定国民经济和社会发展第十四个五年规划和二〇三五年远景目标的建议, *zhonggong zhongyang guanyu zhiding guomin jingji he shehui fazhan di shisi ge wunian guihua he erlingsanwu nian yuanjing mubiao de jianyi*) (Gov.cn, November 3, 2020). These proposals can be understood as a general and detailed outline of the 14th FYP, the full version of which is expected to be published sometime in March.

The outline for the 14th FYP included the need to "optimize the birth policy and improve prenatal and postnatal care and services…[to] promote long-term balanced population development" (Yicai, December 1, 2020). The proposals also included prescriptions to "gradually" delay the national retirement age and "develop the silver economy" (发展银发经济, *fazhan yinfa jingji*), signaling the central government's plans to leverage the productive capacity of China's 65+ population as a means of offsetting pressures on the traditional working-age population. Raising the retirement age (currently mandated at 60 for men and 55 for women) was proposed ahead of the 13th FYP (2016-2020) but not officially included in the plan. Following the Fifth Plenum, there has been a notable propaganda push to revisit retirement reforms (Xinhua, December 14, 2020; China Daily, December 22, 2020). Despite consistent public opposition, it now seems likely that such reforms will be included in the next five-year plan (SupChina, November 11, 2020).

Conclusion

Birth rates tend to plummet during periods of economic uncertainty and instability, and despite China's comparatively strong recovery from the COVID-19 pandemic, the decline in registered births throughout 2020 sends a strong signal that its people remain uncertain about the future. Although more complete analyses of China's demographics will have to wait for the publication of census data in April, it seems that the once-in-a-lifetime pandemic has exacerbated existing population pressures such as birth declines and an

aging population. These trends will bear major implications for key strategies such as dual circulation and rural-urban revitalization, which have been aggressively pushed by Chinese President Xi Jinping as a means for driving economic development and reaching a goal to "basically achieve socialist modernization" by 2035. The reform of national family planning policies, labor regulations, health care and the social security system will be crucial for maintaining stability amid rapid demographic changes in the coming years.

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The People's Liberation Army Attempts to Jump Start Training Reforms
By Kevin McCauley

Introduction

The People's Liberation Army (PLA) is attempting to reinvigorate lagging unit training and military education reforms to enable an integrated joint operations capability. A training conference, training mobilization order for 2021 and a regulation reinforcing the "Triad" ("三位一体," *sanwei yiti*) joint education reform represent recent efforts. Cultivating quality personnel and raising unit combat capability through training are foundational areas supporting the PLA's ambitious modernization. The Triad educational reform regulation addresses the importance of linking military academies to unit training, while the training conference also raised the issue of education. Reforms in both military training and education have been underway for at least the past two decades, resulting in mixed results at best. The PLA's renewed resolve to accelerate these critical reforms reinforces its own assessment that past efforts have achieved limited results.**[1]**

The Central Military Commission (CMC) held a Military Training Conference on November 25, 2020 focused on strengthening actual combat training (Xinhua, November 25, 2020). In early January, Chinese President and CMC Chairman Xi Jinping (习近平) issued a military training order for 2021 reinforcing some of the issues discussed in the training conference (China Military Online, January 19). Per these signals, military training in 2021 will focus on actual combat training to raise combat readiness, joint command and joint specialized training, new equipment and force training, and operational system of systems integration training. The PLA intends this year's training to support the transformation of a new military training system discussed at the training conference (China Military Online, January 29; PRC Ministry of National Defense, February 1). This article will focus primarily on analyzing themes from the CMC training conference.

Image: Chinese President, CCP General Secretary, and CMC Chairman Xi Jinping gives the keynote address at the November 2020 PLA training conference (Image source: PLA Pictoral).

CMC Military Training Conference

Xi Jinping delivered a speech at the conference on preparing to win wars by improving actual combat training; joint training; leveraging science and technology to strengthen training; encouraging training innovation and establishing a new military training system. Improvements in these training areas are required to solve continuing problems recognized by the PLA as hampering combat effectiveness and modernization goals (plapic.com.cn, January 6; China Military Online, January 5; China Military Online, January 28).

The conference discussed developing innovative training methods and accelerating the construction of a high-level integrated training support system to enhance actual combat training and address the requirements of modern warfare. Actual combat training is intended to increase training realism in part to overcome a lack of recent PLA combat experience and improve overall combat capabilities. Although Xi stressed that the PLA had resolved some training problems, he also addressed additional requirements that still needed work, to include strengthen strategic planning and top-level design to ensure uniformity in training; accelerate the development of integrated joint operations capabilities; raise the science and technology literacy of officers and troops; improve training with new equipment and new forces; implement the policy of military education in the new era to cultivate talent and better support unit training (plapic.com.cn, January 6). These reforms are intended in part to support the implementation of system of systems operations (体系作战, *tixi zuozhan*). System of systems operations is the foundation of an

integrated joint operations capability and includes the establishment of operational system of systems (作战体系, *zuozhan tixi* – an integrated modular task force) to conduct modern operations. The PLA views modern warfare as a system of systems confrontation (体系对抗, *tixi duikang*) with integrated joint operations as the basic form of combat (China Military Online, January 5; Jamestown Foundation, January 2017).

The training conference presented integrated training support as a prerequisite for improving strategic and campaign training, theater joint training, service integration training, and optimizing training support institutions. The conference recognized the challenges and complexity of organizing integrated joint training and support across a varied range of operational environments and mission requirements facing the theaters (China Military Online, January 5).

To this end, the PLA has upgraded training bases viewed as key integrated training support institutions over the past decade to better support realistic combat training. Training bases in each theater provide a range of operational environments – mountain, high-altitude plateau, jungle, grasslands and so on - with improved training evaluation and data collection. The PLA has examined foreign training bases to adjust, optimize and enlarge their training centers for joint and service exercises. Joint logistic support units provide specialized training support relying on military and local logistics support throughout each theater (China Military Online, January 5).

According to conference reporting, training support includes the following: quality support for new forces and equipment; standardize big data usage and the sharing of data resources; standardize training support to provide uniformity; strengthen multi-dimensional support for cross-region and long-range mobility exercises and expand the use of military and local support resources to include local transportation, materials, maintenance, supply and medical treatment. The conference further explored the need to transform and upgrade training and support methods to meet the requirements of military training in the new era. This includes improving precision logistics support and exploring the use of intelligent autonomous support. New technological developments to improve training include big data, cloud computing, the Internet of Things, and artificial intelligence to establish an intelligent training support planning system platform (智能化训练保障规划系统平台, *zhinenghua xunlian baozhang guihua xitong pingtai*). The intelligent platform will provide automated analysis of support requirements, automated planning of support tasks, and automated matching of resources to requirements to provide precision support. These technological plans place a priority on developing quality talent throughout the force (China Military Online, January 5).

Construction of realistic combat battlefields to train forces can include the use of virtual simulations, intelligent simulation, and other technologies. Training bases should combine real and simulated training. Realistic training should include accurate mission area environments, electronic countermeasures, information support, and network offense and defense establishing a complex electromagnetic environment. The conference raised a proposal to add realism to training simulations by hiring personnel to portray indigenous

civilians from potential mission areas providing complex scenarios portraying cultural traditions, customs, and habits of the combat area. This would allow troops to interact with "local" people and social media to provide effective skills in contact and dialogue with civilians (China Military Online, January 5).

Image: (Left) Artillerymen assigned to a brigade under the PLA 76th Group Army conduct an anti-tank missile live-fire test during cold weather training at an undisclosed mountainous region on December 17, 2020 (Image Source: China Military Online). (Right) Soldiers of an army aviation brigade under the PLA 72nd Group Army disembark from a Mi-171 transport helicopter during a training exercise on January 4 (Image source: China Military Online).

The conference also recognized confrontation training as a method to improve actual combat training. The conference viewed confrontation training based on operational plans as a means to improve command and joint operations capabilities while providing a realistic and complex battlefield environment. While articles on the training conference did not specifically mention battle labs, simulation centers or reforms in the training evaluation system, the PLA has previously recognized that these methods can improve training and experimentation. The 2021 training order mentions operational system of systems training, and the PLA has explored a step-by-step training approach to operationalize these modular task force organizations that can be formed at the strategic, campaign and tactical levels. The PLA usually refers to joint or service operational system of systems as campaign-level formations (军团, *juntuan*) or tactical-level formations (兵团, *bingtuan*) (PRC Ministry of National Defense, February 1; Jamestown Foundation, January 2017).

Conclusion

The PLA recognizes that while past training and educational reforms have made some progress, serious problems remain, hampering its ambitious modernization goals. The CMC Military Training Conference and other recent efforts appear to attempt to jump start lagging reforms in these critical areas. The conference identified numerous areas still requiring improvement or implementation indicating the deficiencies of past reform efforts. Since taking power, Xi has pushed through long needed reforms creating theater commands

and reorganizing the force. Only time will tell whether the most recent reform efforts will overcome impediments to the PLA's ongoing training and education reforms.

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Notes

[1] See: Kevin McCauley, "Cultivating Joint Talent," in the forthcoming Army War College publication "The People in the People's Liberation Army 2.0." This chapter provides a detailed analysis of the status of military education and joint training and PLA reforms designed to correct problems in these two critical areas; Qiang Hao (强昊), "Unite the "Triad" of Educating People (凝聚"三位一体"的育人合力)," available at http://www.81.cn/jfjbmap/content/2021-01/31/content_281842.htm, accessed January 31, 2021; Xu You (徐有), "Promoting the innovative development of military professional education in the new era (推进新时代军事职业教育创新发展)," available at http://www.81.cn/jfjbmap/content/2021-01/19/content_280865.htm, accessed February 3, 2021; Kevin McCauley, ""Triad" Military Education and Training Reforms: The PLA's Cultivation of Talent for Integrated Joint Operations," available at https://jamestown.org/program/triad-military-education-and-training-reforms-the-plas-cultivation-of-talent-for-integrated-joint-operations/?mc_cid=8eea1df3d7&mc_eid=21615ca4d8, accessed February 4, 2021.

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An Overlooked Source of Chinese Influence in Latin America
By Linda Zhang and Ryan Berg

Introduction

The People's Republic of China's (PRC) engagement in Latin America and the Caribbean (LAC) is drawing increased scrutiny from U.S. policymakers. The International Liaison Department of the Central Committee of the Chinese Communist Party (ILD) (中共中央对外联络部, *zhonggong zhongyang duiwai lianluo bu*) is one of the many Chinese organizations active in LAC. Although its footprint is relatively small compared to larger trade and governmental organizations, the ILD's emphasis on ideology and on long-term relationship building in its engagements is noteworthy and should be monitored more closely within the context of China-Latin America relations.

The ILD and its Role in International Affairs

The ILD is the functional department responsible for the Chinese Communist Party (CCP)'s external affairs. Since its formal establishment in 1951, it has worked directly under the Central Committee of the CCP to carry out foreign exchanges and conduct foreign policy research (ILD, undated). The principal body for the CCP's relationship building with foreign political organizations and research institutions, the ILD has cultivated ties with political parties across the ideological spectrum, building influence with an array of constituents in foreign countries. According to the ILD's website, the department has established relationships with over 600 political parties and political organizations in over 160 countries and regions throughout the world (ILD, undated).

Image: A meeting on May 27, 2020 with the Cuban Ambassador to China Carlos Miguel Pereira at ILD headquarters in Beijing (Image Source: Chinese Embassy in Cuba).

The ILD was built upon the idea of dividing foreign affairs into dealings with other Communist parties and dealings with foreign governments.**[1]** Although the CCP considers the work of the ILD to be foreign affairs (外事, *waishi*), it is distinct from other foreign affairs organizations such as the Ministry of Foreign Affairs, the State Council Foreign Affairs Office, or the United Front. As a Party organization—rather than a state organization—the ILD has several distinct advantages over more official bodies. First, when a majority of countries did not recognize the PRC during the 1950s to 1970s, the ILD was still able to conduct unofficial diplomacy with other Communist parties.**[2]** Because of this, the ILD arguably has more experience with foreign policy than other foreign affairs organizations. Second, the ILD has the standing and capacity to build relationships with both ruling parties and opposition parties.**[3]** Finally, the ILD's activities are cheap compared to more high-profile foreign policy programs such as the Belt and Road Initiative (BRI). Its primary operational costs are travel-related and include sending delegations abroad, receiving visiting delegations and attending conferences overseas.**[2]**

Because the ILD is a Party organization, its messaging involves more ideology compared to other government ministries. Xi Jinping Thought, a set of CCP General Secretary Xi Jinping's policies and ideals, heavily influences it (ILD, October 20, 2017). The ILD holds semi-annual ideological training courses for its cadres, which are announced on its website (ILD, undated). At these trainings, ILD officials study documents such as "Xi Jinping Thought on Socialism with Chinese Characteristics in a New Era" (习近平新时代中国特色社会主义思想, *xi jinping xin shidai zhongguo tese shehui zhuyi sixiang*), "Great-Country Diplomacy with Chinese Characteristics in a New Era" (新时代中国特色大国外交, *xin shidai zhongguo tese daguo waijiao*) and "How to Administer the Party Strictly in the New Era" (新时代如何全面从严治党, *xin shidai ruhe quanmian congyan zhi dang*) (ILD, January 25, 2018).

CCP ideology and governing practices thus have a major influence on the ILD's international activities, and ILD meetings are an opportunity for the CCP to practice authoritarian knowledge transfer. According to ILD Minister Song Tao (宋涛), one recent priority has been to "publicize Xi Jinping's thought on socialism with Chinese characteristics in the new era and tell the story of the Communist Party of China." Minister Song further asserted that ILD meetings "strengthen mutual learning with political parties from all over the world" and are an opportunity to "conduct exchanges of experience in governance" (CCP Members Website, October 23, 2019). The ILD also holds trainings internationally (including in LAC) where it promotes the CCP's philosophy and experiences in political party building, organization, and administration; economic policy and environmental policy (CCP Members Website, October 23, 2019; ILD, November 24, 2020; ILD, August 25, 2020).

The ILD in Latin America and the Caribbean

Although the ILD's contacts with LAC countries are less frequent than its contacts with other regions of the world, the LAC is a target for China's long-term global strategy to cultivate relationships with current and emerging local leaders.**[5]** Between 2002 and 2017, the ILD held nearly 300 meetings with 74 different

political parties in 26 countries in LAC.**[3]** In some cases, the ILD provided a channel through which the CCP could engage indirectly with LAC governments before they had granted diplomatic recognition to the PRC.

The ILD's work to "tell the China story well" appears to resonate among at least some leaders in LAC. For instance, Venezuelan Foreign Minister Jorge Arreaza said that "the role that China plays in diplomacy, in the geopolitics of peace, is fundamental" after a January 2020 meeting with the ILD in China (Latin American Herald-Tribune, January 16, 2020). Because the ILD's meetings with foreign diplomats are relatively infrequent and discrete, they draw little attention in local press and rarely attract criticism. Thus, the ILD allows the CCP a relatively unchecked means for engaging with and influencing LAC politics.

Image: A June 2020 conference organized by the ILD on the theme of "Socialism's superiority in combatting COVID-19." Representatives from leftist parties in Argentina, Brazil, Cuba, Chile, Peru, Uruguay and Venezuela attended (Image source: Cuba Ministry of Foreign Affairs).

A somewhat opaque aspect of the ILD's activity is its exact role in generating outcomes compared to other organizations such as embassies or trade institutions. It is difficult to credit the ILD with any specific economic deal or concrete diplomatic achievement, since the organization is less involved in sub-national deal making. Readouts of ILD meetings in LAC countries emphasize platitudes such as "exchanges and learning," "cooperation in various fields" and "[promoting] the development of bilateral relations" (ILD, July 22, 2016). Oftentimes, the only sources describing meetings with LAC leaders are official reports from the ILD itself, and little is known about the substantive discussions that take place in these meetings.

What is perhaps most striking about the ILD's activities in LAC is the variety and range of political parties with which it engages. ILD meetings have included mainstream political parties in countries considered strong

U.S. allies, such as Colombia's Democratic Center Party (*Partido Centro Democrático*), as well as staunch critics, such as members of Nicolas Maduro's United Socialist Party in Venezuela (*Partido Socialista Unido de Venezuela*). It appears the role of the ILD is to facilitate relationship building and maintain strong party ties for the PRC to achieve a broad set of strategic and geopolitical goals in LAC. Such goals range from winning contracts for development projects to cultivating support for the PRC's propaganda, as well as intelligence gathering and outright support of authoritarian regimes.

In Colombia, a traditional U.S. ally in LAC, the PRC had long failed to break into the country's business climate in a meaningful way compared to its robust presence in Brazil or Chile (Xinhua, October 18, 2019). ILD Vice Minister Li Jun (李军) met with Nubia Martinez, the national director of current President Iván Duque's Democratic Center Party, in 2018 to discuss the "complementary" nature of the Chinese and Colombian economies. A meeting readout focused on forging greater development ties between the two countries (ILD, November 19, 2018). During his first year in office, President Duque visited Beijing seeking increased Chinese investments and pledging to "further step up bilateral ties" (Xinhua, August 1, 2019).

Less than one year later, Bogotá awarded the contract for its metro—a project nearly 80 years in the making—to a consortium of Chinese state-owned enterprises led by China Harbor Engineering Company (CHEC) (China Daily, October 22, 2019; Metro de Bogotá, October 21, 2020).**[6]** In February 2020, the state-owned Zijin Mining Group Company began production at the Buriticá gold mine after purchasing it from the previous owner in December—and following a decade of stopped work due to local delays (Zijin Mining, October 25, 2020). While it is unlikely that the ILD played a part in local and provincial-level contract negotiations, its meetings with the ruling party no doubt lubricated such agreements and helped Chinese companies to quadruple their presence in Colombia in just four years.

In Panama, another traditional LAC ally of the U.S., the ILD met with members of the ruling center-left Democratic Revolution Party (*Partido Revolucionario Democrático*) in 2015. The meeting stressed trade equity and increasing commercial ties based on like-minded development principles (*La Estrella de Panamá*, January 22, 2015). Since then, Panama has sought foreign partners for a $30 billion development plan that includes work on the Panama Canal and significant investment in energy independence. Recent trips to Panama by Xi Jinping and other high-level Chinese officials have yielded over $5 billion of Chinese spending on investment, infrastructure development and other areas (PRC Ministry of Foreign Affairs , June 13, 2017; PRC Ministry of Commerce, August 12, 2019). A proposed project to build a Chinese embassy at the mouth of the Panama Canal—which, apart from the unfortunate symbolism, presented myriad security concerns—fell through after U.S. objections. But China remains the largest contributor to Panama's canal-related infrastructure projects. These investments are especially concerning for the U.S., which is the source or destination for over 60 percent of goods passing through the Panama Canal and maintains a strategic interest in keeping it open and accessible.**[7]** The ILD's contacts with Panama's ruling party have undoubtedly helped facilitate a rapid increase in Chinese foreign direct investment in Panama in recent years as well as achieving diplomatic recognition of the PRC over Taiwan in 2017.**[8]**

In authoritarian Venezuela and Cuba, China's strategic interest in maintaining the status quo has led the ILD to meet with the ruling parties and their representatives on multiple occasions. Last year, the ILD met with Venezuelan Foreign Minister Jorge Arreaza and attempted to play a part in resolving the country's political crisis (*La Conexión USA*, January 16, 2020). In Cuba, the ILD took part in several meetings with the ruling Communist Party (*Partido Comunista de Cuba*) to discuss COVID-19 strategies and the "process of building socialism" in both countries (Embassy of the PRC in Cuba, May 27, 2020). Last summer, the ILD organized a conference of left-wing political parties from across LAC with the help of the Cuban Communist Party. The event appeared to primarily advance propaganda goals, namely, demonstrating the "superiority of socialism in the fight against COVID-19" (Cuban Ministry of Foreign Affairs, June 9, 2020).

Conclusion

Although the ILD is not the most important CCP organ—nor is it technically a state organization—it has met consistently with mainstream and ruling political parties throughout LAC and appears to have played a key role in advancing China's strategic objectives in the region. These aims include deepening trade and investment ties, attempting to win diplomatic recognition for the PRC over Taiwan and supporting authoritarian regimes in Venezuela and Cuba that are anti-American in both their posture and their policy. While the ILD may not be the lead agency in any of these endeavors, it performs a valuable and often overlooked service in maintaining party-to-party ties that can lead to progress and breakthroughs on broader strategic goals.

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Notes

[1] See: Robert G. Sutter, *Historical Dictionary of Chinese Foreign Policy* (Lanham: Scarecrow Press, 2011).

[2] See: Anne-Marie S. Brady, "Making the foreign serve China: managing foreigners in the People's Republic of China" (PhD diss., Australian National University, 2000), https://openresearch-repository.anu.edu.au/handle/1885/147629.

[3] See: Christine Hackenesch and Julia Bader, "The Struggle for Minds and Influence: The Chinese Communist Party's Global Outreach," International Studies Quarterly 64, no. 3, September 6, 2020, https://www.die-gdi.de/en/others-publications/article/the-struggle-for-minds-and-influence-the-chinese-communist-partys-global-outreach/.

[4] See: Yu Hongjun 于洪君, "Understand the world development trend and current international relations with new perspectives and methods" [以新的视角和方法认识世界发展大势与当前国际关系, *yi xin de shijiao he fangfa renshi shijie fazhan dashi yu dangqian guoji guanxi*], Journal of China Executive Leadership Academy Pudong 12, no. 6, November 2018, http://www.daguoce.org/article/99/656.html.

[5] See: Margaret Myers, "Going Local: An Assessment of China's Administrative-Level Activity in Latin America and the Caribbean," The Dialogue, December 7, 2020, https://www.thedialogue.org/analysis/chinas-local-level-activity-in-latin-america-and-the-caribbean/.

[6] CHEC was one of only two remaining companies at the end of the bidding process, which insiders said included late-stage changes in the terms of reference that appeared to favor the Chinese bidder. See: Andrés Bermúdez Liévano, Wang Chen, "Chinese companies win bid to build Bogotá metro," Dialogo Chino, October 17, 2019, https://dialogochino.net/en/infrastructure/31002-chinese-companies-win-bid-to-build-bogota-metro/.

[7] See: Evan Ellis, "The evolution of Panama-PRC relations since recognition, and their strategic implications for the U.S. and the region," Global Americans, September 21, 2018, https://theglobalamericans.org/2018/09/the-evolution-of-panama-prc-relations-since-recognition-and-their-strategic-implications-for-the-u-s-and-the-region/, and Mariner Wang, "The role of Panama Canal in global shipping," Maritime Business Review, September 15, 2017, https://www.emerald.com/insight/content/doi/10.1108/MABR-07-2017-0014/full/html.

[8] The PRC views Taiwan as a breakaway province and has waged a decades-long diplomatic campaign to prevent foreign countries from recognizing Taiwan's sovereignty under its "One China" principle. Of the fifteen states that maintain official diplomatic relations with Taiwan, nine are in LAC.

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Tracking the Digital Component of the BRI in Central Asia, Part One:
Exporting "Safe Cities" to Uzbekistan
By Sergey Sukhankin

Introduction

Following the 2013 announcement of the Belt and Road Initiative (BRI) at a speech given by People's Republic of China President Xi Jinping during visit to Kazakhstan, Central Asia has been a key regional priority and an indispensable element for the success of the BRI as a whole (PRC Ministry of Foreign Affairs, September 7, 2013). Over the years, the BRI—nebulously defined from the start—has come to be associated with a variety of policy and investment programs. A previous series of articles has covered security-related developments associated with the BRI aimed at maintaining stability and protecting economic investments across the region (China Brief July 15; October 19; August 12).

China has also begun to expand its export of digital infrastructure and surveillance technology under the umbrella of the BRI. The digitalization strategy—ostensibly aimed at promoting the international integration of technology with infrastructure and finance as well as spreading digital innovation abroad—is often referred to as the Digital Silk Road (DSR, 数字丝绸之路, *shuzi sichou zhi lu*).[1] The high-level emphasis on promoting the DSR has only grown under the COVID-19 pandemic (CGTN, June 10, 2020). Across Central Asia, the DSR has been primarily represented by efforts to export China's Smart/Safe City programs, which allow governments to collect, store, process and analyze vast amounts of personal information. The promotion of the so-called "informatization" of society (信息化, *xinxi hua*) and data commodification are yet more driving forces behind China's DSR ambitions in Central Asia.

In 2005, the Ministry of Public Security and the Ministry of Science and Technology jointly launched the "3111 Project" (3111工程), a nation-wide pilot program to develop "safe cities" (平安城市, *pingan chengshi*) across 22 provinces. Technology companies such as Huawei, ZTE, Zhejiang Dahua and Hangzhou Hikvision, among others, have played a key role in developing subsequent national mass surveillance programs such as Skynet (天网, *tianwang*) and Sharp Eyes (雪亮, *xueliang*) (Hikvision, undated; Yiou Intelligence, August 28, 2019). These programs, in turn, laid the groundwork for the development of "smart cities" (智慧城市, *zhihui chengshi*). The industry surrounding the provision of smart city-related infrastructure and services has boomed, with one domestic report from 2018 estimating that the market size for smart city-related businesses could reach $2.9 trillion in 2021 (Yicai, November 26, 2018). These developments have not gone unnoticed in neighboring Central Asian states, which struggle with being (relatively) technologically underdeveloped and face a variety of domestic security issues. Beijing's efforts to export its smart cities (and implicitly promote its illiberal governance model abroad, sometimes called "digital authoritarianism") have consequently been well received in countries such as Uzbekistan.[2]
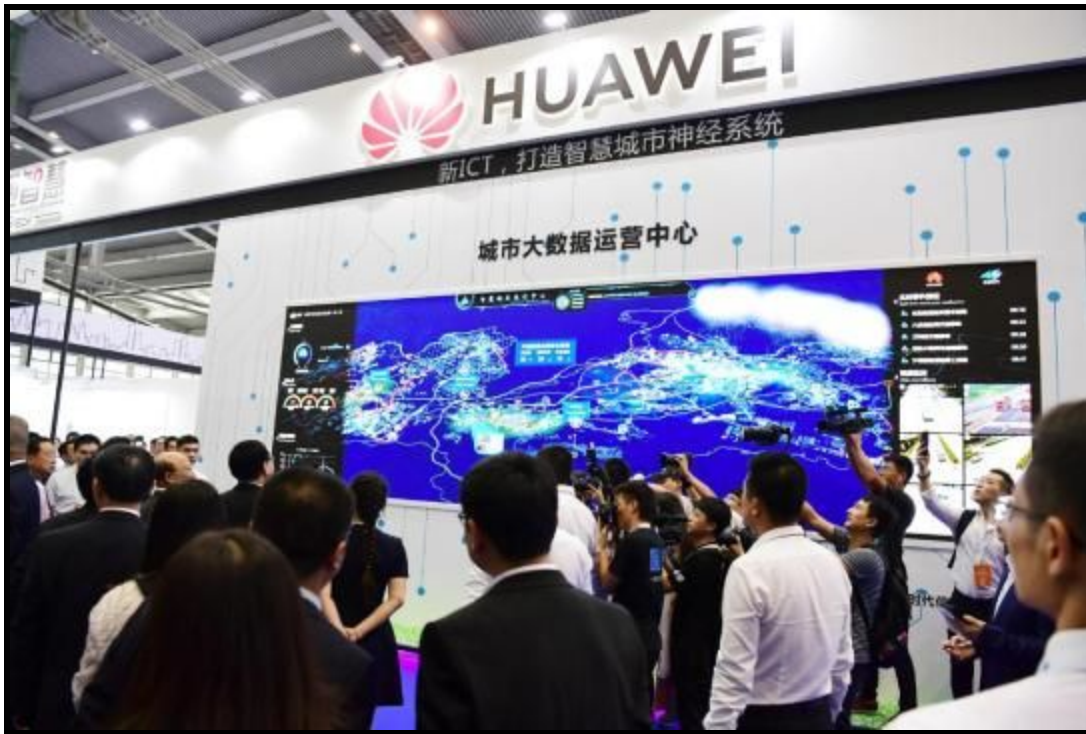
Image: A 2018 demonstration of Huawei's "City Brain" urban big data management platform during the Fourth China Smart City International Expo in Shenzhen, Guangdong (Image source: China News Service).

Milestones in China`s "Digital Conquest" of Uzbekistan

Although nominally a privately owned company, Huawei has long-standing links to the Chinese state (ChinaFile, April 23, 2019). As a leading global provider of information and communications technology (ICT) infrastructure, it has played a major role in China's export of digital infrastructure. Huawei's presence in Uzbekistan dates back to 1997, when the company signed a contract to provide equipment for modernizing the national telecommunications network. This project, completed in 2008, was valued at $21.2 million and financed in large part by China Development Bank (CDB, 国家开发银行, *guojia kaifa yinhang*) (Uz.mofcom.gov.cn, October 9, 2008). In 2011, Huawei signed another deal to work with local partners Uzmobile and Ucel to develop Uzbekistan's 5G network. This deal, worth $18 million, was also financed in part by CDB. (Beltandroad.news, August 8, 2019).

Huawei's deep involvement in Uzbek telecommunications networks was already well-established, but received new impetus in 2017 when the Uzbek president Shavkat Mirziyoyev (who took office in 2016) declared the launch of a national Safe City initiative. The program aimed to accomplish the digital transformation of Uzbekistan across several strategic dimensions, ranging from security and public surveillance to digitizing key sectors of local economy. According to Uzbek reports, the program would be implemented in three main stages. During the first stage (2017 – 2019), safe city technologies would be implemented in the capital city of Tashkent, with special emphasis on the dramatic increase of various

surveillance systems, data collection, automatization and speeding up reports on criminal activities. The second stage (2019 – 2021) planned to expand the Safe City program to all other districts and major cities throughout Uzbekistan. In the third stage (2021 – 2023), the entire country would adopt the project (President.uz, August 30, 2017).

China's—and specifically Huawei's—critical role in the planned digitalization of Uzbekistan was clearly demonstrated by two events that took place in 2019. In April, Mirziyoyev visited Huawei while participating in the Second Belt and Road Forum for International Cooperation in Beijing, where he was reportedly impressed by demonstrations of Huawei's cutting-edge technologies and surveillance-based solutions for various security issues and concerns (Huawei, April 25, 2019; president.uz, April 25, 2019). Uzbek media reported that the president signed an agreement on furthering Sino-Uzbek cooperation during this trip, although further details have not been released through official channels (Maxala.org, April 26, 2019). In June, Chinese business representatives and Uzbek government officials signed a formal agreement stipulating the creation of a joint initiative to develop "Safe Cities" in Uzbekistan (Mitc.uz, June 21, 2019).

Image: A photo of both sides after the inking of an agreement to form a joint initiative to develop Uzbekistan's "Safe Cities" project in June 2019 (Image source Uzbekistan MITC).

Costar Group, its parent company China South Industries Group Corporation (中国南方工业集团公司, *zhongguo nanfang gongye jituan gongsi*) and CITIC Group (中国中信集团有限公司, *zhongguo zhongxin jituan youxian gongsi*) are all expected to play a major role in the rollout of Uzbekistan's Safe Cities project. The central role in this initiative, however, will be played by Huawei, which has effectively become "[A] bridge

between Chinese investors and Uzbek authorities" (Podrobno.uz, August 27, 2019). Incidentally, according to the joint statement, Chinese actors initially pledged to bring in more than $300 million of direct investments and later increased this to $1 billion. These funds would be directed towards implementing initiatives related to developing digital governance, digital economy, local IT industry, telemedicine and telecommunications (Podrobno.uz, August 27, 2019). The Uzbek political leadership has by this point vested huge expectations in the successful implementation of the Safe City initiative, viewing it as an integral part of the country's strategic transformation (Trend.az, April 17, 2018).

Huawei`s Pilot Initiative: The Case of Bukhara

In 2018, Huawei Tech Investment Tashkent, working with the State Committee of the Republic of Uzbekistan for Development of Tourism and Uzbek Ministry of Internal Affairs, agreed to implement a "Safe Tourism" pilot project in the city of Bukhara (Petition.gov.uz, July 13, 2018). The "Safe Tourism" project is a part of the greater "Safe City" concept and combines a set of solutions including the creation of a converged command center; a unified LTE communication network; a data center; high definition video cameras with face recognition function and processing software for big data analysis to optimize urban management. The Bukhara project mirrors similar initiatives previously carried out in Nairobi, Kenya; Lahore, Pakistan; Saudi Arabia and Dushanbe, Tajikistan (Uza.uz, accessed December 15).

Uzbek media reports argued that the main reason for choosing Huawei was because of the company's successful implementation of a Safe City project in the city of Dunhuang, Gansu Province, which boasts a strong tourism industry. Huawei's equipment enabled local authorities to oversee the city via cutting-edge surveillance technologies capable of operating under extreme heat conditions—which is particularly important for Uzbekistan. After implementation of the Safe City project in Dunhuang, tourists' satisfaction reportedly exceeded 95 percent and local revenues grew accordingly (Petition.gov.uz, July 13, 2018). Depending on the results of Huawei's pilot project in Bukhara—as well Uzbekistan's successful control of the COVID-19 pandemic, which has become a key challenge to developing tourism—Chinese providers should be expected to sign contracts to equip other major Uzbek tourist destinations (such as Samarkand, Khiva and Shakhrisabz) that had been previously named as strategic venues for digital modernization (Spot.uz, November 27, 2017).

Other Collaboration

Apart from the Safe City project and the export of Chinese surveillance systems, two other forms of Sino-Uzbek collaboration could have even greater strategic implications in the long run. First, Huawei is actively leveraging education opportunities to increase its "soft power" and improve its image among young Uzbeks. This has meshed well with local authorities' emphasis on the digitalization of the local economy and ambitious plans to develop the indigenous information technology (IT) industry. Mirziyoyev declared 2020 to be the "Year of Science, Education and the Digital Economy" (Tashkent Times, January 24, 2020). Huawei

signed an agreement with Tashkent University of Information Technologies (TUIT) in 2014 that opened a number of opportunities for young Uzbek students, culminating in the 2017 launch of the "Seeds for the Future" initiative. Uzbek students were given the opportunity to attend the BRI International Forum and invited to visit and take classes at Huawei's headquarters in China (Huawei.com, accessed December 16). Huawei has claimed that it will not discontinue the education program despite the ongoing pandemic, and is instead committed to seeking new talents and providing job opportunities (Uzreport.news, June 10).

Second, Huawei has played a major role in China's COVID-19 aid to Uzbekistan. China has been aggressive in leveraging its successful control of the virus at home to export its pandemic prevention model abroad—including the use of digital contact-tracing and other new technologies. Although China's so-called "mask diplomacy" (and its more recent evolution, "vaccine diplomacy") has sometimes been too heavy-handed and backfired, it appears to have been largely successful at fostering goodwill in Uzbekistan. In March 2020, Huawei donated thermographic cameras to be installed in the Tashkent airport and video-calling services to ensure free information exchanges, at no cost to Uzbekistan. The seemingly no-strings-attached aid also bears similarities with Chinese state behavior in security cooperation with Central Asian actors (Huawei.com, March 16; China Brief, August 12, 2020).

Conclusion: Uzbekistan – China`s "digital stronghold" in Central Asia?

Huawei has achieved huge successes since it first entered Uzbekistan in 1999. Today, more than half the local population actively uses Huawei's services. While the growing number of Huawei customers in Uzbekistan realizes direct economic gains, the company's strong position in Uzbekistan also serves as a vehicle that allows China to increase its "soft power" in a country that is critical to the successful development of the BRI. This has resulted in Uzbekistan becoming an important—if often-overlooked—partner for the DSR. Chinese President Xi Jinping recently highlighted the DSR's importance in China's greater foreign policy aims during the November China-ASEAN Expo in Nanning (Podrobno.uz, September 26, 2018; SCMP, November 27, 2020).

As noted by the Central Asian analyst Umida Hashimova, China's growing involvement in Uzbekistan's digital infrastructure has far-reaching and multi-dimensional implications. Although increased surveillance technologies could contribute to greater accountability for Uzbekistan's security services and improved public safety, concerns about privacy and China's growing dominance in Uzbekistan's telecommunications and technology sector are also relevant (The Diplomat, June 28, 2019). The above chronicling of Huawei's two decades of success in penetrating the Uzbek market sets a noteworthy precedent for the entire region, demonstrating that Huawei's increased business opportunities in the region go hand in hand with China's rising influence.

Notes

[1] A proposal for an "Information Silk Road" was first included in a 2015 White Paper on the development of the Belt and Road (Xinhua, March 28, 2015). The concept of a "21st Century Digital Silk Road" was revamped and expanded following Xi Jinping's coining of the term at a keynote speech at the 2017 Belt and Road International Cooperation Summit (Xinhua, May 14, 2017).

[2] For a more detailed description of Beijing's digital authoritarianism, see: Alina Polyakova and Chris Meserole, "Exporting digital authoritarianism: the Russian and Chinese models," Brookings Institute, August 2019, https://www.brookings.edu/research/exporting-digital-authoritarianism/.

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China's Use of U.S. Satellite Communications Technology
in the South China Sea
By Zachary Haver

Introduction

In recent years, the maritime law enforcement (MLE) forces of the People's Republic of China (PRC) have dominated the contested waters of the South China Sea (AMTI, December 4, 2020). While the exponential growth and increasing assertiveness of the China Coast Guard (CCG) have captured headlines, the evolving role of technology in China's MLE operations has received less attention. New communications infrastructure and monitoring systems, for example, help Chinese MLE forces monitor and control contested maritime space in the South China Sea (CMSI, January 2021). These investments align with China's broader pursuit of information superiority in the South China Sea, which involves building up electronic intelligence, counter-stealth radar, and other capabilities (JHU APL, July 2020).

Publicly available documents suggest that at least some of China's MLE forces are using U.S. technology to bolster their communications capabilities in the South China Sea.[1] For example, in August 2017, Sansha Highlander Ocean Information Science and Technology Co., Ltd. (三沙海兰信海洋信息科技有限公司, *sansha hailanxin haiyang xinxi keji youxian gongsi*) signed a "law enforcement ship satellite communication systems maintenance" contract with the Sansha City Comprehensive Law Enforcement *Zhidui* (三沙市综合执法支队, *sansha shi zonghe zhifa zhidui*), a MLE force also known as "Sansha Comprehensive Law Enforcement" (SCLE).[2] This article takes a close look at the SCLE's recent procurement history to reveal how Sansha City's MLE forces are using U.S. technology to advance China's interests in the South China Sea.
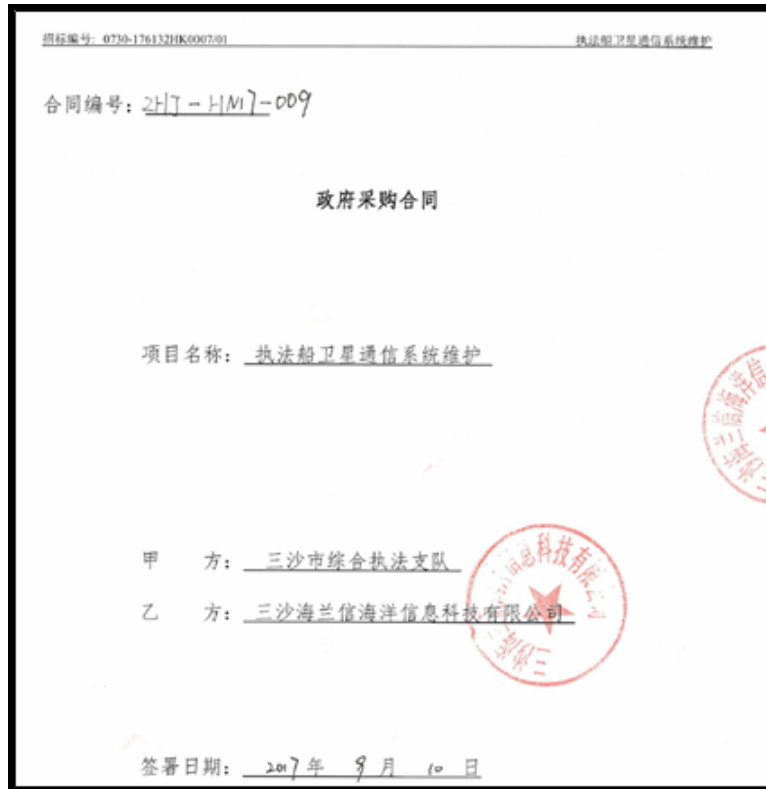
Image: Cover page of the contract that the Sansha City Comprehensive Law Enforcement Zhidui and Sansha Highlander signed in August 2017 (Image Source: Author's records).

Sansha City, the SCLE, and Sansha Highlander

Sansha City is headquartered on Woody Island and is responsible for administering the bulk of China's territorial and maritime claims in the South China Sea. Its jurisdiction includes the Paracel Islands, Spratly Islands, so-called Zhongsha Islands (中沙群岛, *zhongsha qundao*) and their surrounding waters.**[3]** The Ministry of Civil Affairs announced the State Council's decision to establish Sansha in June 2012, and the city was formally established a month later (gov.cn, June 21, 2012, July 24, 2012). Since 2012, China has continuously developed the city's defense capabilities, party-state institutions, economy, physical infrastructure, transportation and communications. Municipal leaders have also promoted military-civil fusion (军民融合, *junmin ronghe*) to synthesize People's Liberation Army (PLA) and civilian resources (*Hainan Daily*, September 25, 2020; Xinhua, March 13, 2016; sansha.gov.cn, October 19, 2015). Thanks to these developments, Sansha's leaders now have the ability to exercise normalized administrative control over contested areas of the South China Sea (CMSI, January 2021).

The SCLE is a MLE force that belongs to Sansha City.**[4]** It was created in late 2012 or early 2013 by combining existing maritime law enforcement forces, which reportedly included the Sansha City Fisheries Law Enforcement *Zhidui* (三沙市渔政支队, *sansha shi yuzheng zhidui*), the China Marine Surveillance

Sansha *Zhidui* (中国海监三沙支队, *zhongguo haijian sansha zhidui*) and possibly other forces (sansha.gov.cn, March 31, 2020; International Herald Leader, June 1, 2015; China News, March 15, 2013). The SCLE is responsible for defending China's maritime rights and interests,**[5]** managing the city's fisheries and supporting environmental protection work (sansha.gov.cn, March 31, 2020). To defend China's maritime rights and interests, the SCLE regularly patrols contested maritime space and harasses foreign vessels (Sina, December 8, 2015). The SCLE operates a fleet that currently includes four main ships and a number of smaller boats (gov.cn, May 21, 2015). A fifth ship is currently under construction (Eworldship, October 19, 2020).

The SCLE is part of Sansha City's "military, law enforcement and civilian joint defense" (军警民联防, *jun jing min lianfang*) system (CMSI, January 2021). Through this system, the SCLE coordinates exercises, information sharing and operations with the PLA Hainan Province Sansha Garrison (中国人民解放军海南省三沙警备区, *zhongguo renmin jiefangjun hainan sheng sansha jingbei qu*), Sansha's maritime militia and possibly the PLA Navy South Sea Fleet (people.com.cn, January 1, 2014; yhnews.zjol.com, July 15, 16; China National Radio, May 23, 2013; CMSI, January 2021). To facilitate this coordination, the city established a joint defense coordination center and created a joint defense management mechanism (Sina, March 17, 2014). It later also built a joint defense command center (ifeng.com, July 26, 2015). Sansha's leaders use this joint defense system to enforce local policies and assert China's maritime claims , thereby fulfilling their national sovereignty and security mandate from Beijing (ce.cn, October 9, 2016; china.com.cn, November 7, 2016; people.com.cn, July 24, 2012). The SCLE has a close operational relationship with the CCG (ocean.china.com.cn, March 26, 2015; Sina, December 8, 2015). It may have an operational relationship with the PLA Navy as well, as it appears to have participated in a joint patrol with the PLA Navy and CCG in the Paracel Islands in May 2018 (Xinhua, May 20, 2018).

Sansha Highlander is a private enterprise registered in Sansha City. It is a subsidiary of Beijing Highlander Digital Technology Co., Ltd. (北京海兰信数据科技股份有限公司, *beijing hailanxin shuju keji gufen youxian gongsi*), a PLA Navy supplier with a penchant for acquiring and "re-innovating" foreign technology (C4ADS, 2019). Beijing Highlander claims that Sansha Highlander's "main business is based on the national South China Sea strategy" (data.eastmoney.com, April 15, 2020). According to Beijing Highlander's 2015 annual report, Sansha Highlander has worked on ship communication and navigation systems, ship to shore management systems, and ocean information monitoring systems for Sansha, including a fisheries monitoring center and a fisheries law enforcement satellite communications system (data.eastmoney.com, March 31, 2016). Publicly available bidding records indicate that Sansha Highlander has provided a monitoring system for Tree Island and a sea turtle protection system for North Island and South Sand in the Paracel Islands. It may have also worked on Tree Island's "informatized militia post" that feeds radar, automatic identification system (AIS) and video surveillance data to the joint defense command center on Woody Island (CMSI, January 2021).
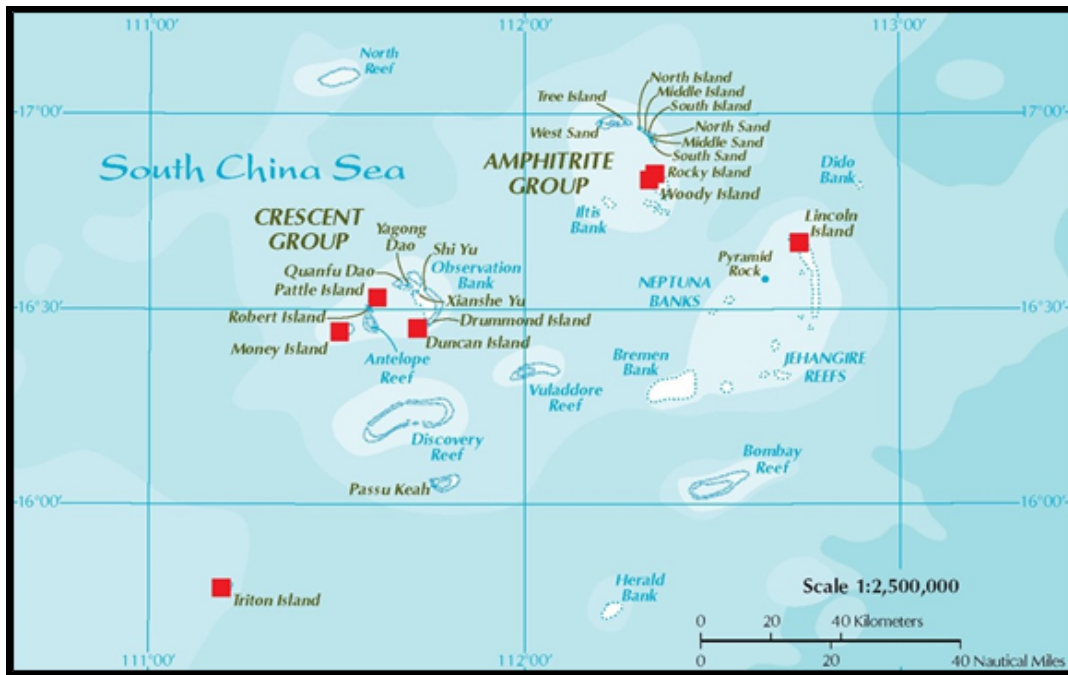
Image: Section of a 2010 map of the Paracel Islands made by the Office of the Geographer, U.S. Department of State. (Image Source: Wikimedia Commons).

The SCLE's Satellite Communications System

SCLE ships rely on satellite communications while operating throughout the South China Sea, including in the Spratly Islands (sansha.hinews.cn, January 5, 2016). According to a set of bidding documents from November 2019, the SCLE's satellite communications system was completed in June 2017.[6] This system appears to be mainly composed of a master earth station on Woody Island, shipborne stations on the *Sansha City Comprehensive Law Enforcement 1* and the *Sansha City Comprehensive Law Enforcement 2*, ship to shore interconnection capabilities (using AIS, audio and video information, and telephone and fax data), and a vessel monitoring system (VMS). Sansha Highlander likely participated in the construction of this system, which involved a "fisheries law enforcement satellite communications system construction project."[7]

一、项目概述

　　《SS 渔政执法船卫星通信系统建设工程》已经完成，地面主站及船端（综合执法 2 号）开通通信。"SS 综合执法 1 号"船载卫星通信平台、船岸互联（船只状态、音视频信息、电话传真数据等）、船舶统一监控管理（VMS）等内容统一进入统一通信平台。

　　全部系统于 2017 年中 6 月建设完成，包括 YX 岛卫星地面主站、"SS 市综合执法 2 号"船载站、"SS 市综合执法 1 号"船载站。可满足 SS 市综合执法支队的船船、船岸互联工作要求。

Image: Description of the SCLE's satellite communications system included in a set of bidding documents from November 2019 (Image Source: Author's records).

On August 10, 2017, Sansha Highlander signed a "government procurement contract" with the Sansha City Comprehensive Law Enforcement *Zhidui*, agreeing to provide "law enforcement ship satellite communications system maintenance" services for one year. The contract outlines Sansha Highlander's main obligations, which included daily inspections and hardware maintenance,[8] and specified that Sansha Highlander would maintain the main station on Woody Island, ship stations, and related shipborne communications equipment. It also required Sansha Highlander to provide on-site technical maintenance personnel and keep spare parts in the *zhidui*'s designated storeroom. Most importantly, the contract provides a list of "current system core equipment and links." The contract reveals:

- The SCLE's satellite communications system uses the Satpro IP180C for its shipborne communications on-the-move (COTM). This appears to be a maritime VSAT antenna sold by Satpro (satpro.com, undated; satprotech.com, undated), a Chinese company based in Xi'an that focuses on mobile satellite communications equipment (satpro.com, undated).

- The system uses the iDirect 5IF for its satellite master earth station. The iDirect 5IF appears to be the Series 15100 Universal Satellite Hub sold by iDirect and iDirect Government (idirect.net, undated; idirectgov.com, undated; isotropic.network, undated), which are American subsidiaries of Singapore Technologies (ST) Engineering (stengg.com, March 1, 2017, June 18, 2019; idirectgov.com, undated). As a defense contractor, iDirect Government markets the Series 15100 Universal Satellite Hub to U.S. government and military consumers (idirectgov.com, undated).

- The system uses the iDirect X5 for its shipborne remote terminal stations. The iDirect X5 appears to be one of iDirect's satellite routers (idirect.net, August 7, 2017, February 28, 2020; theastgroup.com, undated).
- The system uses the HLD BeiDou Command Platform for its ship integrated management and HLD VMS 2.0 for its ship to shore communications. Both appear to be Highlander products.[9]

- The system uses the AsiaSat 4 C Band for its satellite link. AsiaSat 4 is a satellite built by Boeing and operated by AsiaSat (asiasat.com, undated, undated; boeing.mediaroom.com, April 11, 2003), a Hong Kong-based company (asiasat.com, undated).

The aforementioned set of bidding documents from November 2019 confirms that the SCLE is still using the same equipment and satellite link.[10]

序号	系统	设备（品牌、型号）	备注
1	船载动中通	Satpro IP180C	
2	卫星地面主站	iDirect 5IF	
3	船载远端站	iDirect X5	
4	船岸通讯	HLD 北斗指挥平台	
5	船舶综合管理	HLD VMS 2.0	
6	卫星链路	亚洲4号 C波段	

Image: The list of "current system core equipment and links" from the contract that the Sansha City Comprehensive Law Enforcement Zhidui and Sansha Highlander signed in August 2017 (Image Source: Author's records).

The evidence suggests that an American company likely furnished key hardware for the SCLE's satellite communications system.**[11]** The iDirect 5IF appears to form the backbone of the system's earth station on Woody Island. The website of iDirect Government claims that the iDirect 5IF "is the most flexible satellite hub system available through iDirect Government" and that it "enables unparalleled, two-way VSAT satellite solutions" (idirectgov.com, undated). According to promotional materials, this hardware's flexibility makes it "more efficient for any network requirement whether voice, data and video applications, business continuity networks, cellular backhauling or military-grade communication" (idirectgov.com, undated). Similarly, the iDirect X5 appears to provide the foundation of the SCLE system's remote terminal stations on the *Sansha City Comprehensive Law Enforcement 1* and *Sansha City Comprehensive Law Enforcement 2*. According to a product brochure, the iDirect X5's "high-stability oscillator allows for operating in environments with steep temperature changes, making it ideal for mobile applications like cellular backhaul and maritime" (theastgroup.com, undated).

iDirect 5IF Features	iDirect X5 Features
Compact, 11U, 19" rack mountable chassis with 20 line card slots enabling multiple in-and outbound network	Star topology
5 IF interfaces supporting multiple bands and transponders on up to five satellites	Two modes of operation: iNFINITI or DVB-S2/ACM outbound
Supports DVB-S2/ACM and iNFINITI on the outbound, D-TDMA or SCPC Return on the inbound	Deterministic MF-TDMA or SCPC Return channel
40 Gigabit Ethernet LAN interfaces supporting high carrier symbol rates	Extremely efficient 2D 16-State inbound coding
High level of redundancy (hub daisy chaining and geographic redundancy)	Advanced QoS and traffic prioritization
Enables Virtual Network Operator management reducing capital investments and increasing RO	Automatic end-to-end Uplink Power Control
Supports DVB-S2 TRANSEC for improved security	Optional Spread Spectrum waveform technology supports very small antennas
Supports star and SCPC topologies	
Supports COTM - ground, air and sea	
Supports as many as 16 channels on multi-channel enabled line cards	

Table: iDirect product features (idirectgov.com, undated; idirectgov.com, undated; theastgroup.com, undated).

Conclusion

A Chinese MLE force is using American satellite communications technology in the South China Sea. This should concern policymakers and regulators in Washington for several reasons. Perhaps the most obvious is that, as a MLE force permanently stationed on the front lines of the South China Sea, the SCLE is responsible for advancing China's maritime rights and interests. In practice, this means that Sansha City uses the SCLE to enforce local policies and assert China's excessive maritime claims at the expense of Vietnam, the Philippines and other countries in the region (CMSI, January 2021). These kinds of operations not only disrupt regional stability, but also endanger the lives and livelihoods of communities across Southeast Asia (ChinaPower, August 26, 2020). In this manner, American technology is helping a Chinese MLE force carry out operations that threaten U.S. national interests.

The SCLE's close relationship with the PLA should also raise eyebrows in Washington. Thanks to Sansha City's efforts to promote military-civil fusion (CACR, January 28, 2021;), the SCLE is embedded in a military, law enforcement and civilian joint defense system (people.com.cn, November 22, 2014). Through this system, the SCLE shares information with PLA entities, answers to a chain of command that includes PLA entities, and appears to have participated in at least one joint patrol with the PLA Navy (CMSI, January 2021). The SCLE's ties to the PLA should preclude it from accessing U.S. military-grade satellite

communications technology such as the iDirect 5IF, which iDirect Government also markets to American government and military consumers.

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Notes

[1] Source is a scan of the signed contract, which is held by the author. The full document is available upon request.

[2] In *The PLA as Organization v2.0.*, Kenneth Allen writes that "there is no good translation for *zhidui*, which is often translated as flotilla, naval ship brigade, and detachment" (CASI, undated).

[3] There are no islands in the "Zhongsha Islands." Rather, they are composed of Macclesfield Bank and Scarborough Shoal (AMTI, March 21, 2019).

[4] More specifically, the Sansha City Comprehensive Law Enforcement *Zhidui* belongs to the Sansha City Emergency Management and Comprehensive Administrative Law Enforcement Bureau (三沙市应急管理和综合行政执法局, *sansha shi yingji guanli he zonghe xingzheng zhifa ju*) (sansha.gov.cn, March 31, 2020). Before 2019, the Sansha City Emergency Management and Comprehensive Administrative Law Enforcement Bureau was known as the Sansha City Comprehensive Law Enforcement Bureau (三沙市综合执法局, *sansha shi zonghe zhifa ju*) (sansha.gov.cn, May 21, 2020; China News, March 15, 2013).

[5] According to Andrew Chubb, China's maritime rights and interests are composed of claims involving sovereign territorial seas and internal waters, exclusive economic zone and continental shelf rights, historic rights, and the regulation of military activities See: Andrew Chubb, "Chinese popular nationalism and PRC policy in the South China Sea," *PhD thesis,* The University of Western Australia, 2016, https://research-repository.uwa.edu.au/en/publications/chinese-popular-nationalism-and-prc-policy-in-the-south-china-sea.

[6] Source is a set of bidding documents associated with the Sansha City Comprehensive Law Enforcement *Zhidui*'s "2019 law enforcement ship satellite communications system maintenance" contract, which are held by the author and are available upon request.

[7] As previously noted, Beijing Highlander's 2015 annual report states that Sansha Highlander worked on a "fisheries law enforcement satellite communications system" project for Sansha.

[8] The full list of these obligations includes: (1) "daily inspections and maintenance;" (2) "regular preventative testing and adjustments;" (3) "software and hardware malfunction maintenance;" (4) "satellite network management system function upgrades, expansion, and system performance analysis;" (5) "establishing a monitoring, recording, and analysis system for satellite spectrum;" (6) "providing test environment and platform for satellite communications system equipment upgrades;" (7) "establishing and submitting electronic duty logs and operation maintenance technical files;" (8) "formulating operations plans and emergency contingency plans;" (9) "providing quarterly, half-yearly, and annual operation maintenance service reports;" (10) "organizing technical exchanges and training;" (11) "being responsible for Woody Island master earth station environmental greening and beautification;" and (12) "in accordance with owner requirements, renting AsiaSat 4, 3M communication bandwidth."

[9] Products that Beijing Highlander and its subsidiaries develop are often branded with "HLD."

[10] The set of documents confirms that the SCLE is still using the Satpro IP180C, iDirect 5IF, iDirect X5, and AsiaSat 4 C Wave Band. It does not mention the HLD BeiDou Command Platform or the HLD VMS 2.0.

[11] Whether the SCLE (or a company like Sansha Highlander that works with the SCLE) acquired the iDirect 5IF and iDirect X5 directly from iDirect or through a third party remains unclear.

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