

An Adapting China: Russo-Ukraine Conflict

*A Supplement to:
**China's Use of Landpower
for the Unification of Taiwan***





UNITED STATES ARMY WAR COLLEGE

STRENGTH & WISDOM

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ABOUT THIS DOCUMENT

The student team, “Pacific Warrior,” prepared this document as a supplement to the report titled “China’s Use of Land Power for the Unification of Taiwan” which is a group project completed as a requirement for the Master of Strategic Studies degree from the



United States Army War College (USAWC). The research, analysis, and production of this product occurred over nine days from 5 May through 13 May 2022 as part of the in-residence USAWC Senior Service College program.

This briefing book comes in both an electronic (PDF) and hard-copy format and refers to the original report. Please see the original report for the Terms of Reference and other key documents. The electronic

version should be considered the primary version for any future reference. The team utilized several methodologies to determine key findings and convergences, including a review of case studies and professional military and political science journals. The result of these analyses is a compilation of short estimative reports which are each focused on a variety of critical aspects surrounding the overarching question presented by the strategic leader.

Requirement

This report answers the follow-on question posed by General Charles A. Flynn, Commander, United States Army Pacific. Team Pacific Warrior researched and analyzed estimates from open-source information relevant to the following question:

How is the Russo-Ukrainian conflict likely impacting Chinese military planning with respect to unification with Taiwan?




Figure 1 Russian and Chinese Defense Ministers observing 2021 joint training exercise.

Source: [Times of India](#)

Words of Estimative Probability

Team Pacific Warrior leveraged the *Kesselman List of Estimative Words* as their framework of terminology to describe the estimative probability for determining the likelihood of a given thesis statement. The *Kesselman List of Estimative Words* is derived from linguistic research and aims to clarify and standardize statements of probability.

Kesselman List of Estimative Words		
Certainty 100%		
Almost Certain	86-99%	 Likelihood
Highly Likely	71-85%	
Likely	56-70%	
Chances a Little Better [or Less]	46-55%	
Unlikely	31-45%	
Highly Unlikely	16-30%	
Remote	1-15%	
Impossibility 0%		

Trust Scale and Website Evaluation

In lieu of footnotes throughout the body of the document, the team hyperlinked sources within the document. Each hyperlink is designated with either a superscripted [H](#), [M](#), or [L](#) indicating whether the author considers the source to have a High, Medium, or Low level of credibility, respectively. In addition, all internet sources are hyperlinked. Clicking on the hyperlink will route the reader to the source of information. The team used the Norman Online Trust Scale and Website Evaluation ([Annex B](#)) to determine the level of online source creditability for each of the sources.

Analytic Confidence

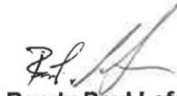
Unless otherwise indicated, the analytic confidence in the findings in this report are *moderate*. The questions asked were complex and the timeline was relatively short due to competing academic requirements of the USAWC core curriculum. Source reliability and corroboration were rated low to high. The analysts (non-subject matter experts) worked both individually and collaboratively to answer the strategic leader's questions. They utilized a combination of structured analytic techniques. The team evaluated their

analytic confidence utilizing Peterson's Analytic Confidence Factors ([Annex C](#)) coupled with Friedman Corollaries ([Annex D](#)).



Lee Hemming

Lieutenant Colonel, U.S.M.C.



Randy Paul Lefebvre

Lieutenant Colonel, U.S.A.



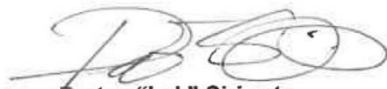
Matthew "Kip" Marsh

Lieutenant Colonel, U.S.A.



John Cletus Paumier

Colonel, U.S.A.R.



Pratya "Lek" Siriwat

D.A. Civilian

How is the Russo-Ukrainian Conflict Likely Impacting Chinese Military Planning With Respect To Unification With Taiwan?

Key Findings

The Russo-Ukrainian conflict likely impacts China's military planning regarding unification with Taiwan in two important ways: First, it is likely to increase the risks associated with a forced unification prior to 2027, and secondly, it likely reinforces the consequences of insufficient joint training, poor doctrine, and inadequate modernization. Both considerations will likely force China to review all fires options for unification extending the timeline for any large-scale kinetic action.

1. *Risks of unification by fires:* Russian failure against a determined Ukraine highlights the risk of fires options to China due to multiple factors associated with complex joint operations, sanctions, and international condemnation. These risks likely reduce the benefits of unification by fires while highlighting the largely peaceful maneuver option throughout the INDOPACOM region.
 - 1.1. Asian pacific current affairs magazine, The Diplomat, called this a “maximin” strategy where China “will try to maximize the benefits it can reap from Russia, its war in Ukraine, and its confrontation with the West, but minimize the negative fall-out from this confrontation for China.”
2. *Importance of joint training, doctrine, and modernization:* Russia's demonstrated lack of effective training, when combined with Russian failure to command, control, and support large scale combat operations, further highlights the need for China to reevaluate lessons learned from joint training exercises with Russia. China will likely increase its aggressive joint training initiatives, complete the 2013 restructuring and military reforms, while increasing quality assurance and other checks on its modern equipment.
 - 2.1. High profile arrests in 2019 of Yin Jiaxu, the CEO of Norinco, one of China's largest defense companies, and Hu Wenming, CEO of the China State Shipbuilding Corporation, coupled with recent increases in ballistic missile testing to demonstrate reliability suggest China was already worried about both quality control and corruption undermining its modernization timeline even before Russia's equipment started failing for precisely those two reasons.
3. Beyond these broad trends there a likely a number of specific lessons the Chinese are incorporating or will incorporate into their military planning:

- China is likely calculating the willingness and efficacy of international state, non-government organizations (NGOs) and private firms to implement measures that would impact Chinese domestic stability.
- China is likely assessing the similarities and differences of the Chinese economy to Russia's should the international community isolate China.
- Russia's exposure to international sanctions highly likely demonstrates the need for China to insulate their domestic military industrial base.
- China likely seeks to produce or stockpile critical defense material and key components in order to become independent of foreign sources that support fires options for China.
- The PLA's reliance on Russian military hardware and lack of recent fighting experience likely concerns China in the face of recent Russian failures in Ukraine. China likely hopes to redress these weaknesses through deployments in hostile terrain like the Indian border. China will likely invest more resources between now and 2035 to mitigate the risk involving the vulnerability of Russian armor and infantry fighting vehicle design.
- China has modeled much of their doctrine and organization on the Russian army. Significant shortfalls in Russian ability to command and control complex large-scale operations are likely causing the PLA to reevaluate their own command and control. The fires options for the unification of Taiwan are complex and multi-domain and highly likely require advanced integration and synchronization.
- China is likely to update tactics, techniques, and procedures thus ensuring their ability to sustain and maintain an effective landpower force. The complexity of China's cross strait unification with Taiwan likely exceeds Russia's operational challenges in Ukraine.
- Regarding cross strait logistics capability, China will likely increase investment in unmanned intelligent logistics delivery systems.
- Based on the effectiveness of the U.S. provided Javelin and the U.K.'s Next Generation Antitank Weapon (NLAW) China likely will increase handheld antitank weapons such as the HJ-12 and the PF-98.
- Low Russian morale and poor small unit performance further highlights the failure of conscripts guided by centralized command and control. China will likely continue to mirror western non-commissioned and junior officer methodology to improve leadership.

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CCP Likely To Extend Forced Taiwanese Unification Timeline To Further Develop Diplomatic And Economic Capacity

Executive Summary

Despite similarities between the Chinese and Russian geopolitical status and economic interdependence with western nations, the Chinese Communist Party (CCP) will likely (56-70%) further develop economic and diplomatic overmatch designed to insulate China from international sanctions and negative world opinion, thus extending their timeline for an attempted forced unification with Taiwan. Xi Jinping's desire for a renewed era of international relations in which China is considered a world leader is likely at risk due to China's alignment with Russia and reluctance to condemn their actions in Ukraine. Further, aggressive actions towards Taiwan without compelling economic and diplomatic overmatch likely risks an adverse response from the international community that would undermine Chinese internal stability.

Discussion

While similarities exist between the autocratic Chinese and Russian regimes, many key elements differentiate their respective geopolitical and economic prominence. Russia's impact on world trade revolves around their \$230B in exports to the world energy market^H – contributing to 26% of the European Union's (EU) oil and 40% of their natural gas supply, representing 40% of Russia's budget revenues.^H Conversely, China's contribution to the world economy is far more diversified within the chemical, textile, pharmaceutical, consumer appliance, consumer electronics, and rare earth material markets, to name a few (see Figure 2).^H



Figure 1 Taiwanese protester in support of Ukraine.
Source: [Foreign Affairs](#)

The unprecedented economic sanctions levied against Russia will likely precipitate a recession of a greater magnitude than that experienced during the 1990's transformation from the Soviet Union, yet the economic retraction only represents a decrease to a trade surplus driven by increased hydrocarbon and raw material revenues, thus the Russian economy is relatively insulated from the current level of sanctions.^H Similarly, but for

different reasons, China would likely experience insulation from the long-term impacts of sanctions should they exercise aggression towards Taiwan. Sanctions levied on China's diversified economy would likely be more difficult to sustain as China is far more connected into the world economy. For example, US direct investments are 10 times greater within China as compared to Russia, \$85B versus \$1.15T, respectively,^H thus the adverse impact on US firms would be substantially greater than experienced with Russian sanctions. Additionally, China's ownership of foreign government bonds is at a level that likely creates second thoughts before indebted nations act.^H For example, only 11% of the total Chinese debt is held by foreign investors, while 13% of Japanese debt is held within China alone.^H China's economic interconnectedness suggests the world's economy would experience a substantially negative impact if sanctions are levied and persist.^H The Russian sanctions demonstrate the cohesive will of western countries and similar will could grow towards China due to a Taiwanese invasion scenario; however, the adverse economic impacts to the US and many of its allies and partners would be greater than currently experienced from Russian sanctions and would likely serve as a deterrent for enacting crippling sanctions.

Despite economic interdependence that likely insulates China from the long-term impacts of economic sanctions, multiple geopolitical and economic factors exist that suggest Xi Jinping's regime will likely proceed cautiously towards Taiwanese unification. Bonnie Glaser, a Chinese expert at the German Marshall Fund,

describes the strategic gamble China played, mistakenly believing the conflict would drive a wedge between the EU and US,^H however, the US and EU resolved to economically punish Russia, even to the detriment of their own economies.^H The

Europe critically depends on China in the pharmaceutical, chemical and electronics sectors
Selection of non-consumer goods with strategic import dependence, 2019

Product	Use	EU import share from China	China global market share	EU trade balance with the world in USD million
Heterocyclic compounds containing pyrimidine ring	Active pharmaceutical ingredient (API)	98.1%	91.8%	-6.7
Vitamin B	Active pharmaceutical ingredient (API)	97.9%	68.3%	-8.2
Chloramphenicol	Antibiotic	97.4%	93.3%	-32.2
Manganese	Metal	83.0%	75.0%	-231.0
Magnesium unwrought 99.8%	Metal	95.2%	69.0%	-198.3
Aromatic monocarboxylic acids	Organic chemical	93.2%	89.9%	-3.2
Hydroxides and peroxides of strontium or barium	Anorganic chemical	87.0%	83.6%	-3.2
Printed circuit boards	Electronics	63.0%	57.0%	-4,147.0
Electrical transformers not exceeding 1kVA	Electronics	64.4%	52.6%	-41.9
Manganese dioxide battery cells	Electronics	76.3%	40.7%	-238.1

Figure 2 Depiction of Europe's dependence on China's imports.
Source: [Merics](#)

multilateral support of Ukraine, coupled with the escalating international sanctions and actions from private companies likely demonstrates to Xi Jinping the resilience of the western liberal world order and the consequences it can impose.^M Prioritizing economic stability, China will likely attempt to increase its economic position to maximize its position in relation to the west while minimizing the risk to its economy.^H

Geopolitically, Xi Jinping, who desires an image of China as a “responsible...values-free” alternative to the US and views himself as a statesman, is in the challenging position of not antagonizing Russia while also not further damaging the relationship with the west.^H Xi Jinping likely realizes the coalition of weak nations supporting or at least not opposing Russia’s aggression does not bolster his geopolitical aspirations nor the legitimacy of China’s desire of world leadership.^H Further complicating Xi Jinping’s position, China’s slowing economy risks domestic support for the Chinese Communist Party.^H The west’s resolute demonstration of solidarity and coordinated economic response towards Russia signals a challenge to prevailing Chinese assumptions about the west’s potential response to a Taiwan invasion.^H China must now rethink its assumptions that the western world order is in decline and will not be a contending force in the future.^M As argued by Oriana Mastro, Center Fellow at the Freeman Spogli Institute for International Studies at Stanford University and the American Enterprise Institute, “China’s desire not to invite comparisons with Russia at a time when the world is united against Moscow will lengthen its timeline for taking control of Taiwan, not shorten it.”^H

Analytic Confidence

Analytical confidence in this estimate is *moderate*. The analyst had adequate time to provide an initial estimate; however, as the Russo-Ukrainian conflict develops, so does world opinion and the corresponding actions to support the warring parties. As such, future actions and reactions within global economies are tethered to the actions of the world’s leading economies, namely China, the EU, and the US. The interplay between the diplomatic, information, military, and economic instruments of national power are complex, thus China’s actions can change based on pressures on the socio-political environment over time. The reliability of sources is of good quality; however, the geopolitical situation continues to develop, thus does the opinions of expert analysts.

Author: Matthew “Kip” Marsh

China Likely To Invest Somewhat More Resources Between Now and 2035 To Mitigate Risk Of Logistical Quagmire Russia Faces In Conflict With Ukraine

Executive Summary

Despite China's progress with forming the Joint Logistic Support Force (JLSF) and weapons systems modernization, China will likely (56%-70%) invest more resources to mitigate the risk of the logistical quagmire Russia faces in conflict with Ukraine. While the People's Liberation Army (PLA) is making progress towards the goal of 2035 to complete its modernization, Ukraine's continuing destruction of Russian war machines causes China to analyze the implication of Russian designs and the added advanced technology on its weapons systems' effectiveness and protection. In addition, Russia's and Ukraine's logistical vulnerabilities will likely prompt the People's Republic of China (PRC) to put somewhat more emphasis on PLA's logistical support capabilities for crossing the strait mission based on potential global logistical support to Taiwan, in addition to the requirements for inland support.

Discussion

China has been analyzing wars between other countries, including the Falklands war between Argentina and Great Britain, because of the similarities to the potential conflict over Taiwan.^{[MM](#)} One of the main conclusions from China's Falkland study is long supply lines were a vulnerability.^{[M](#)} In 2016, China created a JLSF with a fundamental role of delivering precision logistics as part of PLA reform and modernization.^{[HM](#)} Despite China's progress with the formation of the Joint Logistic Support Force and weapons systems modernization, China will likely (56%-70%) to invest somewhat more resources to mitigate the risk of logistical quagmire Russia faces in conflict with Ukraine. (See Figure 1) China will likely adhere to Sun Tzu's teaching, "Every battle is won before it is ever fought," in terms of resource and force management.^{[M](#)}



Figure 1 China's Strategic Transport Aircraft (Y-20).
Source: [Global Times](#)

An apparent early lesson that China's leaders are learning from Russia's campaign in Ukraine is the logistics challenge, which for China would involve bridging the 160 kilometers-wide strait of Taiwan^{[M](#)} in addition to the vast mainland. According to Joel Wuthnow, Senior Research Fellow of National Defense University, "PLA logisticians

have been studying the challenge of over-the-shore logistics for many years, and so probably are less surprised than Senior PLA commanders at the challenges the Russians have run into.”¹



Figure 2 China's Strategic Transport Aircraft (Y-20) and HQ-22 Battery.
Source: [Military Watch Magazine](#)

The recent Chinese Y-20 aircraft delivery of war material to Serbia (See Figure 2) demonstrated the JLSF capabilities for long-range logistical support and is an indication of increased exercise of its strategic airlift resource.^H In early March 2022,

Chinese legislator Feng Wei urged efficient use of PLA strategic airlift and the growing fleet of Y-20 strategic transport aircraft by installing logistics support devices at civil airports.^M



Figure 3 TB-001 Twin-Tailed Scorpion.
Source: [South China Morning Post](#)

Besides building initial amphibious invasion transport to mitigate the logistical challenge of moving troops, vehicles, and supplies across the strait (See [Amphibious Report](#)), China, according to Liu Zhen of South China Morning Post, is looking “for new drones

and intelligent vehicles to boost logistics” and “to develop an unmanned intelligent

¹ Joel Wuthnow, email message to author, May 9, 2022.

logistics system”^M In addition to options for drone helicopter used to evacuate wounded soldiers and an unmanned six-wheeled all-terrain truck with the ability to transport 80 tons of munitions to the front line, the TB-001 Twin-Tailed (See Figure 3) could carry supplies instead of explosives.^M

In addition to improving internal logistical capabilities, the PRC is accelerating its maneuver to broaden its quest for military presence abroad as, “American and allied officials believe it has approached at least five countries since 2018 and considered a dozen others as potential hosts (See map at Figure 4, [BRI Report](#), [Cambodia Report](#), and [Initial Key Findings](#)).^H Any new land access through acquisitions or agreements through the use of the Belt and Road Initiative in the name of security and economy will likely add to China’s ability to contest international logistical support to Taiwan – likely a response to a lesson learned from Ukraine’s dependency on global logistics.



Figure 4 China’s maneuver to increase military presence abroad with potential to contest internal logistics support to Taiwan.

Source: [The Economist](#)

In terms of weapons systems modernization, Mark Magnier of South China Morning Post stated, “As militaries worldwide study Moscow’s invasion of Ukraine for lessons in modern warfare, the PLA is paying particular attention, experts say, given its reliance on Russian military hardware and lack of recent fighting experience - something it hopes to redress through deployments in hostile terrain like the Himalayas.”^H China will likely invest more resources between now and 2035 to mitigate the risk of the logistic dilemma about the vulnerability of Russian armor and infantry fighting vehicle design because Russia’s military reform has been influencing the PLA’s reorganization since 2008.^{HL} However, according to Trent Telenko, a retired equipment inspector for the US

government, Russia had not upgraded its fighting vehicles based on lessons learned from the 1973 Arab-Israelis War.^H Furthermore, China’s observance of the devastating credibility of the small drone pre-targeting tactic (See Figure 5 with video link) will likely lead to China’s analysis of added protection of its vehicles for preemptive destruction of Taiwan’s armor and artillery arsenal.^H An independent analyst and author of *The Chinese Army Today*, Dennis Blasko, suggested, “China’s handheld HJ-12 and PF-98 anti-tank weapons are [outstanding], and footage of burned-out Russian tanks could accelerate their deployment even as the PLA grapples with its vulnerability to asymmetric attack. ‘Now they may be thinking, let’s get that bad boy into our force a lot quicker.’”^H

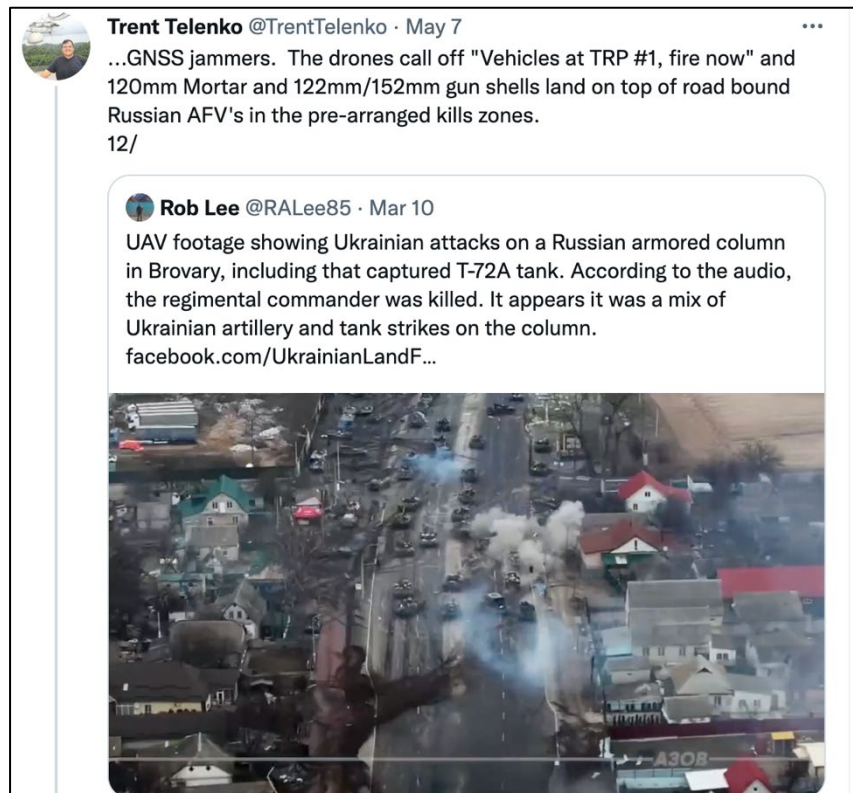


Figure 5 Drone actions for pre-arranged kill zones.
Source: [Twitter Thread](#)

Analytic Confidence

The analytic confidence for this estimate is *moderate*. The analyst worked alone and did not use a structured method. Sources were generally reliable and tended to corroborate one another. The time available to conduct research was minimal; the information was very recent and changed daily. Furthermore, given the estimate's near to long-term time frame, this report is sensitive to change due to new information.

Author: Pratya “Lek” Siriwat

Russian Failure To Establish And Maintain Air Superiority Is Highly Likely To Cause Chinese Reassessment Of Taiwan Strategy

Executive Summary

Russia's failure to establish and maintain air superiority in Ukraine is highly likely (71-85%) to cause China to re-evaluate their current military plans with respect to China's ability to control the air domain in forcing unification of Taiwan. Despite significant advantages, both quantitatively and qualitatively with respect to aircraft, the Russian Air Force's failure expose telling capability gaps. Low quantities of precision guided munition (PGM) stockpiles have exposed Russian aircraft to Ukrainian air defense assets. Poor pilot training combined with command-and-control failures and the questionable accuracy of Russian cruise and ballistic missiles have resulted in the expected Russian advantage becoming a non-factor at this point. Russia's failure to secure the air domain is a critical aspect to Ukrainian counter attacks against a superior invasion force and has allowed Ukraine to mount a formidable defense.

Discussion

According to a Reuter's article by Phil Stewart and Idrees Ali, U.S. intelligence expected, "a blistering assault by Moscow that would quickly mobilize the vast Russian air power that its military assembled in order to dominate Ukraine's

skies."^H This assessment by U.S. intelligence is not surprising as the London think-tank Royal United Services Institute (RUSI) wrote in their the article *The Mysterious Case of the Missing Russian Air Force*, establishing air superiority is, "the logical and widely anticipated next step, as seen in almost every military conflict since 1938."^H Russia holds significant advantages in the air domain in every type of aircraft from transports to

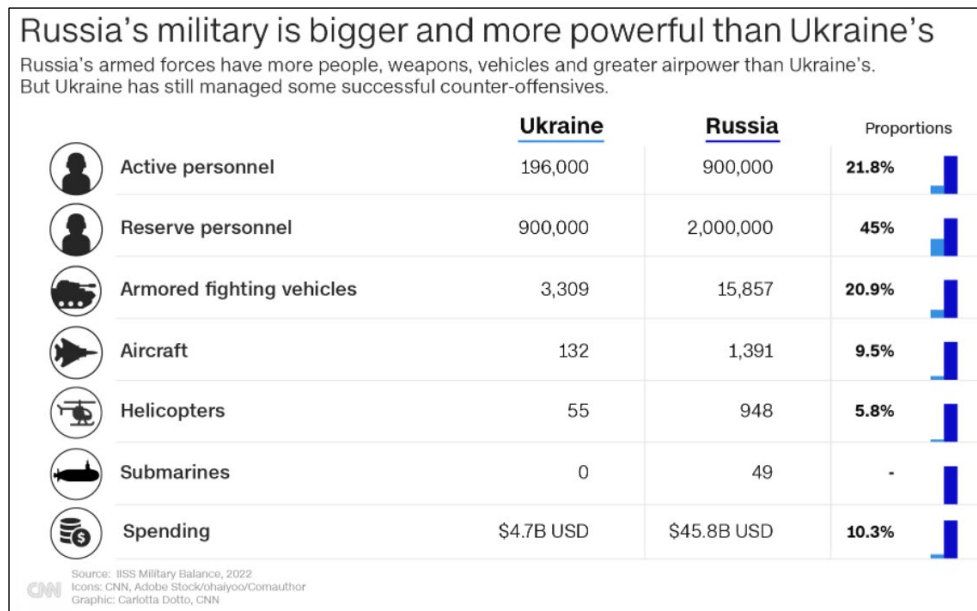


Figure 1 Russia's numerical advantages over Ukraine.

Source: [CNN](#)

fighters and attack helicopters. As the war continues Reuters notes, “Vastly outmatched by Russia's military, in terms of raw numbers and firepower, Ukraine's own air force is still flying and its air defenses are still deemed to be viable - a fact that is baffling military experts.”^H Where the Russian Air Force has faltered, “Ukrainian air force fighter jets are still carrying out low-level, defensive counter-air and ground-attack sorties. Russia is still flying through contested airspace.”^H

In Reuters article *T-Day: The Battle for Taiwan*, David Lague and Maryanne Murray expertly present a series of six scenarios where the People's Liberation Army (PLA) force unification with Taiwan using the PRC's overwhelming military forces. In every scenario, establishing and maintaining air superiority of the Taiwan Strait is critical to PRC success.^H

As the PRC observe Russia's faltering air war, they are highly likely to note striking similarities to themselves with regard to conventional air power numbers and effects. Russia entered the Russo-Ukrainian War with a 10:1 fighter advantage over Ukraine (See Figure 1). As reported in *Air Force Magazine*, the Southern and Eastern PLA theaters only present the PLA with a 2:1 advantage over the Taiwan Air Force. If all PLA aircraft were allocated for an operation against Taiwan, this would only grow to a 6:1 advantage.^H However, numerous sources indicate Russia has moved approximately 300 modern combat aircraft to the battle zone, but only roughly 75 aircraft have been committed.^H These numbers reduce Russian advantage to only a 3:1 margin. The commitment of only 75 aircraft is likely (56-70%) to indicate readiness rates below 30%. These logistical failure is in line with other reported Russian logistical shortfalls across the force.^H According to *Forbes*, despite Russia's numerical advantage and the reported capabilities of the Sukhoi Su-34 “...the twin-engine, twin-seat, supersonic fighter-bomber—a highly-evolved variant of the Su-27 air-superiority fighter—promised to usher in a new era of high-tech, precision bombing. Instead, the Su-34s have flown into Ukraine lugging the same old dumb bombs. A lack of precision-guided munitions—not to mention Russian doctrine that conceives of aircraft essentially as flying artillery—forces the \$50 million warplanes to fly low through the thickest Ukrainian air-defenses in order to have any chance of delivering their bombs with any degree of accuracy. As a result, Su-34s are falling from the sky in numbers that must be startling for air force commanders. Their newest planes are suffering the same fate as their oldest”^H (See Figure 2). A May 2022 article from *Business Insider* reported that some shot down Su034s have been found with, “GPS receivers...taped to the dashboards...so the pilots knew where they were, due to the poor quality of their own systems.”^M

In addition to a lack of precision guided weapons employed by Russian aircraft, many analysts are questioning the training of Russian pilots and the Russian Air Force's ability to execute advanced mission sets in a contested environment. Retired Air Force General David Deptula told Reuter's, "the Russians are discovering that coordinating multi-domain operations is not easy."^H



Figure 2 SU-34 conducting a low altitude rocket attack. These unguided attack profiles place the sophisticated multi-role fighter in the heart of Ukrainian air defense assets including the shoulder launched FIM-92 Stinger.

Source: [Reuters](#)

The end result is that not only has Russia failed to establish air superiority, “the absence of Russian combat aircraft has allowed the Ukrainian Air Force to fly low-level counter-air and ground attack sorties.”^H

Another perceived advantage Russia possessed against Ukraine was their robust arsenal of cruise and ballistic missiles. Likewise, China has also developed an extensive arsenal of cruise and ballistic missiles that are the basis of the PRC's A2AD strategy and is highly likely to be a prominent weapon piece in any scenario in the Taiwan Strait.^H According to Wion News, “three US officials said the United States estimated that Russia's failure rate varied day-to-day, depended on the type of missile being launched, and could sometimes exceed 50 per cent. Two of them said it reached as high as 60 percent.”^M Should PRC ballistic and cruise missiles perform similar to Russia's current 50% failure rate (See Figure 3), a Taiwan military that is specifically designed to sustain missile and air would be highly likely able contest control of the sky and be a significant threat to any invasion force.^H

It is likely China is aware of the importance of controlling the air domain during any military operation in the Taiwan Strait. Michael Peck reports in a 19fortyfive article that the PLA is questioning the reliability and development practices of their ballistic missile

inventory. As a result, “The PLA therefore established a new, centralized task force to oversee the reliability of new missiles, built a number of testing facilities with controlled environments to speed up tests and plans to use artificial intelligence technology.”^M



Figure 3 Russian missile failure.

Source: Wionews.com

This

awareness by the PLA is likely to increase missile reliability and improve Chinese defense industry standards.

Analytic Confidence

The analytic confidence for this estimate is *moderate*. Sources were generally reliable and tended to corroborate one another. The analyst was limited on time and much of the information is new and the full impact of events have yet to be determined. Additionally, operational claims and casualty figures by both Ukraine and Russia are almost certain (86-99%) part of a broader information campaign. It is also difficult to measure the impact of NATO influence on current outcomes. These same external implications would significantly change potential outcomes in the Taiwan Strait. This report is sensitive to change due to new information.

Author: Lee W. Hemming

Russia/Ukraine Conflict Makes China Likely To Stockpile Aircraft/Naval Engines, Integrated Circuits, Minerals If Near Term Taiwan Strategy Includes Forced Reunification Before 2030

Executive Summary

Despite China's rapidly modernizing military supported by a robust domestic defense industry, the Russia/Ukraine conflict will likely (56-70%) cause the People's Republic of China (PRC) to stockpile non domestically available critical defense materiel such as aircraft/naval engines, integrated circuits, and minerals. While China is aggressively pursuing independence from these imported components, they will likely not achieve independence before 2030. Therefore, it is likely that China will stockpile these assets before 2030 if their near-term strategy is a forceful unification with Taiwan. Beijing likely has an enhanced realization of their dependence upon foreign suppliers, will likely identify any additional material sources at risk of international sanctions, and will likely not assume lack of international resolve as did Russia.

Discussion

A 2022 Rand report identified China's dependence on foreign sourced defense materiel critical to its modernizing military.^{[H](#)} These include aircraft/naval engines, integrated circuits, beryllium, lithium, diatomite, zircon, and oil sands.^{[H](#)} China will likely aggressively reduce its dependence on foreign technologies and resources, but this process will likely extend past the near term,^{[H](#)} and considering state-of-the-art (SOTA) semiconductor chips, likely not until 2030 (See [Semiconductor Report](#)).

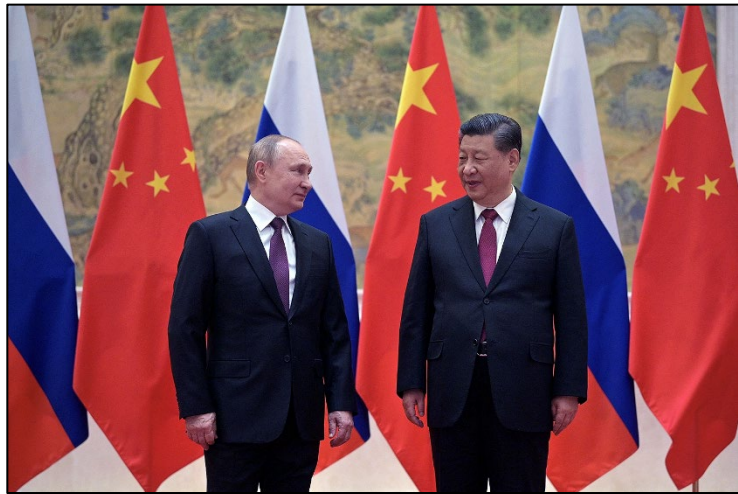


Figure 1 Russian President Vladimir Putin and Chinese President Xi Jinping meet in Beijing on 4 February 2022.

Source: [Foreign Policy](#)

China recognizes the effects of western sanctions on Russia in the event of conflict with Taiwan.^{[M](#)} Western sanctions severely limited Russian ability to manufacture the Armata tank; Kinzhal and Caliber missiles, all requiring Taiwanese semiconductor chips.^{[M](#)} Russia also relies on western components for trucks^{[M](#)} and even drones.^{[M](#)} China will likely assume, because of the Russia/Ukraine conflict, that the international community would unify to prevent China from obtaining similar resources.^{[M](#)}

The PRC's dependence on foreign imports has broad effects. Without SOTA chips, similar to Russia, China would be unlikely (31-45%) to continue production of its most advanced weaponry including artificial intelligence. (See [Semiconductor Report](#)) Without western engines to power the new J 20 fighter, China would not likely field an effective aircraft as the domestically produced engine is underpowered.^M Similar to the seemingly unrecognized western components in Russian drones and trucks, China will likely examine much of their basic military equipment to identify these western dependent supply vulnerabilities. Therefore, if the strategy is to conduct a military backed Taiwan unification maneuver before 2030, it is likely that China will stockpile SOTA chips, aircraft /naval engines, the five previously noted minerals, and other possibly more common items like vehicle parts as a warning sign.

Despite China's rapidly developing defense industry^H supporting military modernization, the PRC remains dependent on the west for critical materiel. The Russia/Ukraine conflict will likely cause China to strategically pause their Taiwan unification timeline for the very near future as it assesses western materiel dependencies in greater detail than previously thought. Currently, authors' opinions regarding potential Chinese aggression towards Taiwan based on recent Russia/Ukraine conflict are controversial. Some feel forced reunification is not feasible currently,^H while others suggest invasion is more likely.^{LH} While the Russia/Ukraine conflict is likely causing China to reevaluate multiple facets of its current Taiwan strategy to avoid Russian mistakes,^H it is unlikely that China will alter its long term strategy to unify with Taiwan by 2049 (See [Initial Key Findings](#)).

Analytic Confidence

The analytic confidence for this estimate is *moderate*. Sources were generally reliable and tended to corroborate one another. Time available to conduct research was exceptionally limited, the information was very recent and changed daily. The analyst worked alone and did not use a structured method. Furthermore, given the near to long term time frame of the estimate, this report is sensitive to change due to new information.

Author: John Cletus Paumier

China's PLA Is Likely Reforming Military Tactics And Training By Incorporating Lessons Learned From Russia's Invasion of Ukraine By 2027

Executive Summary

Due to the long history of military training with Russian forces, the People's Liberation Army (PLA) is likely (56-70%) reforming military tactics and training by incorporating lessons learned from Russia's invasion of Ukraine by 2027. China is strongly observing the invasion daily as a lot of the tactics, procedures, and equipment is like what the PLA executes for operations. The PLA is realizing a unified command and control structure with being able to have integrated joint operations are critical to the successful execution of combat operations. Thus, China's last large-scale war was the invasion of Vietnam in 1979, and regardless of what type of massive forces Russia has in Ukraine China is realizing the role of military leaders needs to know how to lead and communicate effectively to be successful.

Discussion

The news of how poorly the Russian troops are doing on the battlefield is shocking leaders in Beijing and even more how the international partners are supporting the Ukraine nation.^M According to Mr. Finkelstein from War On the Rocks, "Among those observing the Russian

military's ongoing operations in Ukraine, few will be watching and assessing its performance more intensely than those in the Chinese People's Liberation Army (PLA). Analyzing the wars of other countries to play an important role in Beijing's decision-making about military modernization, along with the PLA's own field experiments and its increasing use of big data,

AI, and simulations. In the first phase of the Ukraine conflict, PLA analysts — who have traditionally held the Russian military in high regard — will undoubtedly find Russian operations wanting."^M The PLA always looked up to Russia and its fighting doctrine based on all the combat experience with Crimea, Georgia, and Syria in the past 40



Figure 1 Russia has held Vostok exercises since 2010 as a way to check its ability to form large military formations, have them move quickly over large distances, and operate within unfamiliar terrain.

Source: [Caspian News](#)

years.^M According to Mr. Roza from Task & Purpose, “There are three other basic campaign principles that Russia seems to have disobeyed. One is ‘unified coordination,’ which Russia has disregarded in favor of conducting what the Foreign Policy Research Institute described as “several disjointed fights rather than one coordinated campaign.” Another is ‘comprehensive support,’ which Russia seems to have ignored in favor of food and gas shortages, where the country even asked China for help addressing its rations deficit. Lastly, Russia also seems to have forgotten the Chinese campaign principle to ‘take the enemy by surprise,’ which itself could be a callback to Sun Tzu’s emphasis on deception in warfare.”^M

According to Professor Akio Takahara at the Graduate School of Law and Politics, University of Tokyo, “The Chinese are observing very carefully many things about this war in Ukraine...for example, the way of fighting, what sort of weapons are useful and effective, why are the Russians not successful, what’s working for the Ukrainian Army. All of these military aspects of the war are certainly of close concern and observation by the Chinese Side.”^M



Figure 2 Troops disembark from a Chinese military helicopter during joint war games held by Russia and China held in the Ningxia Hui Autonomous Region in northwestern China.

Source: [CNN](#)

According to Finkelstein “Moscow’s Ukraine campaign looks very much like ground-force-centric combined arms warfare — the very type of warfare that the PLA is trying to move beyond for major operations. In November 2020, after 20 years of experimentation, the PLA totally revamped its doctrine for joint operations. The new PLA paradigm for joint operations, known as “Integrated Joint Operations” calls for unity of effort and integration among


the services across land, sea, air, and key high-tech battlespace domains such as cyberspace, outer space, and the electromagnetic spectrum — all under a unified command and control structure.”^M In addition, Mr. Finkelstein addresses how the “PLA will pay close attention to reports about the human and cognitive dimensions of the war. PLA analysts will read reports about poor morale among Russian troops, alleged desertions, lack of tactical communications discipline, indiscriminate attacks against Ukrainian noncombatants, and accusations of war crimes.”^M

Analytic Confidence

The analytic confidence for this estimate is *moderate*. Sources were generally reliable and tended to corroborate one another. Time available to conduct research was exceptionally limited, the information was very recent and changed daily. The analyst worked alone and did not use a structured method. Furthermore, given the near to long term time frame of the estimate, this report is sensitive to change due to new information.

Author: Randy Paul Lefebvre

Annex A – Kesselman List of Estimative Words

Kesselman List of Estimative Words		
Certainty 100%		
Almost Certain	86-99%	 Likelihood
Highly Likely	71-85%	
Likely	56-70%	
Chances a Little Better [or Less]	46-55%	
Unlikely	31-45%	
Highly Unlikely	16-30%	
Remote	1-15%	
Impossibility 0%		

*Words of estimative probability (WEP or WEPs) are terms used by intelligence analysts in the production of analytic reports to convey the likelihood of a future event occurring. A well-chosen WEP gives a decision maker a clear and unambiguous estimate upon which to base a decision.*⁴

Annex B – Trust Scale and Web Site Evaluation Worksheet

Trust Scale and Web Site Evaluation Worksheet (Updated OCT 2021)								
Piece of Evidence #:								Trust Scale:
Criteria	Tips	Value	Y or N	Y or N	Y or N	Y or N	Y or N	15-20 High
Content can be corroborated?	Check some of the site's facts	2						11-15 Moderate
Recommended by subject matter expert?	Doctor, biologist, country expert	2						6-10 Low
Author is reputable?	Google for opinions, ask others	2						5-0 Not Credible
You perceive site as accurate?	Check with other sources; check affiliations	1.5						
Information was reviewed by an editor or peers?	Science journals, newspapers	1.5						
Author is associated with a reputable org?	Google for opinions, ask others.	1.5						
Publisher is reputable?	Google for opinions, ask others.	1.5						
Authors and sources identified?	Trustworthy sources want to be known	1						
You perceive site as current?	Last update?	1						
Several other Web sites link to this one?	Sites only link to other sites they trust	1						
Recommended by a generalist?	Librarian, researcher	1						
Recommended by an independent subject guide?	A travel journal may suggest sites	1						
Domain includes a trademark name?	Trademark owners protect their marks	1						
Site's bias is clear?	Bias is OK if not hidden	1						
Site has professional look?	It should look like someone cares	1						
Total	15-20 High 11-14 Moderate 6-10 Low 0-5 Not Credible	20	0	0	0	0	0	

19 Dec 2001: The criteria and weighted values are based on a survey input from 66 analysts. For details see: <http://daxnorman.googlepages.com/analysis>. Edited for simplicity by Kristan J. Wheaton, OCT 2013
 3 Feb 2012: Excel Spreadsheet which adds auto-sum was produced by Bill Welch, Deputy Director, Center for Intelligence Research Analysis and Training, Mercyhurst College.
 26 Jan 2013: Trust Scale and Web Site Evaluation Worksheet is in the PUBLIC DOMAIN.

Annex C – Analytical Confidence Assessment

<i>PETERSON TABLE OF ANALYTIC CONFIDENCE ASSESSMENT</i>	<u>Points Possible</u>	<u>Points</u>
Use of Structured Method(s) In Analysis	(1-10)	
<i>For example: ACH, IPB, Social Networking, Bayes, Simulation, etc...</i>		
<i>10 indicating highest possible score when considering factors below</i>		
<i>Consider:</i>		
Number of methods used		
Applicability of methods to the analysis		
Level of robustness of method		
Degree to which methods' results coincide		
Overall Source Reliability	(1-10)	
A rating of 10 indicates the highest reliability		
Source Corroboration/Agreement: Level of conflict amongst sources	(1-5)	
5: No conflict amongst sources		
4: Very little conflict amongst sources		
3: Moderate conflict amongst sources		
2: Significant conflict amongst sources		
1: Sources conflict on nearly all points		
Level Of Expertise On Subject/Topic &	(1-5)	
5: Deep, intimate knowledge and understanding & 3+ years experience with topic		
4: Wide knowledge & 1-3 years experience with topic		
3: Moderate knowledge & 6-12 months experience with topic		
2: Minimal knowledge & 0-5 months experience with the topic		
1: No knowledge & no experience with the topic		
Amount of Collaboration:	(1-5)	
5: Part of aggregated individual analyses		
4: Worked on a team		
3: Worked with a partner		
2: Casual discussion		
1: Completely individual work		
Task Complexity	(1-5)	
5: Minimally complex & challenging		
4: Somewhat complex & challenging		
3: Moderately complex & challenging		
2: Quite complex & challenging		
1: Very complex & highly challenging		
Time Pressure: Time given to make analysis	(1-5)	
5: No deadline		
4: Easy to meet deadline		
3: Moderate deadline		
2: Demanding deadline		
1: Grossly inadequate deadline		
	Score:	0
	Total Possible:	45
	Score:	0
		x 10
	Analytic Confidence	
	Adjusted Score:	0

Annex D – Friedman Corollaries

Two questions a researched should ask oneself in order to reassess bias and improve the validity of an estimate:

1. Is my estimate within the range of reasonable opinions surrounding the research question or assessment hypothesis?
2. How likely is it that new information will change my estimate?

Annex E – Initial Report Key Findings

What are the options available to China for the generation of a credible landpower¹ force that will set the conditions to achieve unification with Taiwan between now and 2049?

Key Findings

It is likely there are three main options available to China for the generation of a credible landpower force between now and 2049. They are:

1. Unification by maneuver, where China seeks to maneuver, geographically and non-geographically, boxing Taiwan and her allies in so that, over time, unification becomes the only logical choice for the isolated island nation and its weakened allies. This option--to win without fighting--is highly likely China's strong preference. This option is primarily non-kinetic but will likely require a credible military force and naturally implies a broader definition of landpower². This will likely remain below armed conflict and simultaneously erode U.S. Access, Influence, and Legitimacy.
2. Unification by fires, where China develops and utilizes an overwhelming military force to compel Taiwan to unify completely with the mainland. While not the preferred option, as the domestic stakes surrounding the 100th Anniversary of the founding of the CCP in 2049 increase, China will likely act more aggressively. This option is highly likely to involve combat operations, across several increasingly escalatory scenarios. This option is focused on the operational area surrounding Taiwan's main island and involves traditional notions of landpower.
3. Unification by mistake, where China will behave opportunistically to accelerate unification by taking full advantage of significant missteps by Taiwan and its allies. Chinese strategic thought classically considers that "the opportunity of defeating the enemy is provided by the enemy himself." This option is likely focused worldwide and considers China's actions on its own behalf while denying freedom of action to Taiwan and its allies. It assumes that a credible military force with capable response options is available and is within the risk tolerance of the CCP. This risk calculation is largely based on the pace of China's military modernization.

²For purposes of this report, the key elements of landpower are defined as the ability to influence populations using threat, force, or occupation to gain, sustain, and exploit control of land, resources, and people.

The three options available to China will likely change over time (depicted graphically in Figure 1). China is unlikely to pursue any of these options exclusively; rather, China will likely exercise strategic patience, maintaining options for as long as possible. There is likely a realistic window for each between now and 2049. The following discussion provides more specific detail for each of these options.

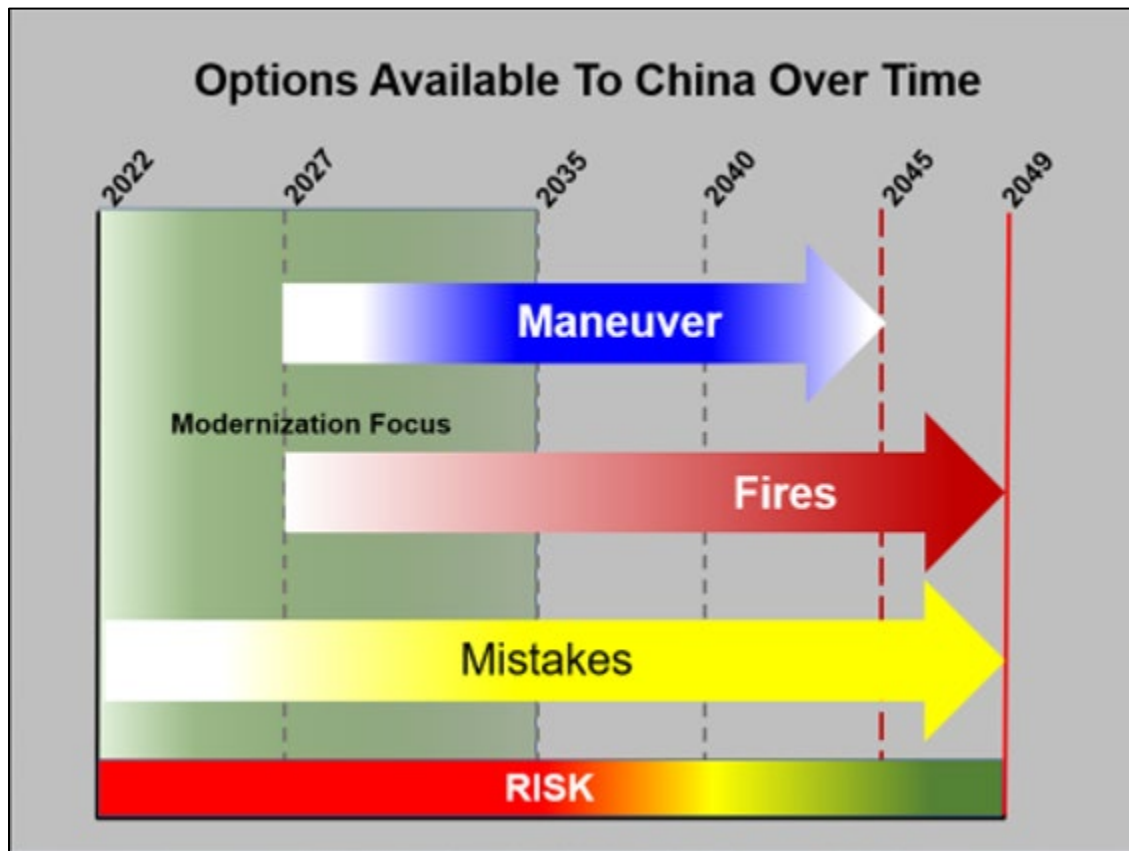


Figure 1 Depicted graphically are China's three main options overlaid on risk and framed with Chinese temporal milestones to conceptually emphasize their long view of time. The arrows representing options are framed within their windows of opportunity. Darker shading indicates greater probability of the option occurring. The green shaded area indicates military modernization. This increasing military capacity supports all three options as time progresses forward while simultaneously reducing strategic and operational risks.

Unification By Maneuver

Unification by maneuver, where China exploits control of land, resources, and people making unification the only logical option, is likely China's preferred course of action because their long-term preference is to achieve unification with Taiwan by peaceful means before 2049.

- In President Xi Jinping's 2017 address to the Congress of the Communist Party, he stated, "We must continue to adhere to the principle of "peaceful reunification

and one country, two systems, promote the peaceful development of cross-strait relations, and advance the process of peaceful reunification of the motherland."

- This consistent message and desire of a peaceful unification was re-iterated by Chinese Premier Li Keqiang in 2021, "We will advance the peaceful growth of relations across the Taiwan Strait and the reunification of China..."
- Chinese popular sentiment is reflected in a 2022 Center for Strategic and International Studies (CSIS) article detailing a 2019 public opinion survey showing that over 76% of Chinese citizens are averse to conflict despite high levels of nationalism (See Figure 2).

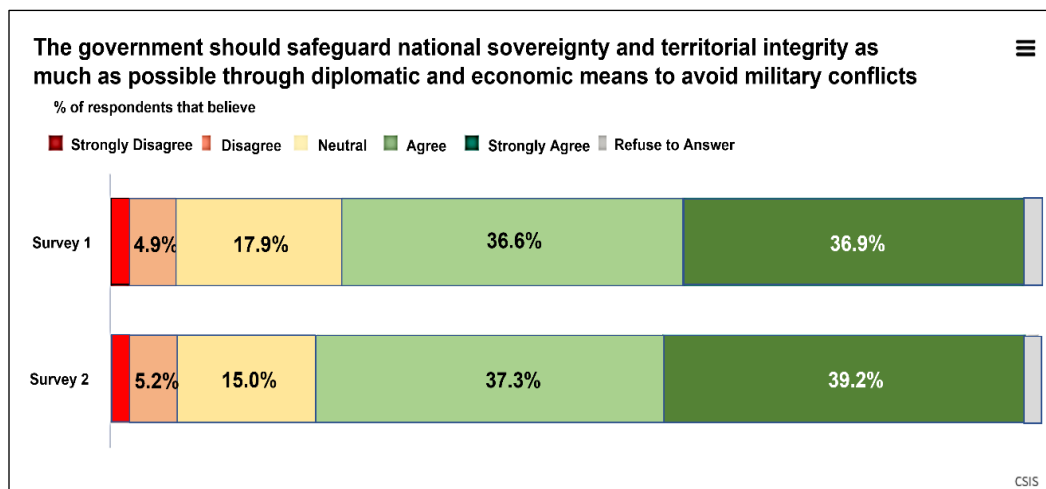


Figure 2 Center for Strategic and International Studies article based on 2019 Pan and Xu Public Opinion Survey.

Source: [CSIS](#)

Due to China's view of time as what US doctrine would call a warfighting domain, a maneuver campaign to create the conditions for a peaceful unification with Taiwan spaced over the next 27 years likely includes both geographical and non-geographical "key terrain."

- Time, and the appropriate use of it, is a constant factor in classic Chinese strategic thought. Chinese culture, influenced by Confucianism, Buddhism, and Taoism, see time as relative, limitless, and flexible while classic Chinese military texts reinforce both patience and selecting the right time to strike. Seeing time as another warfighting domain is likely a useful way to understand how China will use the next three decades to generate a credible landpower force.
- For example, the Chinese displayed their understanding of time by exercising strategic patience in their recent dealings with the Solomon Islands. From the first indications of China's interest in the Solomon Islands in 2016 to establishing diplomatic ties with China in 2019 to the resulting 2021 Solomon riot; China

ultimately obtained a security agreement signed with the Solomon Islands in 2022.

Geographically, the Chinese likely see land as equal to power and will seek to establish (or to deny to the US and its allies) basing rights, security agreements, infrastructure and economic development with key countries and on key pieces of terrain in the INDOPACOM region in support of the maneuver option.

China combines geographic advantage and opportunity as many of these areas are susceptible to China's predatory economic coercion. Currently, China has secured land-based advantages with Cambodia, islands in the South China Sea, and Myanmar, among others. The PRC thus increases its power projection and reduces the United States access and influence in the region. It is likely that China will seek further land advantages that provide potential strategic presence and force possession in locations such as:

- Singapore: According to data released 25 April, 2022, by the Taiwanese think tank, Doublethink Lab, Singapore ranks second in the world for nations susceptible to Chinese influence. Given Singapore's strategic location to the Straits of Malacca, China is likely to leverage their influence to, at a minimum, reduce US-Singapore cooperation, and if possible, establish a port presence for future use within the Military-Civil Fusion (MCF) construct.
- Thailand: A significant extension of landpower for China as it provides the most direct land route from southeast China to the Straits of Malacca, the choke point for Sea Lines of Communication (SLOC) within the South China Sea. China's Belt-and-Road Initiative links Thailand's Eastern Economic Corridor through a dual railway that will connect Utapao airport with Thailand's other two international airports and while also connecting Thailand's eastern province's two deep seaports (See Figure 3).

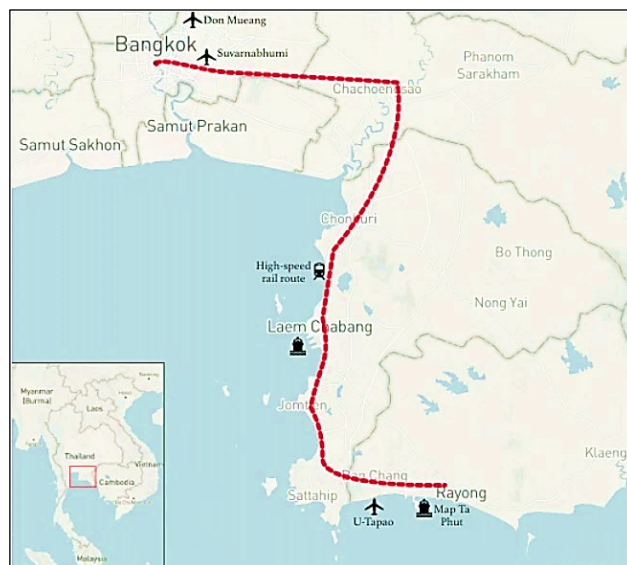


Figure 3 Thailand's Eastern Economic Corridor.

Source: [China Dialogue](#)

- Philippines: The Philippines is highly likely a key piece of terrain to obtain both sea control and provides potential future basing options for the United States. China is likely to continue pursuing basing rights in the Philippines between now and 2045 concurrent with their concept of time in support of maneuver. For example, the Chinese was pursuing control of the Subic Bay port in the northern region of the country to expand control of the South China Sea. The interest of Chinese investors in Subic Bay sparked national security concerns and opposition from the Philippine defense establishment. Had Chinese investors secured a 99-year lease on Subic Bay, Chinese control of land would have expanded their influence over the South China Sea while potentially complicating US access and maneuver to the region during crisis and conflict.

The Chinese are also likely to execute a wide variety of non-geographic activities to support their maneuver campaign, such as:

- Conducting information operations to influence populations in the region that discredit the legitimacy of surrounding governments backed by the presence of a credible landpower force. In April of 2022, The University of Maryland's Applied Research Laboratory for Intelligence and Security (ARLIS) assessed that China dominates 74% of broadcast media in the Middle East and Central Asia compared to only 7% by the United States.
- Insulating major industries and key resources, such as oil sourcing, transportation storage and refining from external pressure and potential international instabilities
- Developing domestic critical tech components like State-of-the-Art (SOTA) semiconductor chips
- Completing force modernization of the People's Liberation Army, Navy, and Air Force
- Marshaling the will of the Chinese people, and the approval of the international community
- Testing Taiwan, U.S. and international response toward threat of taking action on adjacent Taiwanese territories (Pratas, Kinmen, and Matsu Islands)

China is unlikely to generate a credible landpower force or the ability to project the force to support unification by maneuver before 2027. Since China has widely publicized unification by 2049, it is likely China's pressure to use unification by force will likely increase after 2045.

- In 2020, the PLA added 2027 as a new milestone for modernization to accelerate the integrated development of mechanization, informatization, and intelligentization of the armed forces. This minimally credible military force would likely expand Beijing's geographical and non-geographical maneuver options enroute to the overall military modernization deadline of 2035.



The Kinmen and Matsu islands sit in the shadow of China's mainland coast.

Source: [Ohio State Modern Chinese Literature and Culture](#)

Unification by Fires

Unification by fires is unlikely to be China's preferred option due to the extraordinary human and economic cost, the risk of prolonged Taiwanese resistance, and the risk of inflaming world opinion. However, China is likely to pursue this option under two conditions. First, as 2049 approaches, time is likely to pressure China to act in order to achieve its highly publicized unification goal. Second, China is also likely to act if Taiwan or its allies make a critical mistake (discussed in detail later in this document) such that China sees an opportunity to resolve the situation while maintaining the support of the Chinese people.

Risks associated with this option likely drop dramatically once China develops overwhelming military force. Specifically, an overwhelming Chinese force likely looks like:

- Approximately 1,287,000 joint trained, effectively led troops to overwhelm Taiwan's 429,000 active and reserve troops at a 3 to 1 ratio (see Table 1). In addition to troops an extensive array of support vehicles and fire support assets will be required in concert with PLA doctrine and force structure (see Table 2).
- While efforts to create this kind of force are ongoing, it is unlikely that critical parts will be in place much before 2027 and China is unlikely to have such an overwhelming force ready for combat much before 2035.

- According to the 2021 CMPR, China's current ground troops total 975K, while Ian Easton in 2021, The Diplomat, details the need for 1-2M troops. This supports our likely minimum estimate of 1.287M ground forces.

Country Component Forces	Force Numbers	3 to 1 Chinese Invasion Ratio	5 to 1 Chinese Invasion Ratio
Taiwan Active Ground Forces	88,000 H	264,000	440,000
Taiwan Total Active Forces	169,000 H	507,000	845,000
Taiwan Reserve Forces	260,000 H		
Taiwan Active and Reserve Forces	429,000	1,287,000	2,145,000
Chinese Total Ground Forces	1,040,000 H		
Chinese Taiwan Strait Forces	416,000 H		

*Table 1 Taiwan and Chinese Forces with invasion ratios.
Source: Linked within chart*

Taiwan Strait Military Balance, Ground Forces			
	China		Taiwan
	Total	Taiwan Strait Area	Total
<i>Total Ground Force Personnel</i>	1,040,000	416,000	88,000
<i>Group Armies/Army Corps</i>	13	5	3
<i>Combined Arms Brigades</i>	78	30 (6 Amphibious)	NA
<i>Mechanized Infantry Brigades</i>	N/A		3
<i>Motorized Infantry Brigades</i>			6
<i>Armor Brigades</i>			4
<i>Army Aviation/Air Assault Brigades</i>	15	5	4
<i>Artillery Brigades</i>	15	5	3
<i>Airborne Brigades</i>	7	7	0
<i>Marine Brigades</i>	8	5	2
<i>Tanks</i>	6,300	.	800
<i>Artillery Pieces</i>	7,000	.	1,100

Note: For the purposes of this document, the "Taiwan Strait Area" includes the PLA's Eastern and Southern Theaters.

*Table 2 Taiwan and Chinese force comparison.
Source: [2021 CMPR](#)*

- Commensurate with the training evolution is the selection and development of a new officer corps that seeks through modernized professional military education to produce capable field grade leadership by 2035.[M](#)
- The People's Liberation Navy will likely require over 1760 LCAC and LCU landing craft transported by Yushen class LHA type 075 amphibious assault ships or similar quantities of more modern versions (See figure 4). Vehicle and supply transport will likely require a similar number of ships including the use of dual use civilian vessels such as ferries.



Figure 4 China Expands Marine Corps' Aerial Assault Capabilities Following Launch of Type 075 Ship. Source: [MilitaryLeak](#)

- The exact configuration of the PLAN fleet required to transport this force is difficult to forecast due to any number of variations of military, civilian ferries, and Chinese maritime militia are likely to be used.

It is virtually certain that there will be a number of indicators—many in open sources—of this buildup.

- A decrease in cancellation of announced exercises will likely indicate progression towards a capable joint trained force. Open source satellite imagery and signals intelligence of the nation training base at Zhurihe as well as other regional PRC training bases will likely provide indications of the size and focus of these exercises (See Figure 5).
- Satellite imagery will also highly likely demonstrate amphibious fleet construction at China's four main shipbuilding yards at Hudong-Zhonghua, Jiangnan, Dalian, and Huangpu Wenchong.

After 2035, the indications and warnings that the PRC intends to pursue the unification by fires option will likely include Chinese alterations in normal oil related activity,



Figure 5 Likely regional PLA training bases where increased exercises indicate increasing readiness.

Sources: [Reuters](#)

Indian Analyst and Author <https://ijamwal.in/yayavar/chinese-armed-forces-orbat-part-3-ground-forces/>

semiconductor chip stockpiling, sudden increases in troop training, port activity involving large numbers of troop transport ships, large interior troop movements towards ports and airfields, and increased exercises in the East China and South China Seas and in the Taiwan strait. Specifically, satellite imagery and other intelligence sources will likely show:

- Movement of approximately 870,000 troops from bases across China's theater bases towards assembly areas to join the assigned 416,000 Eastern theater troops at embarkation ports adjacent to the Taiwan Strait.
- Movement of ballistic missile assets to wartime firing positions.
- Satellite imagery will likely reveal an abnormal volume of ships accumulating at likely ports of embarkation. The composition of this fleet will likely include numerous military and civil vessels in line with the PRC's MCF. Amphibious transport ships including ferries will likely gather at ports and along the coast (See Figure 6).



Figure 6 PLA Amphibious Staging Areas.

Source: [Project 2049](#)

From initial indications, force development will likely take nine months to assemble the Taiwan invasion force at the embarkation ports.

- Estimated troop additions of 90,000 per month, similar to what Russia demonstrated in the weeks leading up to the invasion of Ukraine, when added to the current 416,000 eastern theater troops, requires 9 months to reach 1,287,000 required troops.
- The PRC will likely also move troops toward the Indian border to mitigate horizontal escalation risks at that location.

When conditions supporting a kinetic option develop, according to Dr. Phillip C. Saunders, National Defense University's Director for the Center for the Study of Chinese Military Affairs, China is likely to choose one of these COA that are distinct but complementary. Risk factors associated with each COA are based on both the operational risk of the campaign and the strategic risk to the regime with regard to domestic stability and support:

- Strike Campaign: Fighter/Bomber and Missiles (*Low Risk*) leverages investment priorities in missile and fighter technologies, but has an uncertain outcome like many strategic bombing campaigns. For example, the bombing campaign of London was ineffective and galvanized the populace against Germany. The same

risk applies to China, a bombing campaign could turn popular support and forever close the option of a peaceful unification). Another aspect to this campaign that lowers risk is the speed at which China can initiate and terminate a strike campaign. This speed of action demonstrates China's temporal advantage in the region.

- Blockade Campaign: Includes Informational, Naval and Air blockades (*Low-Medium Risk*) and require a large amount of time and the commitment of more assets. Uncertain outcomes risk the same reaction risks the same reaction as the strike campaign; potentially empowering and galvanizing the Taiwanese population against China. This campaign presents greater risk of external intervention due to likely length of campaign.
- Amphibious Campaign: A series of amphibious and air operations ending with the occupation of Taiwan (*High risk*) (see Figure 7). A conclusive and decisive campaign that ends with the defeat of ROC forces. Significant risk of failure and full commitment of military forces is highly likely to involve international sanctions and direct conflict with United States. Domestic stability and regime control are under substantial strain should the campaign struggle or fail.

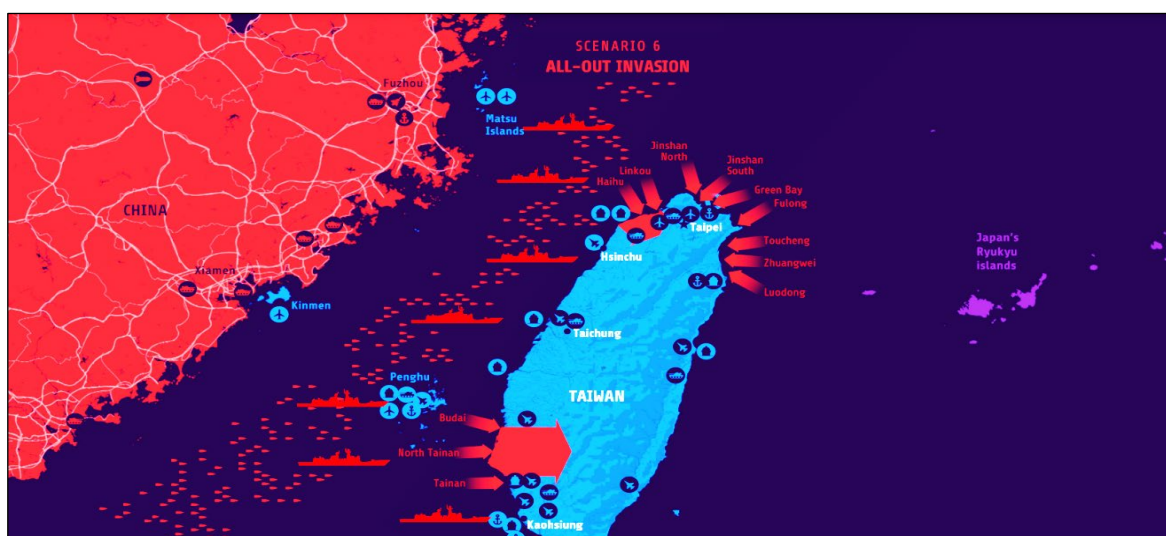


Figure 7 Graphic depiction of Battle for Taiwan with a full amphibious invasion.
Source: [Reuters](#)

The unification by fires option is unlikely to open much before 2035. Constructing such a massive force while conducting the types of joint training, force restructuring, and simply building all the equipment is unlikely prior to 2035. Likewise, the window for this option likely closes on or just before 2049.

Unification by Mistake

Unification by mistake is likely the result of a Taiwanese (or its allies) mistake of commission or omission that creates an advantageous situation where the PRC feels the risk of action is acceptable. China will therefore likely initiate action to unify with Taiwan when presented with such a mistake. Mistakes of commission will likely include violating one of China's "Five Noes." The Five Noes are:

1. A formal declaration of independence by Taiwan.
2. A military alliance by Taiwan with a foreign power, or foreign intervention in Taiwan's internal affairs.
3. Indefinite delays in resumption of cross-Straits dialogue, and an unwillingness to negotiate on the basis of "One China."
4. Taiwan's acquisition of nuclear weapons or other weapons of mass destruction.
5. Internal unrest or turmoil in Taiwan.

The second and third "Noes" are the most likely to occur and provide China the most flexibility to create legitimacy for potential military action.

Some of the Five Noes are ambiguous, specifically the interpretation of military alliances and cross-Straits dialogue as well as internal unrest or turmoil. This ambiguity provides China multiple reasons supporting military escalation.

Mistakes of omission include instability in the region where key countries like the US, Japan, or Australia fail to intervene thus creating an opportunity. For example, if the United States and the international community failed to respond to PRC taking of Kinmen Islands, signaling a lack of resolve, China would likely see this as a mistake of omission. China will likely capitalize upon any opportunities to establish a foothold presence that further extends its access and influence over populations, resources, resulting ultimately in further control of land.

The window for this option likely does not fully open until 2027 when China will likely have a minimally credible force. Opportunities prior to then will likely increase the odds of unification but without a minimally credible force with robust rapid reaction forces and advanced command and control, it is unlikely to create the conditions for complete unification.

After 2027, China will likely look at time and strategic patience through a lens that is different than the west. The PRC will be deliberate with respect to acting based on mistakes presented by the enemy. China will likely observe mistakes and act at a time of their choosing when the PRC feels they have a complete solution to further expand their position. As time continues, it is highly likely that China's options for both maneuver and

fires increase as they develop a more capable force and continue to expand access and influence through the INDOPACOM region.

Annex F – Amphibious Analytical Report

China Likely To Build Initial Amphibious Invasion Transport Fleet Moving 240,000 To 450,000 Troops Between 2030-2035

Executive Summary

Despite the military and political risk of an actual amphibious invasion of Taiwan, the People's Republic of China is likely (56-70%) to develop an amphibious fleet capable of transporting an initial wave of 264,000 to 440,000 troops with vehicles and supplies between 2030 and 2035. China's willingness to build, train, and utilize a credible cross strait invasion fleet sends a powerful compelling message to Taiwan to unify with China. Satellite imagery will likely reveal when the conversion from blue water combatant ships to military transport and dual-purpose civilian transport vessel construction begins.

Discussion

China will likely shift to transport construction from surface combatants to transport ships after 2030^H indicating that the East China Sea navy is of sufficient size to support an amphibious invasion. A Chinese large-scale amphibious invasion requires command of the sea and air with a sizeable transport fleet capable of moving large numbers of troops, vehicles, and supplies.^H Troop transport vessels supporting the invasion will likely include type 726 Landing Craft Air Cushion (LCAC)^M and the Landing Craft Utility (LCU)^M (See Figure 1). China will also likely use civilian vessels such as ferries to transport vehicles and supplies.^H Invasion fleet completion will likely occur in concert with Xi Jinping's goal of military modernization by 2035.^H



Figure 1 Chinese Landing Craft Utility (LCU).

Source: [GlobalSecurity.org](https://www.globalsecurity.org)

China will likely need to transport 264,000 troops in the initial amphibious wave to achieve a 3 to 1 advantage over Taiwan's 88,000 active-duty ground troops.^H A 5 to 1 advantage yields 440,000 troops. China would also need the capability to transport in waves a total invasion force of 1,287,000 troops to counter Taiwan's active and reserve forces of 429,000 at a 3 to 1 ratio. The Peoples Liberation Navy will likely require over 1760 landing craft with LCAC capacity of eighty troops and LCU of less than 250 troops for an average of approximately 150 troops per transport to meet the 264,000-troop threshold. Landing craft themselves require amphibious transport by craft such as the

Yushen class LHA type 075 amphibious assault ship. Vehicle and supply transport likely require a similar number of ships including the use of dual use civilian vessels such as ferries. Satellite imagery will highly likely (71-85%) demonstrate the construction of the amphibious fleet necessary for the invasion^H (See Figure 2).

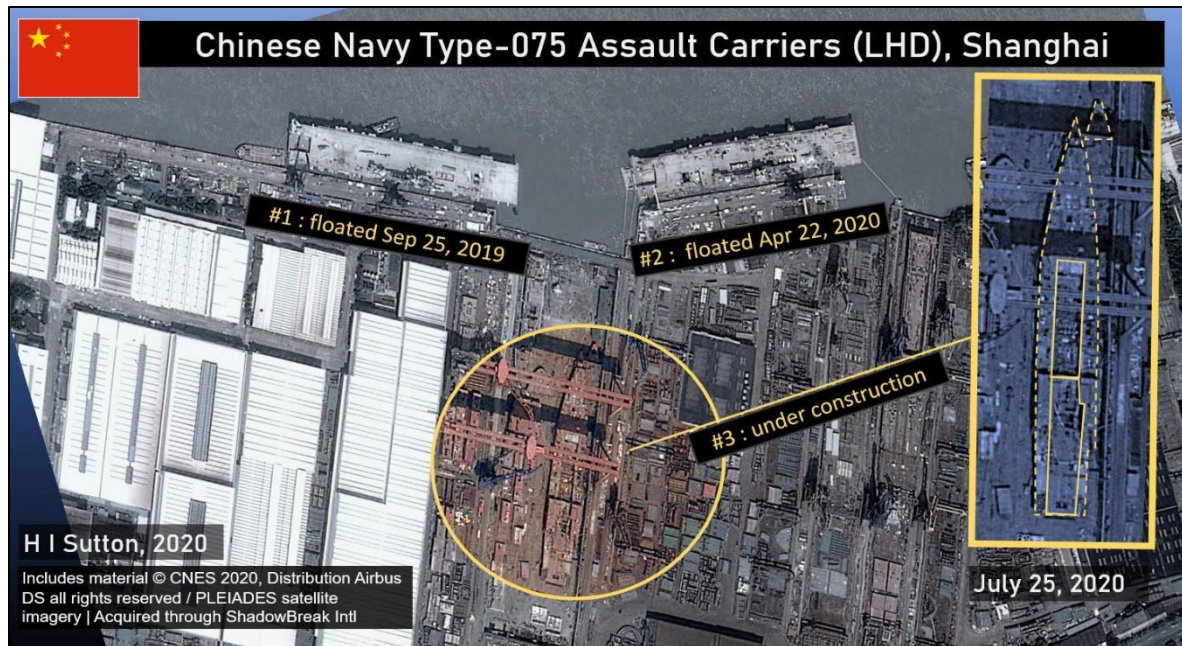


Figure 2 Chinese Yushen Class LHA type 075 amphibious assault ship construction.
Source: [Forbes.com](https://www.forbes.com)

Satellite imagery focused on China's four main shipbuilding yards at Hudong-Zhonghua, Jiangnan, Dalian, and Huangpu Wenchong will likely reveal the type of ships currently under construction^H (See Figure 3). Analysis of the same shipyards will likely reveal when construction shifts from blue water ships to amphibious assault and troop transport vessels. Chinese blue water naval vessels include type 002 and 003 aircraft carriers, type 055 cruisers, type 052D destroyers, type 054 frigates, and type 056 corvettes.^{MM} Since the People's Republic of China does not reveal either its fleet size or composition,^H analysts will likely need to observe shifting of construction at major shipyards from the previously listed blue water vessels to amphibious ships and troop transport ships



Figure 3 China's largest shipbuilding yards.
Source: [CSIS.org](https://www.csis.org)

including type 075 and 071 amphibious assault vessels.^H Analysts will likely identify to which fleet the vessels are assigned. The East Sea Fleet is the assigned fleet regarding Taiwan and the Taiwan strait.^H China assigns few new ships to the East Sea Fleet according to most recent analysis.^M

A cross strait Taiwan invasion carries substantial political^H and military^M risk for China. However, to compel Taiwan to unify without fighting, a credible invasion force is necessary. An invasion fleet of this magnitude meets the minimum 3 to 1 ratio and when combined with naval, air, and electronic warfare dominance,^M supports overwhelming military capability regardless of whether landings are on beaches, at ports, or both. Taiwanese troop numbers include 88,000 active duty up to 450,000^H total including reserves. The working estimate assumes that Taiwan distributes troops throughout the country reducing beach and port defenders to protect against inland airborne and air assault. Follow on Chinese waves would likely increase invading troop numbers significantly.

Analytic Confidence

The analytic confidence for this estimate is *moderate*. Sources were generally reliable and tended to corroborate one another. There was inadequate time given the breadth of the information and the analyst worked alone. The troop and equipment carrying capacity of vessels utilized a Fermi type estimate as specific details were unavailable.

Author: John Cletus Paumier

Annex G – BRI Analytical Report

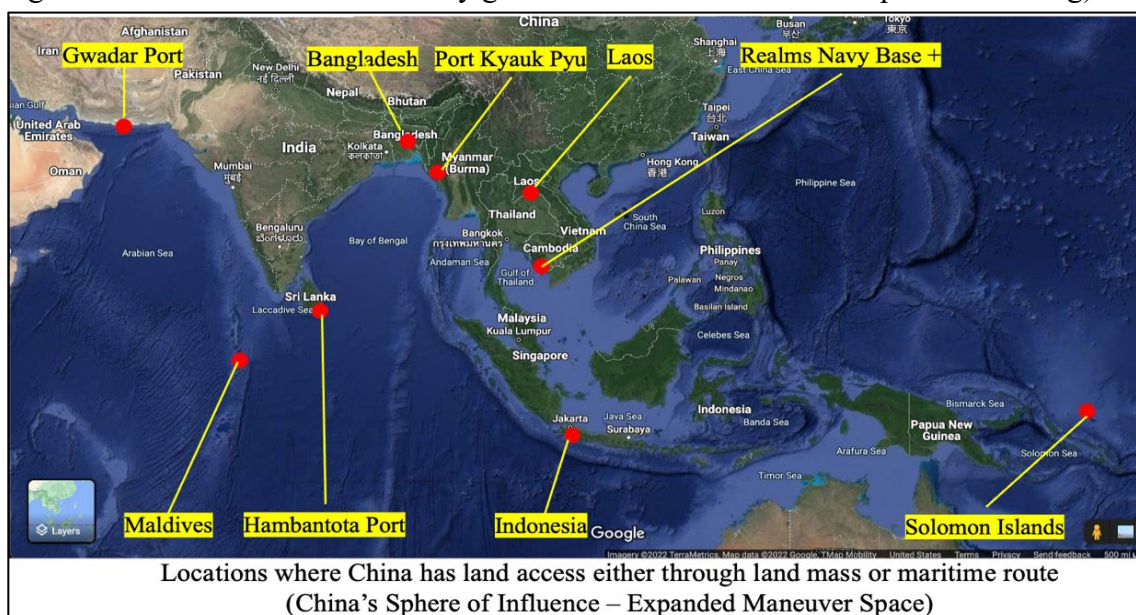
China Highly Likely Using Belt And Road Initiative To Generate Landpower In The Extended Maneuver Space Between Now And 2049

Executive Summary

Despite the connotation that the Belt and Road Initiative (BRI) is a debt trap, China is highly likely (71%-85%) to continue to use BRI to generate landpower in the extended maneuver space between now and 2049. Access to BRI infrastructure, e. g. Gwadar Port, Realm Naval Base, etc., provides China with potential extended operational and logistical capabilities in both physical and time-space. At the same time, security cooperation, i.e., with Bangladesh, and the Solomon Islands, enhances partnership and interoperability.

Discussion

Although China launched BRI in 2013,^{[H](#)} Beijing has invested in ports stretching from the eastern coast of Africa to the South China Sea long before.^{[M](#)} China claims BRI investments have the potential to bring economic revitalization to its partners and, in 2014, added a security policy to BRI to safeguard developmental interests.^{[M](#)} “The BRI represents perhaps the most ambitious geo-economic policy that China has ever proposed. This new strategy seems to suggest that China is keen to transform itself into a continental-cum-maritime power, fusing Mahan’s and MacKinder’s geostrategic ideas.”^{[M](#)} Through the execution of BRI projects, China extends its sphere of influence by developing or improving its military base across South Asia and Southeast Asia (See Figure 1 for locations China recently gained access for base use and potential basing).



In the Indian Ocean, a Chinese company acquired the island of Feydhoo Finohu 623 kilometers from the southernmost tip of India on a 50-year lease, posing a threat to India for potential use by PLAN as possibly a listening post to track Indian Naval activities and nuclear submarine base.^M Indian officials see Maldives as strategically important and fear that China is the tipping Maldives away from its sphere of influence, notably because the Maldives also owe between the U.S. \$1B and \$3B to China.^{HM}



Figure 2 Gwadar Port, Baluchistan, Pakistan.

Source: Bing.com

Along the southern shore of Pakistan, the People's Republic of China (PRC) built Gwadar Port in Baluchistan through the China-Pakistan Economic Corridor (Figure 1).^M The port opened in 2013, with a Chinese

firm as the operator.^H The Gwadar port guarantees China's naval ships' maintenance and supply in the Indian Ocean.^M Access to Gwadar provides China with other strategic advantages. In 2013, the Indian Defense Minister A K Antony referred to China's access to Gwadar Port as, "a matter of concern [to India]."^M Gwadar also provides a shorter alternative for China to get to or receive logistics from the Indian Ocean and the Middle East, reducing cost and time. China also sold attack submarines to Pakistan to entice the BRI enhancement.^M



Figure 3 Hambantota Port, Sri Lanka.

Source:

Through the Sri Lankan debt mitigation decision, a Chinese owned company gained a 99-year lease to control the BRI strategic seaport

of Hambantota.^H Similar to Gwadar, the lease allows the PRC to use the port as a PLA Navy base.^M

China keeps Bangladesh in its sphere of influence east of India by equipping Bangladesh's military with Chinese-built Army, Navy, and Airforce weapon systems and providing joint training between the PRC and Bangladesh's forces.^M These are in addition to deals China made with Bangladesh on financial assistance and BRI project funding, including a water management project.^M

After the deal with Bangladesh fell through, China turned to Myanmar for an alternative strategic port and the two countries signed an agreement for a deep-water port in the town of Kyauk Pyu.^M At the same venue, where Chinese oil and gas pipelines run across Myanmar to western China.^H The port's location is strategically on the bay of Bengal across from where India is developing a nuclear submarine base.^M



Figure 4 Kyauk Pyu Port, Rhakein State, Myanmar.

Source: [Bing.com](https://www.bing.com)

In the South China Sea, PRC recently completed a high-speed train BRI project that shortened travel time between Yunnan province, China, and Vientiane, Laos, from 15 hours to 4 hours. The potential strategic

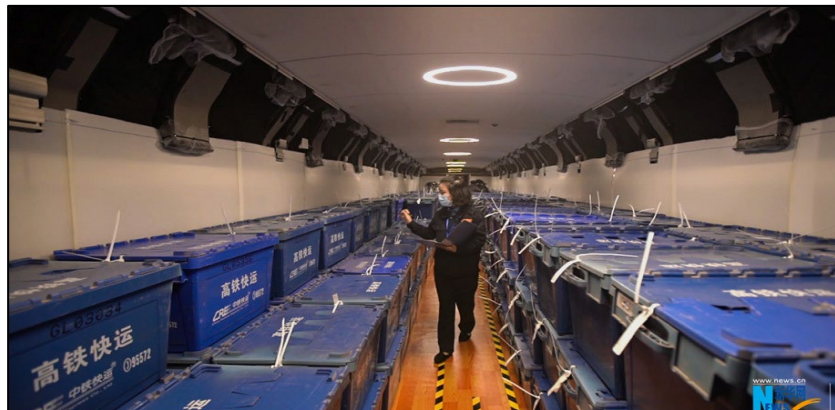


Figure 5 Inside High-Speed Freight Train Cargo Bay in China.

Source: news.cgtn.com

importance is the PRC could use the bullet train to reduce troops and logistics (See Figure 5) transfer time from China to Laos and Cambodia and vice versa.^M Having a maneuver corridor through Laos also provides a direct land link to the potential strategic support base in southern Cambodia (Ream Naval Base, Dakor and Sihanoukville Ports, and Dakor Airport (See [Cambodia](#) Report)). Additionally, China just assured Cambodia of its sphere of influence by signing a memorandum of agreement with Cambodia at the end of March for military cooperation.^M Another BRI-based landpower generation option for China is in the Philippines (See [Subic Bay](#) Report).

The close relationship between China and Indonesia is noteworthy as these are the world's second-largest economies and Southeast Asia's largest economies, respectively.^M Indonesian political parties are building close relations with China despite their anti-communist ideology.^M Most recently, China has been working on a security pact that would give its warships access to a safe harbor within 1,200 miles of the Australian coast.^M The pact, once signed, will allow China to deploy security and military forces to the Solomon Islands and the Islands to request help from China to provide forces to maintain social order.^H At the time of this writing, the status of the pact was unclear, but it is sure to spark some opposition from the U.S. and its allies and partners.

Some concerns evolved, particularly considering the belief that China imposed debt trap on financially troubled BRI participants; however, analysts countered such a view in one study, "*The Chinese 'Debt Trap' Is a Myth.*"^M The study showed that other countries whose companies pursued similar investments in the same financially troubled nations participated in the Chinese BRI and that Chinese banks never seized an asset from any counter and were willing to restructure the existing loans.^M

Beliefs and myths regarding BRI aside, the analyst posits that China's pursuit of access to distant seaports, naval bases, airports, and landmass as opportunities occurred reflects its effort to increase its landpower and extend its maneuver space between now and 2049. The increased acquisition may be China's scheme of maneuver in a slow fight strategy in theater setting that will change the Indo-Pacific region landscape. According to a Taiwanese senior Army officer, Chinese characters for the American word, "landpower", "陸上戰力" or "地面戰力" translate directly to the phrase, "combat strength on land."

Analytic Confidence

The analytic confidence for this estimate is *moderate*. Sources were generally reliable and tended to corroborate one another. There was adequate time, but the analyst worked alone and did not use a structured method. Furthermore, given the lengthy time frame of the estimate, this report is sensitive to change due to new information.

Author: Pratyā "Lek" Siriwa

Annex H – Cambodia Analytical Report

China's Use Of Facilities In Cambodia As A Strategic Support Base To Influence The Operational Environment Highly Likely Between 2025-2027

Executive Summary

China's infrastructure investments along the Southern shoreline of Cambodia and China's support for Ream Naval Base rebuilding make China's use of facilities in Cambodia as a strategic support base to influence the operational environment highly likely (71%-85%) between 2025-2027. The likelihood forecast included the Cambodian government's denial of China's military link to the facilities.

Discussion

Area development for the projects along the coastline in Cambodia follows the same model for the Belt and Road Initiative (BRI) projects in Djibouti and the military base construction in the Spratly Islands.^H The links between these projects and Chinese assistance in the modernization of Ream facilities support the forecast for the military connection.^H

On the BRI projects, a Chinese company acquired a 99-year lease for an infrastructure investment covering 139 square miles of territory along 20 percent of the country's coastline (See Figure 1) in Cambodia's Koh Kong province.^{MH}

The Dara Sakor is a \$3.8 billion China-backed^H BRI project that

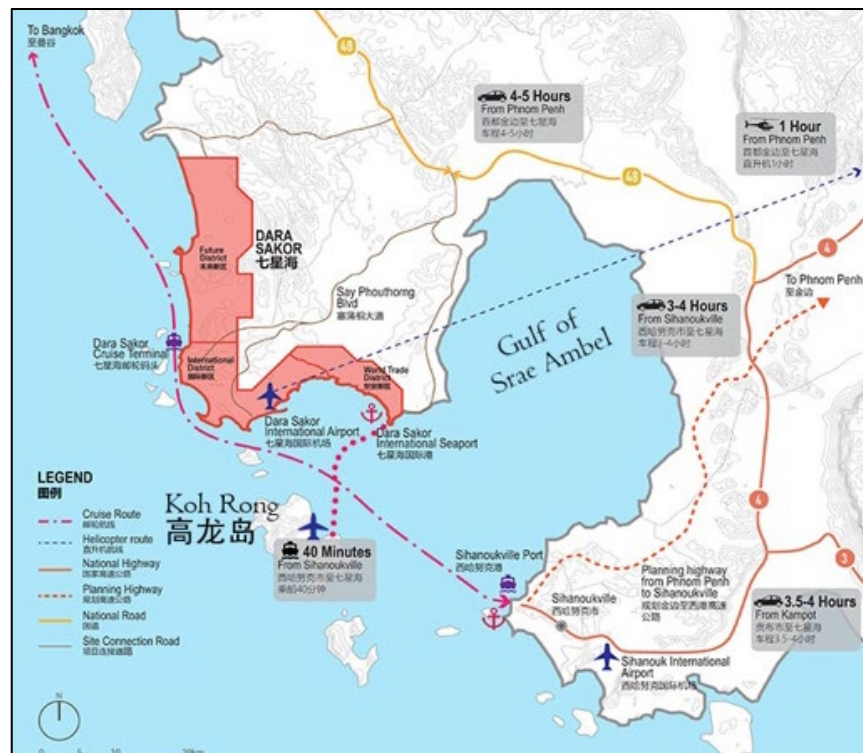


Figure 1 Beyond Realty map of Dara Sakor Project.
Source: beyondrealty.asia

included the construction of resort facilities, an international airport, a deep-water port, and an industrial park that would become a self-sufficient resort economy.^{[MMH](#)}

Dara Sakor is in Koh Kong and the Koh Kong International airport (See Figures 2 and 3) would be able to handle various PLA Air Force (PLAAF) aircraft and Boeing 777, A340, and equivalent sized airplanes.^{[M](#)} This airport has the longest runway in Cambodia, with aircraft turning bays just the right size for fighter jets.^{[H](#)}



Figure 2 Dara Sakor International Airport under construction.
Source: [nytimes.com](https://www.nytimes.com)

U.S. analysts reported a potential dual civilian-military use of these facilities. The connection to BRI makes it highly likely that the People's Liberation Army (PLA) will leverage the facilities to create a favorable strategic support environment.^{[H](#)}

In the area east of the airport, analysts estimated that the new deep-water seaport would be large enough to host PLA Navy (PLAN), including Chinese frigates, destroyers, and other vessels (See Figure 4).^{[M](#)} Also, 18 miles southeast of Koh Kong, across the Bay of



Figure 3 Completed Koh Kong Airport Advertisement.
Source: eacnews.asia

Kompong Som, PLAN's continued to engage in activities in the vicinity of Sihanoukville Autonomous Port.^{[H](#)}

For instance, three PLAN warships made an official visit to Sihanoukville Port in January 2019 to strengthen bilateral military ties between China and Cambodia governments, celebrate recent Koh Rong Island achievements, and inaugurate a new naval outpost built to enhance information management and future maritime security.^M The visit solidified that the Sihanoukville Port authority supports and will support the coordination around the Bay to secure PLAN's maneuver corridor between the Dara Sakor seaport and Ream Naval Base when there is a need for PLAN's operations (See Figure 1).^M

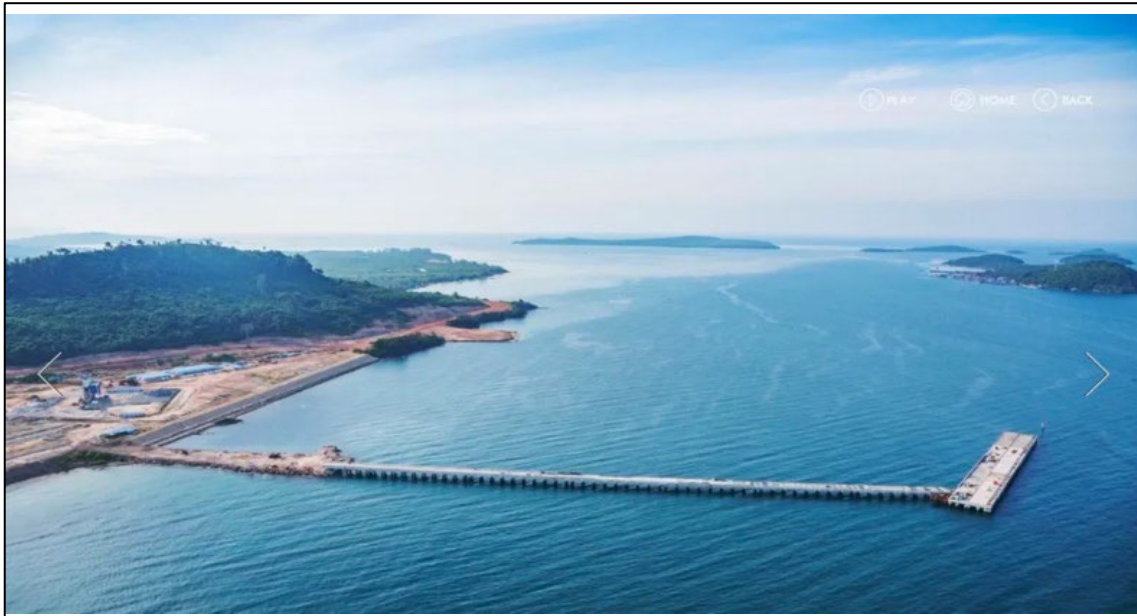


Figure 4 Koh Kong deep-water International Seaport under construction.
Source: c4ads.org/reports

Cambodia also signed a 30-year deal that allowed China to use Ream to station warriors and warships.^H In the past few years, Cambodian and Chinese officials denied the agreement existed,^{HMM} and claimed China was not establishing a military presence in Cambodia.^M However, the PLAN's visit to Sihanoukville Port in January 2019 reflected the fourth visit by the PLAN formation during that recent timeframe.^M Other links between China and Cambodia's relationship included China's investment in the Cambodian military by ways of sizeable donations.^M In June 2021, the Cambodian Defense Minister finally confirmed that China was assisting in building infrastructure at Ream Naval Base but with no strings attached (see Figure 5).^M In late March 2022, Cambodian and China's senior military official signed a deal "as Beijing seeks to counter

U.S. influence.”^M The opaqueness of the Cambodia-China relationship remains of concern to the U.S. for the potential of Chinese military maneuvering to expand maneuver, logistics, and protection space in Cambodia.^{HH}

Beyond military investment, China is the largest investor in Cambodia, and China-backed projects covered much of the infrastructure improvement across the country.^M China holds nearly half of Cambodia's \$6 billion in foreign debt.^M China's incorporation of infrastructure projects into BRI echoes the likelihood that PLA will leverage its military presence to create a favorable strategic environment in Cambodia.^H Some analysts estimate that Beijing uses a debt trap to impose its compliant wishes, including potential military base facilities on the ruling Cambodian People's Party.^M U.S. should worry more about what appears to be a military and airbase at nearby Dara Sakor than China's shadowy access to Ream.^H



Figure 5 Satellite photo of facilities and road constructions at Ream Naval Base (10-3-21).

Source: amti.csis.org

Analytic Confidence

The analytic confidence for this estimate is *moderate*. Sources were generally reliable and tended to corroborate one another. There was adequate time, but the analyst worked alone and did not use a structured method. Furthermore, given the lengthy time frame of the estimate, this report is sensitive to change due to new information.

Author: Pratya “Lek” Siriwat

Annex I – Semiconductor Analytical Report

Chinese Foreign Semiconductor Dependence Upon Taiwan Makes Invasion Unlikely Before 2026-2031

Executive Summary

China's heavy reliance upon Taiwanese state-of-the-art (SOTA) computer chips required to fuel their advanced military programs and civilian economy coupled with the lack of sophisticated chip manufacturing capabilities make an invasion of Taiwan unlikely (31-45%) until China achieves semiconductor independence likely (56-70%) after 2026-2031. Since China makes virtually no highly advanced chips to support modernized multi domain operations, it relies heavily on Taiwan who produces 92% of the world's SOTA semiconductors. The potential destruction of Taiwanese chip manufacturing foundries renders invasion unlikely. Since the United States currently limits worldwide transfer of technology and equipment necessary to build SOTA chip foundries, China will likely not reach chip independence anytime soon.

Discussion

China requires imported SOTA semiconductor chips for strategic military applications like artificial intelligence, surveillance equipment and drones.^H The Chinese civilian sector produces 36% of the world's electronic devices^M while importing 90% of its semiconductor chips.^H Two Chinese major national strategic objectives include national security and continuing economic development^H and thus require semiconductor chips to produce the

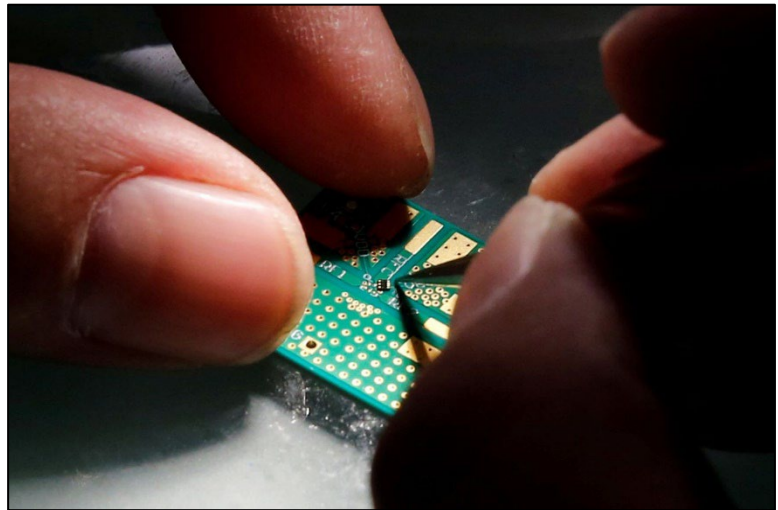


Figure 1 Semiconductor chip placed on interface board.

Source: [WSJ.com](https://www.wsj.com)

technological products and devices to support their key strategic principles. China cannot manufacture any SOTA chips and only contributes 15% of the world's semiconductor chips^H (See Figure 1). For these reasons China seeks to produce 70% of all needed semiconductors by 2025,^H although with current U.S. technology transfer sanctions and time required to build foundries, attaining this goal is unlikely. Until China achieves chip independence, it is unlikely to take military actions that interfere with this strategy.^H

Taiwan is the world's leading manufacturer of SOTA chips with transistors less than 10 nanometers in size required for advanced military weaponry.^H Specifically, Taiwan produces 92% of these chips globally,^H while South Korea makes 8%.^{MH} Since semiconductor chip output is proprietary and confidential, capacities are only expressed as percentages^H making exact comparisons difficult. Since Taiwan produces 92% of the world's SOTA chips, China requires these chips for military modernization and produces no SOTA chips, and China seeks to develop the same chip making capability, China is therefore highly dependent upon Taiwan for this valuable technological resource.^H Some of Taiwan's chip foundries in Hsinchu are 12 km from possible invasion beaches while all others are within 130 km of the west coast and are at risk of damage during an invasion^H (See figure 2 and inset of invasion beaches^H). The loss of these SOTA semiconductor chip foundries would deprive China of its source of this needed military technology.

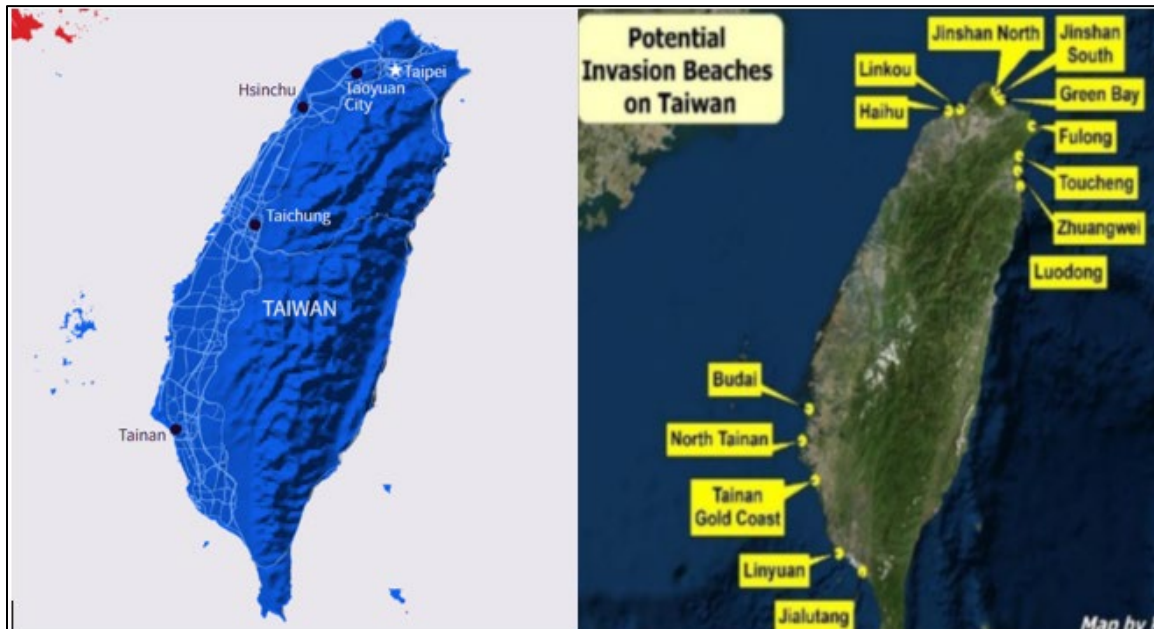


Figure 2 Vulnerable foundry cities near west coast of Taiwan and potential invasion beaches.

Source: [Reuters](#)

China is unlikely to achieve SOTA semiconductor chip independence until 2030^H due to lack of the ability to acquire semiconductor manufacturing equipment (SME) and the technological capability to produce such equipment.^H The most sophisticated SOTA 5nm-10nm or smaller chips^H require foundries with extreme ultraviolet lithography machines only available from the Dutch company ASML,^H chip design software from mostly U.S. companies and significant capital investment.^{HH} China's centrally controlled current chip manufacturing capability is a limited number of 14nm chips, despite 18 billion dollar chip subsidies in 2018,^H but plans to increase subsidies to 100 billion dollars.^H Taiwan Semiconductor Manufacturing (TSMC), the leading SOTA chip producer, invests over 30 billion dollars per year in comparison.^H It will be difficult for

China to effectively compete in this dynamic market.^H Without the capacity to manufacture its own high end equipment^H and the U.S. limiting China's ability to purchase SOTA chip manufacturing equipment,^H multiple authors conclude that China will not reach chip independence before 2026-2031.^{HHH}

Taiwan's dominance of the SOTA chip industry with Chinese dependence,^H its potential destruction during a Chinese invasion,^{HH} deliberate self-destruction,^H and even U.S. semiconductor chip dependence and corresponding defense of Taiwan^H render a Chinese invasion unlikely. Although some authors cite a potential lack of world unity that currently limits China's acquisition of SOTA technology and subject matters experts, ASML is highly likely (71-85%) to remain the only firm capable of producing the presses to manufacture SOTA semiconductors. China is therefore highly unlikely (16-30%) to build their own SOTA foundries before 2031. The primary indicator of impending Chinese military action would likely therefore include a massive SOTA chip stockpiling far beyond market needs.

Analytic Confidence

The analytic confidence for this estimate is *moderate*. Sources were reliable and data proved consistent between sources. There was inadequate time given the highly technical nature and breadth of the subject, the analyst worked alone and did not use a structured method. Furthermore, given the lengthy time frame of the estimate, rapid technological changes, and global nature of field, this report is subject to market changes in this highly competitive environment.

Author: John Cletus Paumier

