The background of the entire page is a world map with a grid overlay, resembling a Go board. White and black Go stones are placed on various intersections of the grid. The map shows continents in green and oceans in blue. The stones are arranged in a way that suggests a strategic game, with a high concentration of stones in the upper left and lower right areas.

CHINA'S USE OF

# Land Power

for the  
Unification  
of Taiwan



# UNITED STATES ARMY WAR COLLEGE

STRENGTH & WISDOM

**The views expressed herein are those of the author(s) and do not necessarily reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government. The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation**

## ABOUT THIS DOCUMENT

The student team, “Pacific Warrior,” prepared this document as a group project as a requirement to complete the Master of Strategic Studies degree from the United States Army War College (USAWC). The research, analysis, and production of this product occurred over 28 weeks from October 2021 through 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. 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 interviews, case studies, social networking analysis, nominal group technique, and prediction markets. 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 questions presented by the strategic leader.

### Requirement

This report answers questions 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 questions:

*What are the options available to China for the generation of a credible landpower<sup>1</sup> force that will set the conditions to achieve unification with Taiwan between now and 2049?*

- *What will mobilization likely look like in terms of the political, military, economic, social, information, infrastructure, physical environment, and time (PMESII-PT) operational variable framework?*



Taiwan reservists take part in a military training  
Source: [CNN](#)

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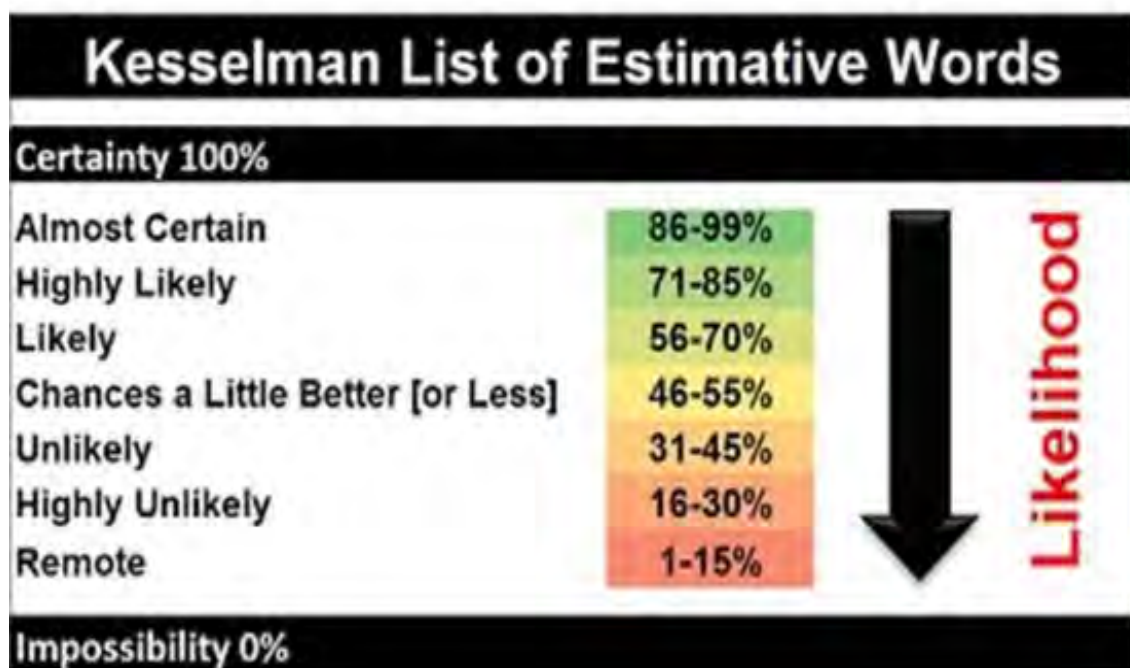
<sup>1</sup> Landpower is defined as the ability to influence populations using threat, force, or occupation to gain, sustain, and exploit control of land, resources, and people. The effective application of landpower is inherently joint and multi-domain.



- *What are potential signs of impending major Chinese actions to create regional instability as it relates to Taiwan?*
- *What are the possible indications and warnings of large Chinese force generation?*
- *From initial indications, how long will force development likely take?*

### 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.



### 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 <sup>H</sup>, <sup>M</sup>, or <sup>L</sup> 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 C](#)) 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 D](#)) coupled with Friedman Corollaries ([Annex E](#)).



A handwritten signature in black ink, appearing to be "Lee Hemming".

**Lee Hemming**  
Lieutenant Colonel, U.S.M.C.

A handwritten signature in black ink, appearing to be "Randy Paul Lefebvre".

**Randy Paul Lefebvre**  
Lieutenant Colonel, U.S.A.

A handwritten signature in black ink, appearing to be "Matthew 'Kip' Marsh".

**Matthew "Kip" Marsh**  
Lieutenant Colonel, U.S.A.

A handwritten signature in black ink, appearing to be "John Cletus Paumier".

**John Cletus Paumier**  
Colonel, U.S.A.R.

A handwritten signature in black ink, appearing to be "Pratya 'Lek' Siriwat".

**Pratya "Lek" Siriwat**  
D.A. Civilian

# **What are the options available to China for the generation of a credible landpower<sup>1</sup> 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 landpower<sup>2</sup>. 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.

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<sup>2</sup>For 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).

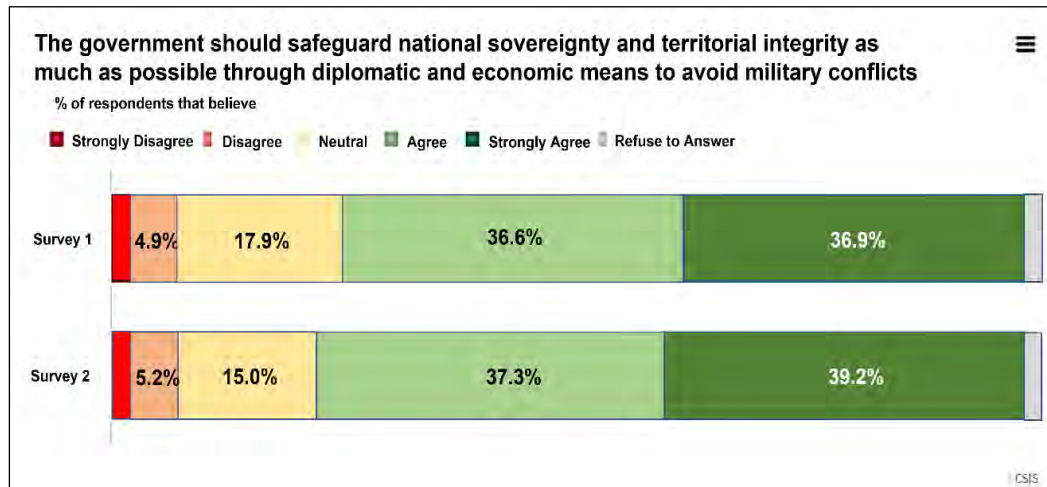


Figure 2 Center for Strategic and International Studies article based on 2019 Pan and Xu Public Opinion Survey.  
Source: [CSIS](#)

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).

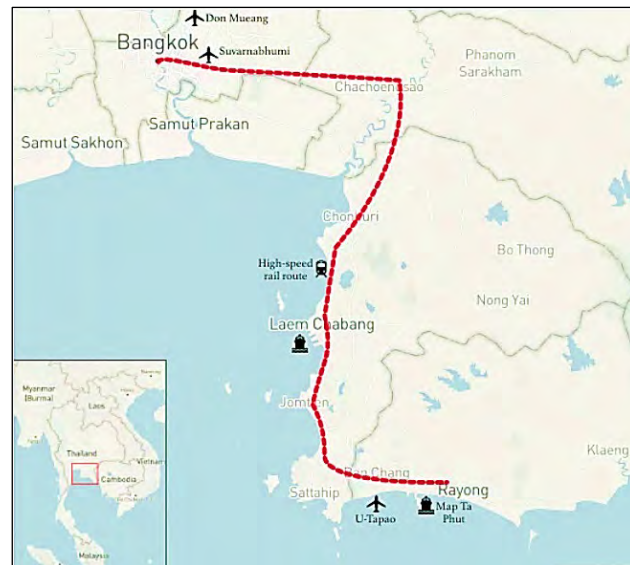


Figure 3 Thailand's Eastern Economic Corridor.

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.
  - Commensurate with the training evolution is the selection and development of a new officer corps that seeks through modernized professional military

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

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
Total Ground Force Personnel	1,040,000	416,000	88,000
Group Armies/Army Corps	13	5	3
Combined Arms Brigades	78	30 (6 Amphibious)	NA
Mechanized Infantry Brigades	N/A		3
Motorized Infantry Brigades			6
Armor Brigades			4
Army Aviation/Air Assault Brigades	15	5	4
Artillery Brigades	15	5	3
Airborne Brigades	7	7	0
Marine Brigades	8	5	2
Tanks	6,300	.	800
Artillery Pieces	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](#)



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



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

transport will likely require a similar number of ships including the use of dual use civilian vessels such as ferries.

- 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-Zhonnghua, 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).

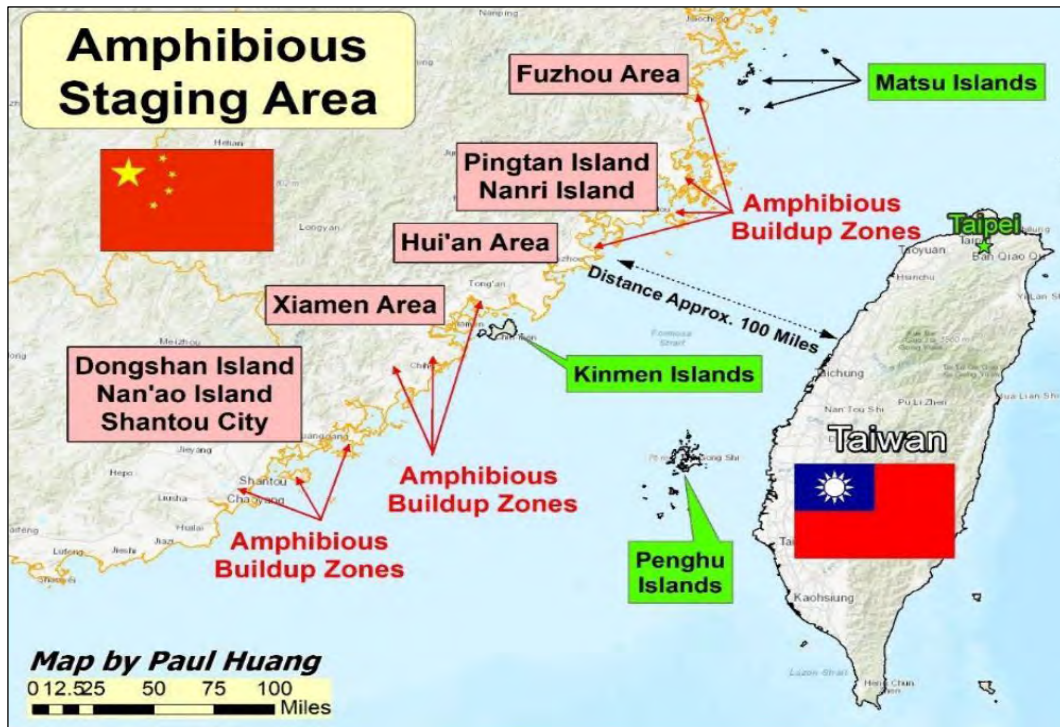


Figure 6 PLA Amphibious Staging Areas.

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.

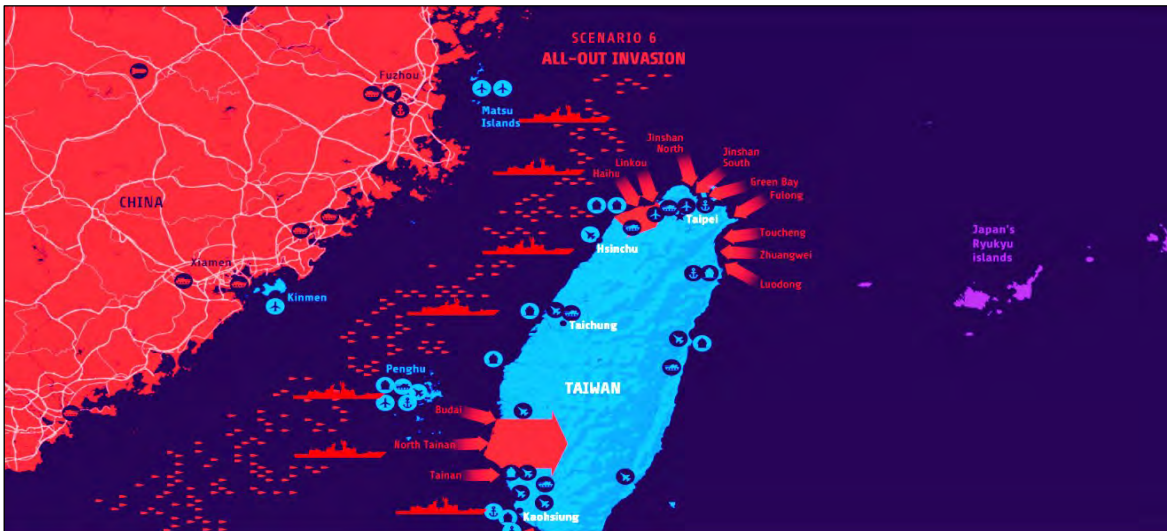


Figure 7 Graphic depiction of Battle for Taiwan with a full amphibious invasion.  
Source: [Reuters](#)

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-Strait 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-Strait 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.



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# China's Use Of Time Domain, Opportunities, Land Domain, And Maneuver Highly Likely Generate Credible Landpower Force To Set Conditions Between 2027 And 2035 Achieving Unification With Taiwan Between 2035 And 2049

## Executive Summary

Despite the People's Liberation Army's (PLA) insufficient force structure, incomplete force modernization, and deficient force readiness, China's use of time domain, and maneuver is highly likely (71%-85%) generate a credible landpower force to set the conditions between 2027-2035 to achieve unification with Taiwan between 2035 and 2049. The Great Power Competition allows China to scan the strategic environments, periodically assess its long-term goals, explore an operational variable framework to maneuver across the globe effectively, and complete its objectives to win without a fight. The People's Republic of China (PRC) complements its current trajectory for the completion of the comprehensive multi-phase military modernization by 2035 with the implementation of the National Informatization (DigiChina) plan and Military-Civil-Fusion (MCF) strategy (technology-focused); and the continued execution of the Belt and Road Initiative (BRI) and diplomatic engagement in an international reach (strategic deterrence, expanded maneuver space, basing, and partnership focused).

## Discussion

General Charles A. Flynn, the 37<sup>th</sup> Commanding General of the US Army Pacific once stated, "The effective application of landpower is inherently joint and multi-domain" (See Annex A). In addition, a definition of Chinese characters proximate to the American word,

landpower, "陸上戰力" or "地面戰力," according to a Taiwanese Army Officer, translates to "combat strength on land." This report presents options available to China for the generation of a credible landpower force that will set the conditions to achieve unification



Figure 1 China powered skeleton suit for carrying ammunition for delivery in Tibet Autonomous Region.

Source: [globaltimes.cn](http://globaltimes.cn)



with Taiwan between now and 2049 through the framework of time (domain), opportunities (gateways), land (power), and maneuver. Analysts will see that time, given the target date of 2049 is on China's side, as the window of opportunity is over a quarter of a century. With time-space and window of opportunities, analysts will see connections between them and the function of maneuver for a credible landpower.

Notably, Xi Jinping announced a plan in 2013 to reform the military to be able execute the Chinese Communist Party (CCP) political will,<sup>H</sup> setting the conditions for the slow fight. Xi Jinping maneuvered on the political front to generate options to enable whole-of-government participation in achieving the Chinese Dream of 2049 by implementing the MCF strategy in 2015.<sup>H</sup> The MCF aims to enable the PRC to develop the most advanced technology while eliminating barriers to allow the PRC to develop the most advanced technology while eliminating barriers between China's civilian research and commercial sectors and its military and defense industrial sectors.<sup>H</sup> The focus is to innovate Chinese military strategy and doctrine on emerging warfighting domains, including outer space, cyberspace, and the human cognitive environment<sup>H</sup> (See [A2AD](#), [Small Drone](#) Reports). The CCP implemented this strategy as a political option, not just through its research and development efforts but also by acquiring and diverting the world's cutting-edge technologies – including theft – to achieve military dominance.<sup>H</sup> Furthermore, the PRC



Figure 2 China investing in Artificial Intelligence Warfare.

Source: [massengiladvisory.com](http://massengiladvisory.com)

issued the DigiChina policy, (See Figure 2); the PLA's leveraging of national defense big data to support an evolved system-of-systems or algorithm-based approach to armed conflict is at the center of the innovative effort.<sup>H</sup> Xi Jinping stressed that without

informatization, there is no modernization, and informatization brings opportunities<sup>H</sup> (See [Chips](#), [A2AD](#), [C4ISR](#), [Small Drone](#), [Information](#), and [AI](#) Reports)

Since the earnest beginning of the modernization, the PLA has been focusing its modernization on enhanced joint operations and rapid response capabilities to achieve strategic deterrence and overmatch through advancements in technology, training, national command and control structure, and doctrine to overcome insufficient force structure, incomplete force modernization, and deficient force readiness.<sup>H</sup> Analysts reviewed the current modernization status and provided forecast reports with high likelihood that reflect PLA's achieving its goal between 2027 and 2035 (See [Troops](#), [Training](#), [A2AD](#), [C4ISR](#), [Small Drone](#), [Operations](#), [Force](#), [Amphibious](#), [Information](#), and [AI](#) Reports). From initial indications, China will unlikely be able to assemble and prepare a large force (See [Troops Report](#)) before 2035.

The paring of political maneuverability and the opportunity to bridge the gap between civil technological capabilities with those of the military and blending in the national digital policy at the center reflects the exercise of a strategic option to promote an environment of the economy of critical resources – time and money<sup>HH</sup> (See Figures 3 and 4 for examples of China's progress in MCF, DigiChina and Military Modernization).



Figure 3 Chinese AI turns commercial satellite into a spy tracker.

Source: [scmp.com](http://scmp.com)



Figure 4 China's bullet train linking Tibet transports troops.

Source: [wionews.com](http://wionews.com)

Reducing requirement in time as a domain on the interior line of defense immediate to the mainland for its defense enterprise management allows the PRC to access and pair time with exterior land, maneuverability, and opportunities in exploring and executing other option to build a credible landpower. To such point, the PRC has been taking opportunistic advantage of the BRI which the Chinese government calls “a bid to enhance regional connectivity and embrace a brighter future.”<sup>[M](#)</sup>

China has been maneuvering through BRI connecting Asia, Africa and Europe over 200 participating countries and international organizations, some with controversial status.<sup>[M](#)</sup> China has pledged to spend US\$1 trillion over the coming decades, which it believes will leverage up to US\$8 trillion in development finance from other sources, both private and public. In total, China has already spent an estimated US\$200 billion on such efforts. Morgan Stanley has predicted China’s overall expenses over the life of the BRI could reach US\$1.2-2.3 trillion by 2027, though estimates on total investments vary.<sup>[M](#)</sup>

Regardless of the status of the initiatives, China continued to gain connectivity with and access to more countries in the Indo-Pacific region, especially those with land-sea access



Figure 5 A view from the Port of Doraleh, Djibouti (near China’s first overseas military base.

Source: [UN Photo via Flickr.com](#)

that China can potentially use as an option to generate a credible landpower in terms of expanded maneuver space, basing, and partnership (See [Cambodia](#), [India](#), [BRI](#), and [Subic Bay](#) Reports for analyses, and Figure 6 for locations China recently gained access for base use and potential basing).



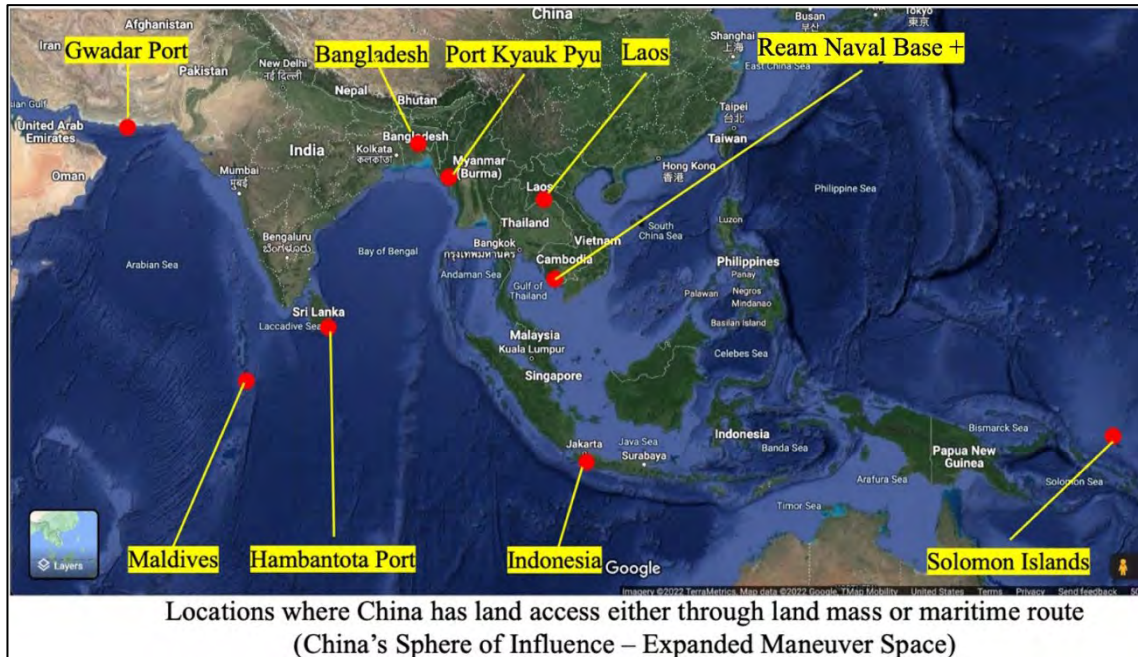


Figure 6 Map of PLA's Landpower Sphere of Influence. Overlay drawing done by the analyst.  
Background Map Source: [Google.com](https://www.google.com/maps)

In addition, BRI is a key factor in providing China with a strategic deterrence capabilities – both in terms of hard power and soft power.<sup>H</sup> As an analyst on China's use of BRI stated, "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" (See [BRI](#) Report). Of note is the BRI project has a target completion date of 2049 which coincide with the centennial of the People's Republic of China (PRC)'s founding and the goal date for PRC's unification with Taiwan. Also, the general alignment of open-source information analyses the PLA's modernization completion dates are between 2027 and 2035. China's use of time domain, opportunities, land domain, and maneuver highly likely generate credible landpower force to Set conditions between 2027 and 2035 achieving unification with Taiwan between 2035 and 2049.

### 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

# CCP's Ineffective Information Warfare Highly Likely To Escalate Military Coercion By 2035

## Executive Summary

Despite the People's Liberation Army's (PLA) development of information warfare (IW) doctrine and ongoing information operations designed to undermine the government of Taiwan and weaken the will of their populace, the Chinese Communist Party (CCP) is unlikely (31-45%) to create favorable conditions for reunification through non-military-centric IW techniques alone, thus the PLA is highly likely (71-85%) to increase military coercion to create conditions for reunification by 2035. Due to demonstrated CCP policies and galvanizing IW outcomes, each successive Taiwanese generation views themselves as separate from Chinese political rule, if not Chinese culture.

## Discussion

Though the Chinese IW concept predates the formalized 2003 doctrine, the PLA, as part of a Chinese whole-of-government approach, published the “Three Warfares” doctrine which aims to maintain and improve CCP control of their population and adversaries through psychological, public opinion, and legal means.<sup>H</sup> These “grey-zone” tactics attempt to achieve

overmatch within what the PLA frames as cognitive domain operations (CDO):<sup>H</sup> operations to manipulate perceptions through propaganda, “cutting off historical memory” to make targets open to CCP values and ideology, and employing “deconstructing symbols” to challenge a target population's national identity.<sup>H</sup> Notable CCP IW operations include the 1996 use of military drills as a signal to the Taiwanese voters to not move towards democracy and independence, though this example ultimately did not change the outcome of the election.<sup>H</sup> One tragic example demonstrates the efficacy of information as a weapon. After a 2018 typhoon stranded Taiwanese tourists in Japan, China created a disinformation campaign designed to depict the government of Taiwan as unable to protect their citizens.<sup>H</sup> This campaign led to the suicide of the director



Figure 1 Taiwanese government official announcing the refusal to renew pro-Chinese news outlet's broadcast license.

Source: [Associated Press/Independent News](#)



of Taiwan's governmental office in Japan.<sup>M</sup> Many high-profile information-related events clearly outline the CCP's attempts to manipulate the perceptions of the Taiwanese populace. In 2019, the CCP's Taiwan Affairs Office and other CCP-connected offices paid five Taiwanese media groups to run pro-reunification news stories.<sup>M</sup> The government of Taiwan responded by not renewing the media licenses to media groups known to propagate CCP disinformation (see figure 1), banning Chinese internet media platforms, passing election interference laws, and educating the populace about media bias.<sup>H</sup> Taiwanese civil society also responded to the risk of malign information through the development of media fact checking initiatives.<sup>M</sup>

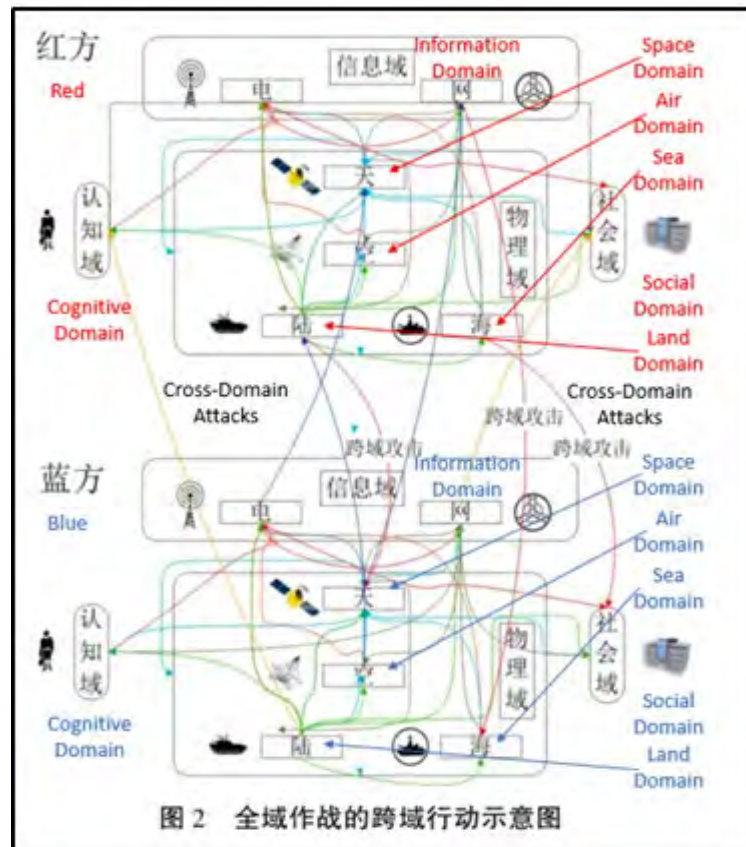


Figure 2 Chinese conception of cognitive warfare as a domain.  
Source: [The Jamestown Foundation](#)

In aggregate, Taiwan's government and populace do not appear susceptible to the CCP's IW operations if measured by public opinion towards the CCP. Citing the hostile actions the PRC takes against Taiwan, a 2021 Brookings's Institute survey demonstrates the Taiwanese populace only exhibit an 8% positivity rating towards the PRC government, with 66% exhibiting a negative view.<sup>H</sup> The overall negative rating vastly increases as the age of the populace decreases, thus younger Taiwanese generations view themselves apart from PRC rule, if not the Chinese culture.<sup>H</sup> Similarly, nearly 73% of the Taiwanese populace state they are willing to fight if China attempts forceable reunification.<sup>M</sup>

CCP IW executed through diplomatic, information, military, and economic coercion have yet to cause Taiwan to acquiesce to the "One-China, Two-Systems" construct; although, Chinese messaging through the coercive use of their instruments of national power combined with Taiwan's current domestic preferences for stability have maintained the status-quo relationship.<sup>H</sup> In line with the PLA's CDO concept (See Figure 2), the use of military operations challenges Taiwanese military resources, undermines civilian psychological safety, and desensitizes both the military and civilians to consistent PLA

presence within their air-defense identification zone.<sup>H</sup> The relative ineffective application of diplomatic and economic coercion has already led to an increase in use of military actions as a means of IW – a trend that will continue<sup>H</sup> as the CCP invests in the PLA to field a fully modernized force by 2035.<sup>H</sup> The escalating PLA military activity draws further U.S. military and diplomatic support to Taiwan to counter the escalation, which in turn produces increased PLA activity to maintain the psychological pressure on Taiwan, thereby creating an escalation cycle that creates conditions for kinetic conflict.<sup>H</sup> Indeed, on April 4, 2016, the Taiwan Foreign Ministry released a statement in reaction to PLA drills near Taiwan, “The threat of force by the Chinese Communist Party...will only strengthen the Taiwanese people’s will to defend freedom and democracy, and will also attract support for democratic Taiwan from the United States and even more democratic partners.”<sup>H</sup>

### **Analytic Confidence**

Analytical confidence in this estimate is *moderate*. The analyst had adequate time to provide an initial estimate; however, the interplay between the diplomatic, information, military, and economic instruments of national power and the societies they are leveraged against are complex, thus the overall impact on Taiwanese society can change based on changes to the socio-political environment over time. The reliability of sources is of good quality. Overall analyst collaboration is strong.

*Author: Matthew “Kip” Marsh*

# CCP Will Likely Leverage Landpower For Small Island Invasion To Coerce Taiwan Towards Unification After 2027

## Executive Summary

Despite a land force large enough in scale and the presence of joint doctrine suggesting the capability for cross-strait forced reunification, the Chinese Communist Party (CCP) will likely (56-70%) maneuver landpower to invade smaller islands currently administered by Taiwan as an intermediate action between coerced and forced reunification after 2027. This escalation transitions between grey-zone tactics and kinetic actions short of direct confrontation with the main island of Taiwan, thus strongly enhancing the information warfare (IW) narrative designed to force Taiwanese capitulation without the use of further force. The CCP will likely increase Army and Marine personnel, with requisite naval transport capacity, to further enhance the IW pressure and demonstrate a credible landpower force.

## Discussion

The total People's Liberation Army (PLA) active and reserve force currently consists of approximately 2 million personnel.<sup>H</sup> Active ground forces make up over half with approximately 1.04 million personnel plus nearly 460,000 reserve soldiers.<sup>H</sup>



Figure 1 PLA Marines training at a Bayingol, Xinjiang Uighur Autonomous Region training base.

Source: [Reuters](#)

Demonstrating the PLA's understanding of the importance of seizing and occupying ground, the PLA Navy's Marine force grew from 10,000 in 2017 to an estimated 25,000 30,000 as of 2020,<sup>H</sup> with plans to reorganize amphibious army units into the marines and grow to a total of 100,000 personnel.<sup>H</sup> Given the current size of Taiwan's active ground force of 88,000<sup>H</sup> with the combined active and reserve availability of at least 450,000,<sup>H</sup> and the minimal invasion force ratio of 3-to-1, the PLA must generate a ground force of nearly 1.3 million personnel to demonstrate a credible land force (See [Troops](#) Report). With reserve forces, the PLA theoretically have the land force structure to accomplish cross strait reunification. Per PLA doctrine, fielding this land force within effective joint

operations requires harnessing of technologies to disrupt opponents while facilitating multidomain battle.<sup>H</sup> Under Xi Jinping's direction since 2013, the PLA has updated their national command and control structure and heavily invested in advancing technologies and the training and doctrine required to effectively leverage their capabilities.<sup>H</sup> The updated technologies and doctrine, combined with the world leading military force structure, suggest adequate resources for forced cross-strait reunification.

Despite the PLA's capacity for large-scale kinetic operations, economic (See [Chips Report](#)), military training (See [Training Report](#)), and force structure (See [Force](#) and [Troops Reports](#)) factors exist that limit the CCP's immediate use of direct force to accomplish reunification. Below the level of large-scale combat, the CCP will likely utilize the PLA to maneuver within the South China Sea (SCS) and East China Sea regions to maximize cognitive domain operations designed to influence Taiwan to maintain status-quo political relations, and in the long-term, willingly reunite with mainland China (See [IW Report](#)). Though Xi Jinping's messaging towards Taiwan reunification vacillates from soft to hard, his stated desire remains peaceful reunification.<sup>H</sup> To this end, the CCP's landpower maneuvers reflect the ancient Chinese game of *Go*, in which encircling and acquiring territory leads to victory.<sup>H</sup>



Figure 2 PLA amphibious and combined arms training montage.  
Source: [The Sun](#)

Below the level of direct armed conflict with the main island of Taiwan, the CCP will likely invade smaller islands currently administered by Taiwan to meet multiple objectives - notably the maturation and exercise of joint operations, effectively testing Taiwanese and international will to defend smaller disputed territories, and in the case of the Pratas Atolls, acquire land of strategic importance to the ongoing multinational SCS disputes (See [Island Report](#)). The powerful cognitive domain operational aspect of these maneuvers potentially challenges the government of Taiwan's ability to protect sovereign territories and by extension their populace, thereby undermining their psychological safety and support of the government.<sup>H</sup> Other options exist that effectively contribute to the CCP's cognitive

domain operations; specifically, the generation of a trained land force of the appropriate size with the associated maritime transport capabilities to credibly complete a cross-strait invasion (See [Training](#), [Troops](#), and [Building Navy](#) Reports). The demonstration of small-island invasion(s), combined with a trained, adequately sized, and resourced landpower, further contributes to undermining the will of Taiwan and its partners. Short of large-scale conflict, the development of credible land forces, such as the planned 400 percent increase of PLA marines (See [Force](#) Report), sends a strong coercive message (see Figures 1 and 2),<sup>H</sup> particularly as the CCP fields a modernized joint force by 2035.

### **Analytic Confidence**

Analytical confidence in this estimate is *moderate*. The analyst had adequate time to provide an initial estimate; however, the CCP strategic direction depends upon multiple variables, including domestic, regional, and international considerations, which interact in a complex adaptive system. Outlier events such as Taiwanese actions to declare independence could precipitate forceful reunification actions ahead of currently forecasted timelines. The reliability of sources is of good quality. Overall analyst collaboration is strong.

*Author: Matthew “Kip” Marsh*



# China Is Highly Likely To Own The Subic Bay Port To Manage The South China Sea In Next 5-10 Years

## Executive Summary

China is strongly bidding to have control of the Subic Bay port to effectively manage the South China Sea in the next 5-10 years. The Philippine political leadership is strongly considering this course of action based on the financial struggles and to help offset other needs within the country. Despite the Philippines having the worst debt ever, China realizes this port is essential and one of the most strategic ports in the Philippines to provide logistic support.

## Discussion

According to Richard J. Heydarian, “A sudden and unexpected bankruptcy has provided China with a unique opportunity to win control of a Philippine port facility at Subic, the former site of US military bases that were closed in 1991 amid a surge of anti-American nationalism at the end of the Cold War. The local subsidiary of South Korean shipbuilding giant Hanjin Heavy Industries and Construction recently defaulted on more than US\$400 million in loans from local banks, representing the largest ever corporate default in Philippine history.”<sup>H</sup>

Journalist Michael Beltran of Sup China/Foreign Affairs states, “President Duterte says China owns the West Philippine Sea. The president’s policy is to appease China at the expense of our exclusive maritime zones and natural resources. President Duterte is making the Philippines a satellite state of China.”<sup>L</sup>



*Figure 1 An aerial view of port facilities at Subic Bay in a file photo consisting of 300 hectare Shipyard is the fifth largest in the world that opens onto the strategic and contested South China Sea.*

Source: [Asia Times](#)



Under the current administration in the Philippines, continuing to appease President Xi by signing 29 deals during Chinese President Xi Jinping's state visit, here are a few highlighting the growing cooperation

between the two countries highlighting, for example, Program for cooperation on industrial parks development; Implementation agreement of feasibility study for Panay-Guimaras-Negros islands bridges project; Contract for the project management consultancy of the Philippine National South Longhaul Project North-South Railway Project; MOU on basic education

cooperation between the Department of Education and China's Ministry of Education and involves cooperation on oil and gas development between the Philippines and China.<sup>M</sup> According to Pilar Manuel, "The Philippines' outstanding debt stock rose to a new high as of end-October, with the government

incurring more loans as the global health crisis rages on. The Bureau of Treasury on



*Figure 2 The Philippine Supreme Court Senior Associate Justice Antonio Carpio is concerned about China wanting to seize oil, and gas in Reed Bank if PH is unable to pay previous loans. To view, click on image.*

Source: [ABS-CBN News](#)



*Figure 3 The Philippine Subic Bay shipyard owned by China would cause concern in the Philippines as this was once the largest US naval facility in the Far East. Click on image to view.*

Source: [Update Defense](#)

Wednesday reported total outstanding loans of ₱11.97 trillion during the period, slightly surpassing the previous ₱11.91-trillion record set in September. October's figure represents a 19.38% increase from the ₱10.02 trillion tally and the bureau reported ₱8.46 trillion in domestic loans for the month, rising by 19.65% annually with the net issuance of government securities. Debts incurred locally comprised 70.7% of total borrowings.”[M](#)

### **Analytic Confidence**

The analytic confidence for this estimate is *moderate*. Sources were generally reliable and tended to corroborate one another. There were conflicting sources on how the Philippines' current administration wants to support China and how the upcoming administration potentially intends to change the relationship with China. There was adequate time, but the analyst worked alone and used limited resources. Furthermore, given the lengthy time frame of the estimate, this report is sensitive to change due to new information.

*Author: Randy P. Lefebvre*

# 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,<sup>H</sup> Beijing has invested in ports stretching from the eastern coast of Africa to the South China Sea long before.<sup>M</sup> 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.<sup>M</sup> “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.”<sup>M</sup> 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).

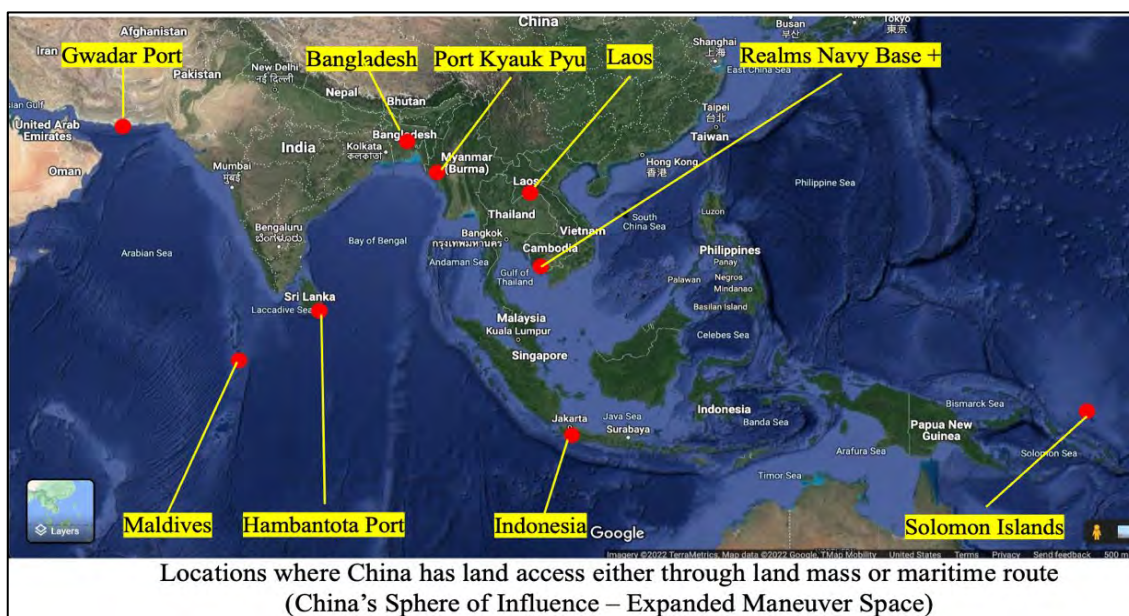


Figure 1 Map of PLA's Landpower Sphere of Influence. Overlay drawing done by the analyst.

Background Map Source: [Google.com](https://www.google.com/maps)



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.<sup>M</sup> 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.<sup>HM</sup>



Figure 2 Gwadar Port, Baluchistan, Pakistan.

Source: [Bing.com](https://www.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).<sup>M</sup> The port opened in 2013, with a Chinese firm as the operator.<sup>H</sup> The

Gwadar port guarantees China's naval ships' maintenance and supply in the Indian Ocean.<sup>M</sup> 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]."<sup>M</sup> 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.<sup>M</sup>



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.<sup>H</sup>

Similar to Gwadar, the lease allows the PRC to use the port as a PLA Navy base.<sup>M</sup> 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.<sup>M</sup> These are in addition to deals China made with Bangladesh on financial assistance and BRI project funding, including a water management project.<sup>M</sup>

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.<sup>M</sup> At the same venue, where Chinese oil and gas pipelines run



Figure 4 Kyauk Pyu Port, Rhakein State, Myanmar.  
Source: [Bing.com](https://www.bing.com)

across Myanmar to western China.<sup>H</sup> The port's location is strategically on the bay of Bengal across from where India is developing a nuclear submarine base.<sup>M</sup>

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 importance is the PRC could use the bullet

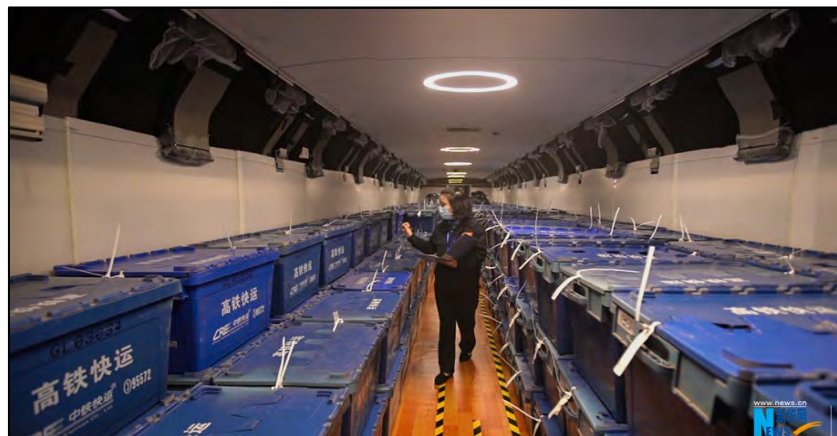


Figure 5 Inside High-Speed Freight Train Cargo Bay in China.  
Source: [news.cgtn.com](https://news.cgtn.com)

train to reduce troops and logistics (See Figure 5) transfer time from China to Laos and Cambodia and vice versa.<sup>M</sup> Having a maneuver corridor through Laos also provides a direct land link to the potential strategic support base in southern Cambodia (Realms 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.<sup>M</sup> 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.<sup>M</sup> Indonesian political parties are building close relations with China despite their anti-communist ideology.<sup>M</sup> 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.<sup>M</sup> 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.<sup>H</sup> 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.*"<sup>M</sup> 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.<sup>M</sup>

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*

# 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.<sup>H</sup> The links between these projects and Chinese assistance in the modernization of Ream facilities support the forecast for the military connection.<sup>H</sup>

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.<sup>MH</sup>

The Dara Sakor is a \$3.8 billion China-backed<sup>H</sup> BRI project that included the construction of

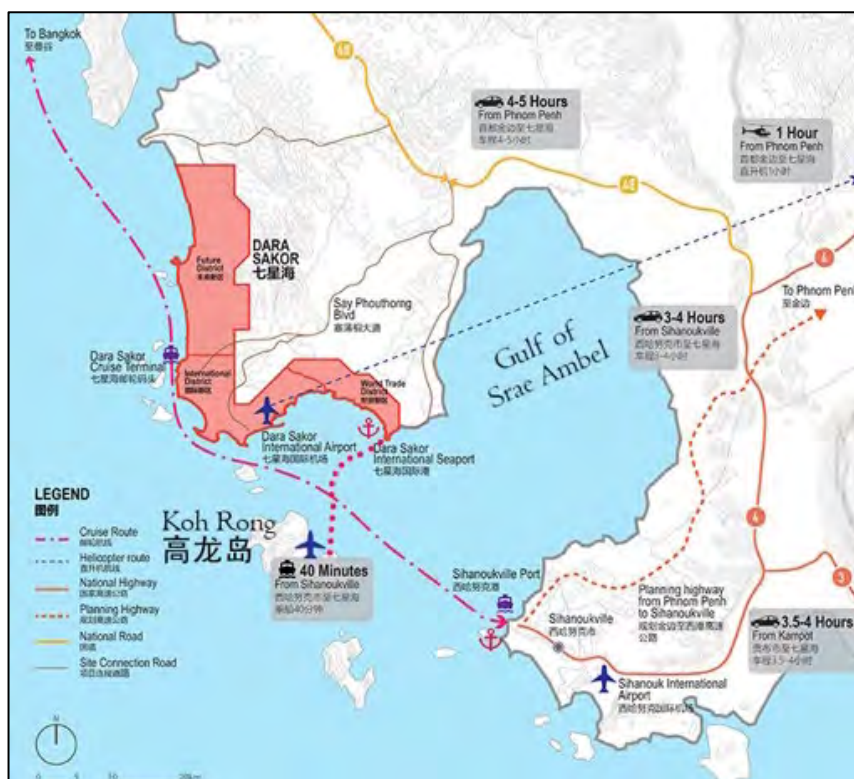


Figure 2 Beyond Realty map of Dara Sakor Project.  
Source: [beyondrealty.asia](https://beyondrealty.asia)

resort facilities, an international airport, a deep-water port, and an industrial park that would become a self-sufficient resort economy.<sup>[MMH](#)</sup>

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.<sup>[M](#)</sup> This airport has the longest runway in Cambodia, with aircraft turning bays just the right size for fighter jets.<sup>[H](#)</sup>



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.<sup>[H](#)</sup>

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).<sup>[M](#)</sup> Also, 18 miles southeast of Koh Kong, across the Bay of Kompong Som, PLAN's continued to engage in activities in the vicinity of Sihanoukville Autonomous Port.<sup>[H](#)</sup>



Figure 3 Completed Koh Kong Airport Advertisement.  
Source: [eacnews.asia](https://www.eacnews.asia)

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.<sup>M</sup> 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).<sup>M</sup>

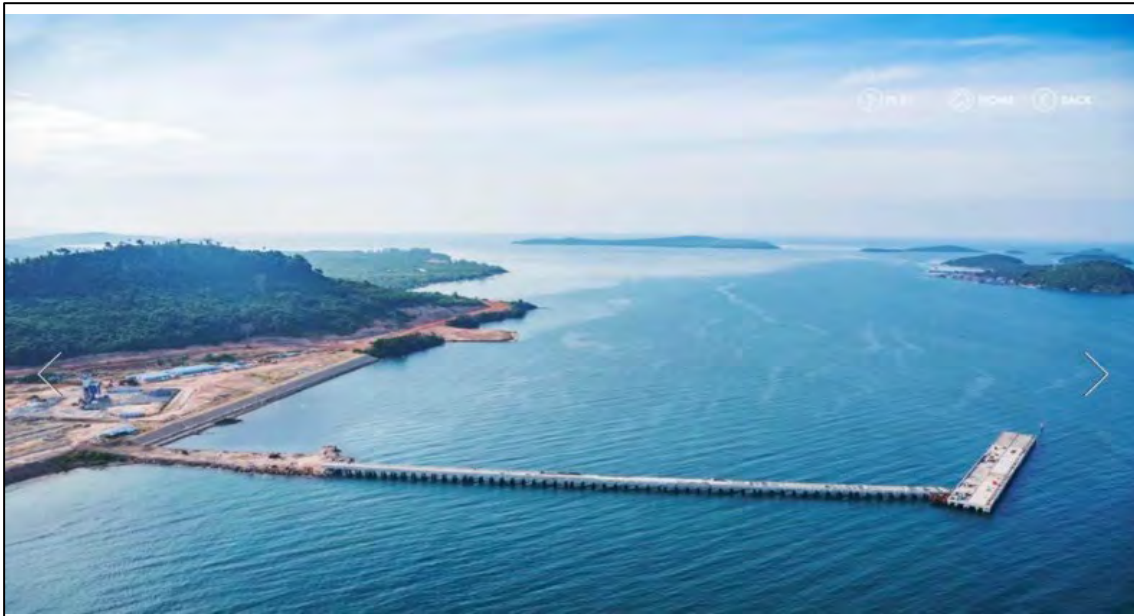


Figure 4 Koh Kong deep-water International Seaport under construction.  
Source: [c4ads.org/reports](https://c4ads.org/reports)

Cambodia also signed a 30-year deal that allowed China to use Ream to station warriors and warships.<sup>H</sup> In the past few years, Cambodian and Chinese officials denied the agreement existed,<sup>HMM</sup> and claimed China was not establishing a military presence in Cambodia.<sup>M</sup> However, the PLAN's visit to Sihanoukville Port in January 2019 reflected the fourth visit by the PLAN formation during that recent timeframe.<sup>M</sup> Other links between China and Cambodia's relationship included China's investment in the Cambodian military by ways of sizeable donations.<sup>M</sup> 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).<sup>M</sup> In late March 2022, Cambodian and China's senior military official signed a deal "as Beijing seeks to counter U.S. influence."<sup>M</sup> 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.<sup>[HH](#)</sup>

Beyond military investment, China is the largest investor in Cambodia, and China-backed projects covered much of the infrastructure improvement across the country.<sup>[M](#)</sup> China holds nearly half of Cambodia's \$6 billion in foreign debt.<sup>[M](#)</sup> 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.<sup>[H](#)</sup> 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.<sup>[M](#)</sup> 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.<sup>[H](#)</sup>



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

Source: [amti.csis.org](http://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



# China's Credible Landpower Development, Projection Capability Likely Creating Multiple Options To Enable Taiwan Unification, Deter United States By 2035

## Executive Summary

China is likely to build a credible, ready landpower<sup>3</sup> force and the necessary amphibious projection capability to invade Taiwan by 2035. The PRC will likely continue to develop a large modernized and trained joint force with an overwhelming landpower component as well as a blue water naval fleet capable of establishing sea control and transporting troops and their amphibious landing craft. After 2035, warnings of assembling an invasion capable force will likely include large troop training exercises, large interior troop movements, troop transport ships gathering at ports, semiconductor chip stockpiling, and changes in normal oil related activities all visible through open-source satellite imagery.

Despite widespread corruption, China's economically powered military capabilities will likely give the People's Republic of China multiple options for forcing Taiwan unification while simultaneously deterring United States' intervention. Although direct amphibious invasion is unlikely (31-45%), China's credible landpower force will likely enable other options including invasion of regional islands surrounding Taiwan, air or naval blockade, joint supported partial invasion, or coercing neighboring countries to cooperate with China ultimately achieving landpower supported foreign basing thus marginalizing US influence in the region.

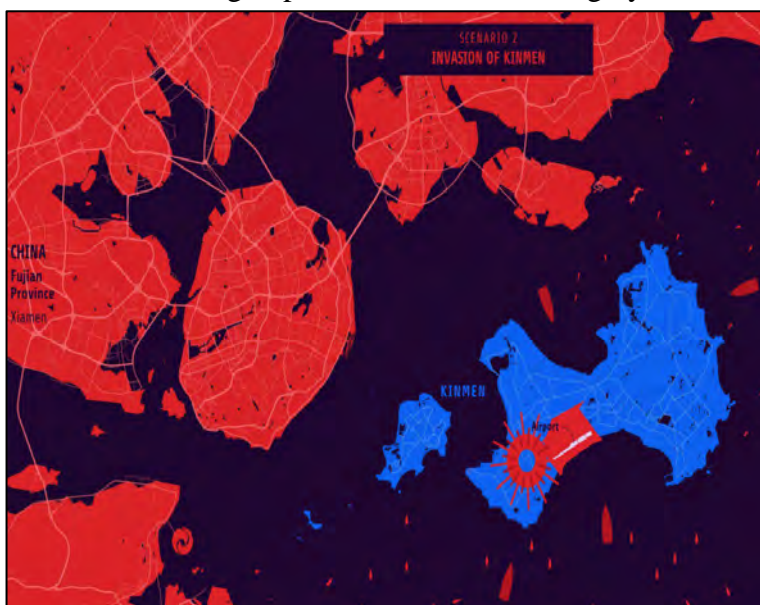


Figure 3 China invading Kinmen Islands.  
Source: [Reuters](#)

## Discussion

China will likely show political, military, economic, and infrastructure developmental signs indicating readiness to mobilize a credible Taiwan invasion capable force, as it

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<sup>3</sup> Landpower is defined as the ability to influence populations using threat, force, or occupation to gain, sustain, and exploit control of land, resources, and people. The effective application of landpower is inherently joint and multi-domain.

maneuvers toward the goal of military modernization by 2035,<sup>H</sup> These indicators will develop gradually in a parallel fashion reaching completion at varying points in time. They will include continued political support of military civil fusion (MCF)<sup>H</sup> where civilian industries contribute supporting materiel for an invasion force. These capabilities include foreign sourced oil acquisition, transport, storage, and refinement capacity to support prolonged major military operations, enough domestically manufactured state-of-the-art semiconductor chips to support military and civilian needs, and civilian ship construction like ferries to support the largest amphibious invasion in history. <sup>H</sup> China will likely demonstrate oil infrastructure readiness when China's maximally diversifies its foreign oil sources,<sup>M</sup> increases transportation routes to include new pipelines and sea lanes decreasing reliance on the Malacca strait,<sup>H M</sup> and obtains Russian oil from northern sea routes<sup>M M</sup> (See [Oil](#) Report).

The People's Republic of China (PRC) will, prior to any invasion attempt, likely manufacture state-of-the-art semiconductor chips necessary for modernized multidomain operations after 2031. It currently imports all SOTA chips, mostly from Taiwan. These infrastructural achievements will support China's continued economic development, one of China's three core interests along with the other interests including Taiwan unification as part of sovereignty, and the security of China's political system<sup>H</sup> (See [Chips](#) Report).

Military development will likely be the most robust sign involving joint training reflecting doctrinal modernization, rigorously trained professional officer corps leading 1,287,000 million troops necessary for an invasion, and the construction of vast fleets of ships necessary to transport a modernized landpower force. Prior to 2035, the PRC will likely conduct MDO joint training for 10,000 soldier combined arms brigades across six joint training centers and at the Zhurihe national training center.<sup>M M</sup> Analysts will likely see 1,287,000 to 2,145,000 troops trained prior to 2035 to establish a credible Taiwan invasion landpower invasion force (See [Troops](#) Report). Open-source satellite imagery will likely enable training exercises visualization.<sup>M</sup> Field grade officer selection and development through a rigorous, modernized professional military education, begun in 2017, will likely yield an officer corps prepared to lead and execute modernized MDO warfare by 2035.<sup>M</sup>

Analysts will likely see via open-source satellite images details regarding the PRC's ship building indicating the type and number of blue water naval vessels and their shipyards. Satellite data will likely demonstrate the conversion to troop transport ship production necessary for a cross strait invasion by 2035. Satellite imagery focused on China's four main shipbuilding yards at Hudong-Zhonghua, Jiangnan, Dalian, and Huangpu Wencong will likely reveal the type of ships currently under construction.<sup>H</sup> China will likely construct Yushen class type 075A and 071 amphibious assault vessels as well as

civilian ferries to transport over 1760 Landing Craft Air Cushion and Landing Craft Utility troop transports indicating amphibious invasion readiness (See [Amphibious](#) Report).

Once China reaches the modernization milestones of 2035, warnings of an imminent Taiwan invasion will likely include Chinese alterations in normal oil related activity, semiconductor chip stockpiling, sudden increased troop training, port activity involving large numbers of troop transport ships, and large interior troop movements towards ports and airfields. East China sea fleet exercises in the Taiwan strait, south China sea fleet exercises to ensure oil resources,<sup>H</sup> increased refinery activity, decreased domestic trucking fuel availability, and decreased oil bunker foreign sales in the absence of logical market forces (See [Oil](#) Report). China would likely stockpile SOTA semiconductor chips whether foreign or domestically produced. China will likely train a minimum of 264,000 troops for a Taiwan invasion over a comparatively compressed period of time compared to prior training evolutions (See [Training](#) Report). A final major warning of an impending major operation would likely be the movement of nearly 870,000 troops toward ports in the Eastern Theater with unusually large numbers of amphibious troop transport vessels. These troops would be in addition to the 416,000 troops already stationed in the Eastern Theater (See Figure 2).



Figure 2 PLA amphibious staging area.  
Source: [Project 2049 Institute](#)

The generation and capability to project a credible landpower force provides multiple options to the PRC. The willingness to use the sizeable, ready, and capable force enables the coercion of Taiwan deterring independence and affecting Taiwan's neighbors to deny US efforts while likely creating conditions to extend Chinese basing in an ever-increasing radius. Chinese will likely use landpower to extend regional dominance through basing in neighboring countries concordant with diplomatic efforts and to continue the process of occupying smaller islands variably contested by the regional and international communities. The PRC will likely continue to maneuver in this fashion and progressively limit US influence. The Chinese will likely also extend their land based A2AD platform

supported by Chinese landpower (See [C4ISR](#) Report). Further options include air or maritime blockade of Taiwan on a spectrum to include a full-scale amphibious operation to invade Taiwan or its offshore islands partially (See [Islands](#) Report) or completely<sup>H</sup> (See figure 1).

Despite widespread corruption throughout the People's Liberation Army,<sup>H</sup> China is highly unlikely to proceed with a full amphibious invasion of Taiwan,<sup>HH</sup> while some disagree.<sup>H</sup> The diplomatic and military communities widely understand that the capability and willingness to demonstrate and even engage military forces is central to both compellence and coercion to achieve strategic goals. The PRC has not experienced combat since Vietnam in 1979. The lack of such experience is not however detrimental to wartime success.<sup>H</sup> China likely fears a Taiwan invasion would cause horizontal escalation through attacks on its borders from India, other regional powers, or US led opposition at sites distant from Taiwan.<sup>H</sup> Knowing this, the PRC would likely prepare the necessary forces and equipment to face the horizontal contingency.

### **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 large volume of information available on China and Taiwan and the relatively sparse amount of information concerning specific technical and military topics upon which this report is based. The analyst worked alone and did not use a structured method. Furthermore, given the lengthy time frame of the estimate and sudden changes in world events such as the unfolding Ukrainian conflict and its worldwide implications, this report is sensitive to change due to new information.

*Author: John Cletus Paumier*



# China Will Likely Have A Strong Force Generation To Sustain A Credible Landpower Force By 2049

## Executive Summary

China is likely (56-70%) creating and developing many resources to shape the force generation to sustain a credible landpower force to effect joint and all-domain operations at all levels of maneuver and strategy by 2049. In addition, ensuring there are locations in and around the South China Sea is critical and crucial to sustaining any operation or campaign for both logistics and intelligence. Despite China's growing power of force generation, their experience of fighting in any kind of war is null and void that will have an impact in any future battle or conflict like Russia fighting in Ukraine.

## Discussion

Seeing the severe logistic struggles Russia is having with Ukraine, China is making sure their logistic plans are in line and starting with focusing on one of several areas to include 18 miles across the Bay of Kompong Som, PLAN's continued to engage in activities in the vicinity of Sihanoukville Autonomous Port, and over the last several years PLAN warships made an official visit to Sihanoukville Port to strengthen bilateral military ties between China and Cambodia, celebrate recent Koh Rong Island achievements, and inaugurate a new naval outpost built to enhance information management and future maritime security (See [Cambodia Report](#)). In addition, China

is actively in a bidding war on trying to gain ownership on the Subic Bay Port. The logistic hub is essential which is situated about 50 miles north of Manila, the port opens onto the strategic and contested South China Sea. It also lies just over 100 nautical miles



Figure 4 Map of Dara Sakor project.  
Source: [Beyond Reality Asia](#)



from the contested Scarborough Shoal, currently occupied by China and seen as a crucial link if Beijing moves to impose an Air Defense Identification Zone (ADIZ) in the maritime area. Chinese companies have also pursued investments in the nearby Clark special

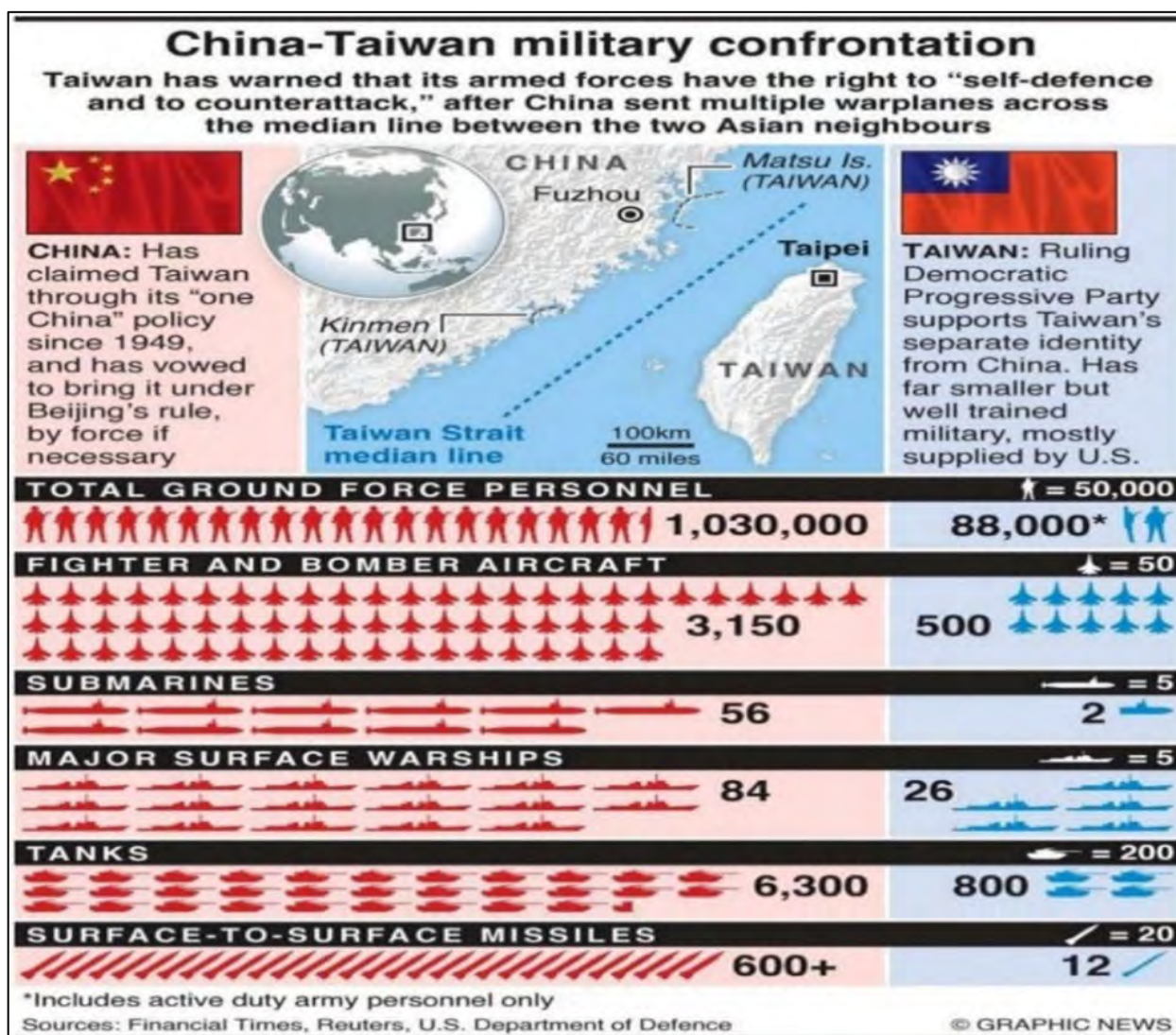


Figure 2 China-Taiwan personnel and equipment  
 Source: [Financial Times](#), [DOD](#)

economic zone (SEZ), formerly the site of one of America's largest overseas air bases but more recently converted to a commercial logistics hub (See [Subic Bay](#) Report). China must be able to manage all multi-domains and get this done by training all the branches at the national training center at Zhurihe presents the largest training area complete with a replica of the Taiwanese presidential office building in an urban center and a simulated airbase and surrounding training centers approach the size of Fort Irwin training center. There are six other regional tactical training centers for additional training, likely for smaller units (See [Training](#) Report). Xi Jinping's 2017 military reforms reshaped the PLA force structure with a net decrease of 300,000 personnel. This, along with what the Atlantic

Council estimates as a Taiwan invasion force requirement of nearly 1.2 million PLA personnel (See [Island](#) Report).

According to John Feng, “China is watching the West’s collective response to Russia’s invasion of Ukraine and is learning lessons that may change its own calculations as it seeks to annex Taiwan,”<sup>H</sup> (see Figure 1). The Taiwanese government’s internal estimates of available manpower during the onset of kinetic conflict with China is far less than the total active and reserve force of 2 million personnel; rather, Taiwanese defense officials estimate 450,000 available personnel and PLA currently fields a force large enough in size to accomplish a forced reunification, if not in composition (See [Force](#) Report).

### 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 used limited resources. Furthermore, given the lengthy time frame of the estimate, this report is sensitive to change due to new information.

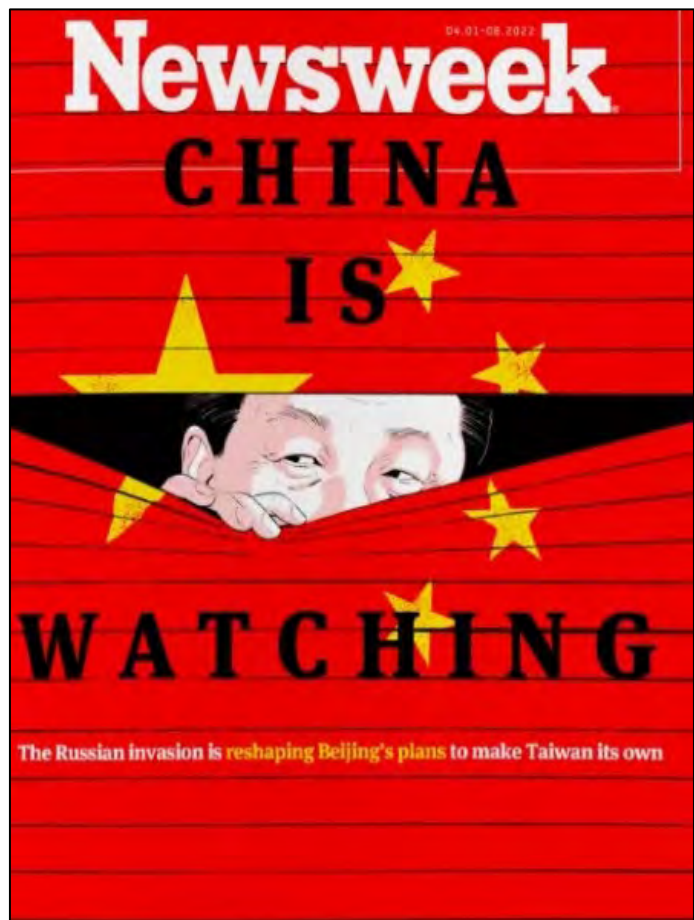


Figure 5 Report: Russian invasion is reshaping China's plans to unify Taiwan  
Source: [Newsweek](#)

Author: Randy P. Lefebvre

# PLA Unlikely To Field Cohesive Joint Force Prior To 2035

## Executive Summary

Despite formalized joint doctrine within the People's Liberation Army (PLA), advancing military technologies, and a year-over-year increase in military spending, the PLA is unlikely (31-45%) to field an operationally cohesive joint force prior to 2035. The lack of combat experience and rigorous combat-focused training, limited expertise to employ emerging capabilities, and a restricted command structure demonstrates limitations that the Chinese Communist Party (CCP) must mitigate prior to attempting a PLA-led, forced reunification with Taiwan.

## Discussion

Xi Jinping's iterative military reforms, first announced in 2013 during the third plenum of the 18<sup>th</sup> Party Congress and began in earnest in late 2015, represents major changes to the ways the PLA intends to execute the CCP's political will through military means.<sup>H</sup> Reforms focusing on enhanced joint operations and rapid response capabilities, as modeled by the U.S. during the Gulf War, aim to achieve strategic deterrence and overmatch through

advancements in technology, training, national command and control structure, and doctrine.<sup>H</sup> PLA doctrine leverages emerging technologies designed to disrupt battlefield opponents while facilitating PLA cross-domain battle.<sup>H</sup> Examples of the application of advanced communication technology includes the expansion of the 4.6K km long, "un-hackable" quantum communication route between Shanghai and Beijing.<sup>M</sup> China's year-over-year budget grew from approximately \$46B in 2005 to nearly \$261B in 2019<sup>H</sup> to support modernization and their world-leading force structure of nearly 3.134M personnel between active, reserve, and paramilitary forces.<sup>M</sup>

Despite modernized doctrine, advanced technologies, and growing fiscal resources, multiple challenges exist that limit the PLA's effective fielding of cohesive joint force prior to 2035. As China has not engaged in major combat operations since 1979,

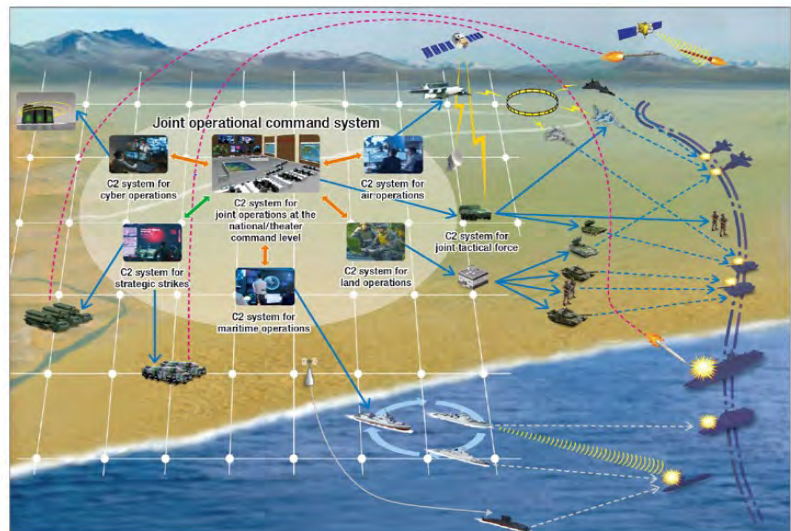


Figure 1 Conceptual image of the PLA's IJO during Xi Jinping Regime. Source: [National Institute for Defense Studies \(Japan\), China Security Report, 2022](#)



operational-level military leadership voice concern of negative “peacetime practices” during training such as shortcuts, bad habits, and rote completion of tasks without demonstrating combat-level execution.<sup>[H](#)</sup> Further, PLA brigade and battalion commanders made on-the-record statements criticizing training methods that do not support the advanced “informatized and digitized equipment.”<sup>[H](#)</sup> Indeed, state-run Chinese media describe only achievement of the goal of mechanization, with progress towards informationization<sup>4</sup>, and challenges with intelligentization<sup>5</sup>.<sup>[H](#)</sup> A shortfall concerning the advanced training required to employ emerging weaponry suggests disparities between the perception of China’s seemingly prodigious capabilities and the reality of the PLA’s operational ability to employ the capabilities under contested combat conditions.<sup>[H](#)</sup>

Though Xi Jinping directed PLA doctrine and structure to reflect integrated joint operations (IJO) (See Figure 1), in practice, the Chinese Theater Commands do not possess the full complement of PLA capabilities as command and control of the PLA Rocket Force and the PLA Special Forces resides at the national level.<sup>[H](#)</sup> Further challenging the IJO concept, PLA Army (PLAA) general officers historically monopolize selections to strategic leadership positions. Even after doctrinal and structural reforms, the overall ratio of PLAA strategic leaders to those from other services only marginally changed from 30:36 in 2016 to 27:29 in 2020; although, PLA Navy and PLA Air Force general officers do serve as commanders or key staff in some theater commands (TC).<sup>[H](#)</sup> Compounding the potential impact of service parochialism on joint operations, the theater command structure subordinates operational command decisions to the Communist Party Central Committee, the Central Military Commission, and Xi Jinping.<sup>[H](#)</sup> Further, current unit makeup at echelon includes political commissars that function as a command intermediary to access military campaigns and strategy against CCP goals.<sup>[H](#)</sup> Though political commissars exist to ensure the unity between the PLA and the CCP, the position adds additional systemic friction to decision-making processes and decreases commander autonomy.<sup>[H](#)</sup> The subservient PLA service culture, current command and control structure, and the capabilities available to TC commanders presents potential for disjointed and delayed operational execution and inhibits the stated goal of integrated joint operations utilizing informatized and intelligentized warfare. These challenging issues associated with operationally maturing a large military force demonstrate the PLA will not fully realize the vision of a “basically complete” modernized force earlier than 2035 – the date originally targeted by Xi Jinping.<sup>[H](#)</sup>

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<sup>4</sup> Informationization generally defined as the PLA’s comprehensive integration of information technology and their ability to leverage its use.<sup>[H](#)</sup>

<sup>5</sup> Intelligentization builds upon informationization by utilizing emerging technologies such as artificial intelligence to enhance command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR).<sup>[H](#)</sup>



### **Analytic Confidence**

Analytical confidence in this estimate is *moderate*. The analyst had adequate time to provide an initial estimate; however, the question of the overall readiness of the PLA as related to the willingness of the CCP to utilize military capability is complex and depends on dynamic international relations and political conditions. The reliability of sources are of good quality; however, obtaining up-to-date unbiased open-source intelligence on PLA joint readiness remains elusive. Some sources conflict; however, overall analyst collaboration is strong.

*Author: Matthew “Kip” Marsh*

# China Unlikely Building Navy Designed To Support An Amphibious Invasion Of Taiwan Before 2035

## Executive Summary

Projected PLA Navy (PLAN) investments and operational goals are likely (56-70%) focused outside of a large-scale contested amphibious landing of Taiwan. Given the current naval investment strategies of the Peoples' Republic of China (PRC) it is unlikely (31-45%) to attempt a contested amphibious invasion of Taiwan before 2035. Multiple experts forecast the PLAN's amphibious capacity to be unable to support large scale amphibious operations. The PLAN's current naval investment leans toward increasing their expeditionary capabilities beyond the first island chain rather than building a cross strait amphibious landing force.

## Discussion

Currently, it is almost certain (86-99%) the PLAN will unseat the United States as the world's largest navy by reaching 420 ships by 2025 and 460 ships by 2030.<sup>H</sup> Based on the PRC's strategic priorities, it is easy to consider this naval growth with an eye toward Taiwan. However, as noted in 2021 annual report to Congress, the investment of ships like the Yuzhao Type 071 amphibious ship and the Yushen-class Type 075 (See Figure 1) amphibious assault ship<sup>H</sup> fall in line with the pursuit of “regional and eventually global expeditionary missions rather than the large number of landing ship transports and medium landing craft that would be necessary for a large-scale direct beach assault.”<sup>H</sup> Additionally the Congressional report notes, “there is also no indication the PRC is significantly expanding its force of tank landing ships (LSTs) and medium sized landing craft at this time—suggesting a traditional large-scale direct beach—assault operation requiring extensive lift remains aspirational.”<sup>H</sup>



Figure 1 PLAN China's Type 075 Amphibious Assault Ship.  
Source: [Navy Recognition](#)

In line with current PLAN investments, China's official maritime strategy is reflective of a focus on homeland defense and secondary missions of defending the maritime commons as a means of economic security and establishing dominance of sea lines of communication that support domestic security rather than building a navy with a Taiwan solution in mind

(See Figure 2).<sup>H</sup> The Strategic Studies Institute (SSI) comments in their book, *Chinese Lessons from Other Peoples' Wars*, the "PLAN's order of battle also suggests that the PLA is thinking beyond the Taiwan contingency."<sup>H</sup> SSI goes further to note, "it is tempting to believe the procurement of these amphibious assets is a reflection of a steady development of a Taiwan contingency, the L-class ship is more suited for longer-range expeditionary operations."<sup>H</sup>



Figure 2 PLAN to operate at greater distances from China.  
Source: [U.S. Naval Institute](#)

Although L-class shipping and stated PLAN goals are more focused away from Taiwan, it is worth noting that China has also invested time and training in civil shipping options that could significantly increase the capacity of amphibious landing capabilities. “In 2021, the PLA also demonstrated the use of roll-on/roll-off (RO-RO) ferries as auxiliary landing ships in amphibious exercises and tested a new floating causeway that could be used in a large-scale amphibious operation.”<sup>H</sup> However, while the inclusion of civilian shipping could increase amphibious capabilities “the complexity of amphibious operations appears to have limited military-civil fusion (MCF) to a handful of select ships that provide the PLA with relatively modest capacities.”<sup>H</sup> MCF remains unlikely to have a significant impact in a harsh environment like a contested amphibious operation on the shores of Taiwan. It is also worth considering, despite a history of modest investments in landing



Figure 3 RO-RO Ferry Unloading Tanks onto Semi-Submersible Barge during Mobility Exercise.  
Source: [China Maritime Studies Institute, U.S Naval War College](#)

craft, “the PLA may also have confidence in the PRC’s shipbuilding industry’s massive capacity to produce the necessary ship-to-shore connectors relatively quickly.”<sup>H</sup> The versatility of L-class shipping combined with MCF and the PRC’s vast shipping building capacity, the PRC are highly likely able to shift manufacturing priorities to support a Taiwan contingency within one to two years.<sup>H</sup>

### Analytic Confidence

The analytic confidence for this estimate is *high*. Despite the opaque nature of official PLAN strategies and priorities, the sources corroborate one another. Long-term trends remain consistent with the most recent data and are in line with PLA activities and stated modernization goals. However, the analyst acknowledges that the PRC naval investments also increase operational solutions for Taiwan plans.

*Author: Lee W. Hemming*



# China Likely To Prioritize Investment In Launch Platform Versatility; Adding Depth, Range To A2AD Systems Before 2035

## Executive Summary

Even though the People's Republic of China (PRC) currently holds significant military advantages quantitatively and qualitatively over in the Asia-Pacific region, it is almost certain (86%-99%) that China will continue heavy investment in their A2AD strategy and highly likely (71%-85%) that they will prioritize funding to increase the versatility of launch platforms between 2022 and 2035. These investments will increase the depth of platform type and effectively expand China's A2AD range. China's anti-access/area denial (A2AD) strategy is the center of gravity to their efforts in becoming the hegemon in the Asia-Pacific region. It is a critical piece of the strategic environment surrounding Chinese unification efforts with Taiwan.

## Discussion

China's A2AD strategy was born in the aftermath of the United States' "gun boat" diplomacy during the 1995-1996 Taiwan strait Crisis when the PRC had no viable response to the USS *Nimitz* and *Independence* Carrier Battle Groups sailing through the South China Sea.<sup>6</sup> China relies heavily on their A2AD strategy for two main reasons. First, their A2AD investments bought time for an inferior People's Liberation Army Navy (PLAN) while China spent 30 years building a navy to match US naval supremacy.<sup>H</sup>

Second, the PRC's A2AD strategy quickly created both a real (although not operationally tested)<sup>H</sup> and perceived threat to any future United States efforts to intervene in China's unification efforts with Taiwan enroute to Xi Jinping's stated "great rejuvenation of the Chinese nation",<sup>H</sup> the Chinese Dream of 2049.



Figure 1 China's YJ-18 anti-ship cruise missile.  
Source: [defensetalk.com](http://defensetalk.com)

Since the conclusion of the 1995-1996 Taiwan Crisis, the PLAN has undergone 30 years of investments addressing the disparity between the PLAN and the United States Navy. According to a recent article in

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<sup>6</sup> Robert S. Ross, "The 1995-1996 Taiwan Strait Confrontation: Coercion, Credibility, and Use of Force," 120.

National Defense, by “2019, China had a 335-ship fleet, about 55 percent larger than in 2005”.<sup>H</sup> This thirty-year investment in the PLAN is now becoming another layer to China’s A2AD umbrella. During this same period, “the U.S. Navy has 293 ships in its battle force, just two more than it had 15 years ago”.<sup>H</sup> China’s current ship count is hard to determine due to limited reporting, but the PLAN’s goal to continue the growth of its fleet in every category is clear with an estimated growth of major surface combatants to “460 ships by 2030”.<sup>H</sup>

The impressive growth of the PLAN has significant impacts on China’s overall strategic position. Not only is China on track to exceed the US Navy by an estimated 128 ships,<sup>H</sup> but the addition of Anti-Ship Cruise Missiles (ASCMs) capabilities on various ships greatly enhances platform versatility and range of China’s A2AD system (See Figure 1). “Some observers [believe] that the U.S. Navy is not moving quickly enough to arm U.S. Navy surface ships with similarly ranged ASCMs”<sup>H</sup> (See Figure 2).

Since 2005, 65% of the PLAN ship increases have been in missile-armed fast patrol craft.<sup>H</sup> This increase of ASCM capability coupled with recent reporting from 2019 suggests that

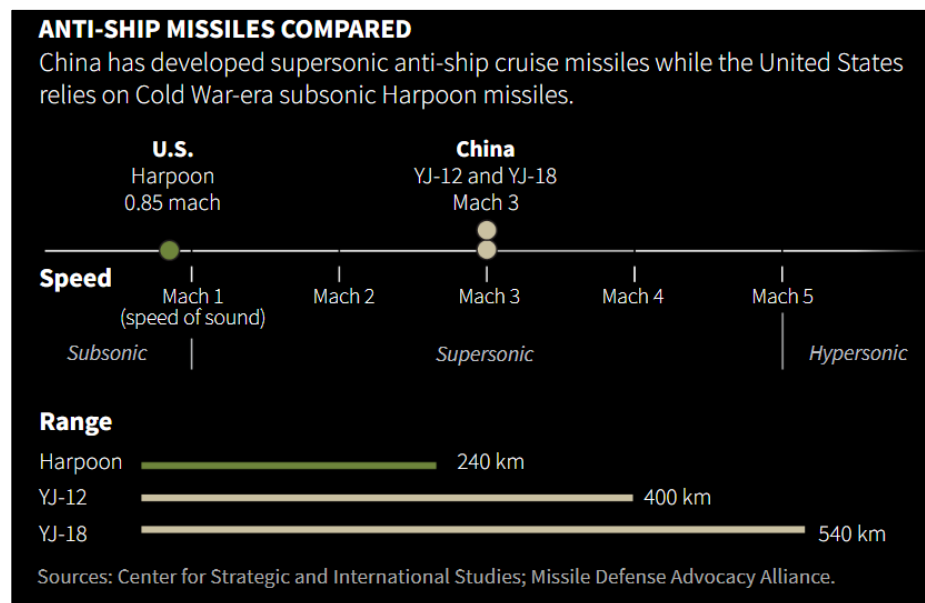


Figure 2 Comparison of U.S. and Chinese ASCMs.  
Source: [Reuters](#)

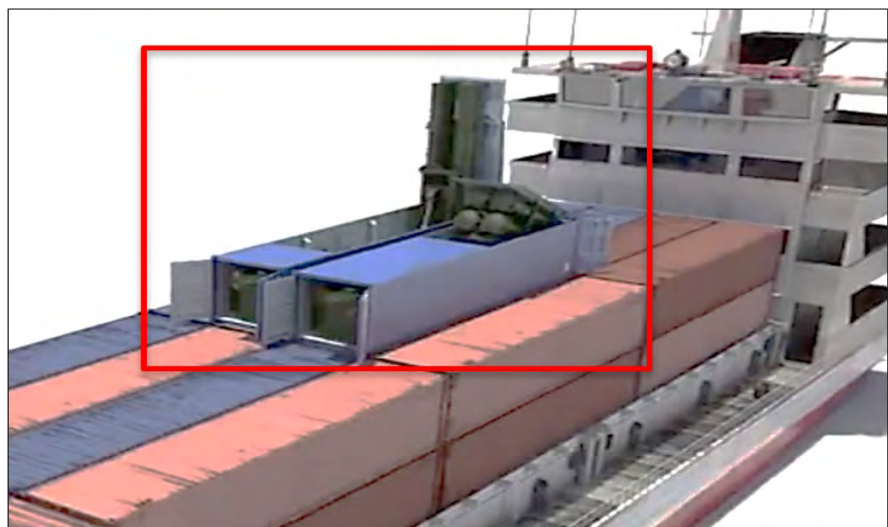


Figure 3 “China Feared to be Hiding Missiles in Shipping Containers for Trojan Horse-Style Plan to Launch Attack Anywhere in World.”  
Source: [U.S. Sun December 2021](#)

“China might be developing a YJ-18 launcher that can be packaged inside a standard commercial shipping container for the potential purpose of surreptitiously deploying YJ-18s on merchant ships”.<sup>H</sup> This changes the way United States can potentially counter China’s A2AD strategy (See Figure 3). By complimenting their static shore-based missile systems with highly mobile and potentially concealed ASCMs with a reported near 280NM range,<sup>H</sup> the ability for the US to develop risk mitigation strategies becomes significantly more difficult.

### **Analytic Confidence**

Analytic confidence in this estimate is *high*. The analyst had adequate time, and while the issues at hand are complex and China’s intentions are opaque, the historical investments made by China combined with significant writing and consistent forecasts on the subject lend to high confidence for China’s intentions in this area.

*Author: Lee W. Hemming*

# Chinese Army Integration Of Informatized Weapon Platforms Into Operational Joint Command And Control System Highly Likely Between 2027-2035

## Executive Summary

China recognizes that advanced information connections and systems are keys to effective military command and control. To complete its force modernization by 2035, the People's Liberation Army (PLA) must incorporate advanced information technology into its weapon platform during phase two, the informatization of the three-phase plan. China is highly likely (71%-85%) to accelerate the integration of information-related capabilities into the PLA's joint command and control system between 2027 and 2035. The PLA is moving forward with the Joint Command and Control System organization as part of the informatization of the forces to compete in a joint armed conflict environment potentially.

## Discussion

In 2017, President Xi Jinping set two critical milestones for the PLA - to complete force modernization by 2035 and field a military capable of fighting and winning wars in any theater of operations by

2050.<sup>H</sup> China's military strategists recognize informatized joint command and control system as a center of gravity in waging military conflict.<sup>H</sup> The PLA continues to make progress to informatize command and control platforms at echelons to carry out information warfare.<sup>H</sup> In 2013,

China's Academy of Military Science published *The Science of*

*Military Strategy (SMS)* (战略学), containing a Strategic Guidance for Local Warfare under Information Technology Conditions focusing on a joint force fighting and winning informationized wars.<sup>M</sup> China's operational expression of informationized warfare (信息化作战) is "information power" (信息力) - "basic elements of campaign power," the



Figure 1 From the Jamestown Foundation website discussing PLA Theater Joint Intelligence.

Source: [Jamestown.org](http://Jamestown.org)



ability to have cross-echelon battlespace awareness and to preserve information for one's weapon systems while simultaneously denying battlespace information to one's adversary.<sup>MM</sup>

To improve joint operability, China built a new theater joint commands' Joint Operations Command Center (JOCC (联合作战指挥中心)) structure that represented a significant advancement in streamlining joint command structure (see Figure 1). The new JOCC contained intelligence centers, as do command posts (CP) formed at each echelon down to regiment level (see Figure 1).<sup>M</sup> Improving joint command and control system aligns with SMS, which frequently cites the need for the PLA to build information systems and networks that will allow it to seize the advantage early in combat and ultimately defeat a more technologically advanced adversary.<sup>H</sup> To that end, the PLA's growing investments included acquiring a wide variety of Intelligence, Surveillance, and Reconnaissance (ISR) systems to equip its forces with war control capabilities.<sup>M</sup> China recently added new ISR Systems, including satellites; signal intelligence (SIGINT) sites, ships, aircraft; radars; unmanned air, and surface and submerged systems to the PLA's inventory.<sup>M</sup>

In December 2021, China published the 14th Five-Year Plan for National Informatization, providing the strategic blueprint, the worldview, and reasoning that will guide Party decision-making in the next five years, addressing an extensive range of policy and development goals for 2021–2025 (See Figure 2).<sup>H</sup> China's defense spending budget trend has been on a slightly accelerated slope for the past few years but still on a straight trend since 2011.<sup>HM</sup> Similarly, the expenditure estimate, which is between 34% and 37% higher

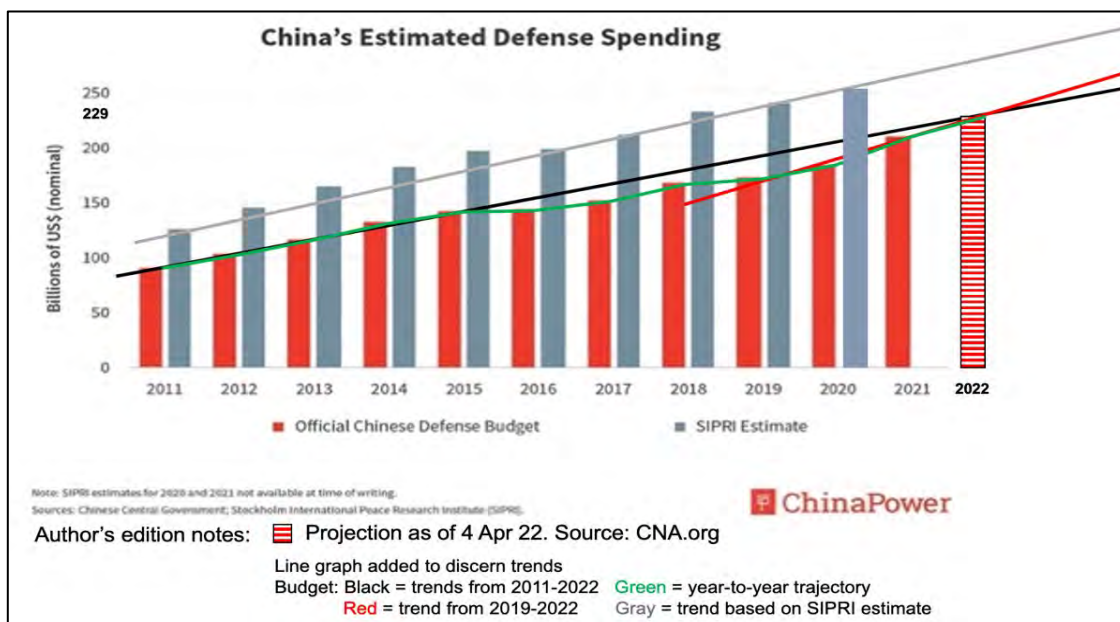


Figure 2 Center for Strategic and International Studies' article on Understanding China's 2021 defense budget.

Source: [csis.org](https://csis.org), [cna.org](https://cna.org), analyst (line graphs)

than the budgeted amounts follows the same upward rate.<sup>H</sup> In addition, PLA's 2022 budget is 7.1% higher than 2021; therefore it is highly likely (71%-85%) that the PLA will accelerate the integration of information-related capabilities into the PLA's command and control systems in 2027 and 2035.<sup>HH</sup> China's goal is to accomplish its mission to fully modernize the PLA by 2035, the date Xi Jinping.<sup>H</sup>

Although it is not clear how much China spent investing in defense-related AI research and development projects each year in 2018, Beijing spent between \$1.8B and \$2.7B in 2018.<sup>M</sup> China also spent a significant sum of money on buying AI systems. Evident in a U.S. review of 350 Chinese military equipment contracts explicitly related to AI revealed that PLA-awarded AI contracts were worth at least \$49M from April to November 2020 and that it may spend more than \$1.6B on AI-related systems and equipment each year.<sup>H</sup> The report also showed that loopholes and shortfalls in the export control system facilitated the outflow of U.S. technical know-how to the PLA.<sup>H</sup> The Chinese emphasis on “military-civil fusion” - integrating the civilian and military technology industries made it likely (56%-75%) that technology-based companies will solicit business with Chinese entities, making it more challenging for the U.S. government to intercept China's defense contracts. Sixty percent of the 273 AI equipment suppliers identified in the study were private companies.<sup>H</sup>

The PLA's pursuit of accelerated informatization toward the completion of force modernization by 2035 supports, Xi Jinping's guidelines from 2015.<sup>H</sup> Xi directed “the PLA to win ‘Informatized Local Wars,’ recognizing the centrality of information both as a domain in which war occurs and as the central means to wage military conflict when the dominant mode of warfare is a confrontation between ‘information-based systems-of-systems’”<sup>H</sup>

### **Analytic Confidence**

The analytic confidence in this estimate is *moderate*. There was adequate time for an initial assessment. This report is sensitive to change due to new information. Sources were generally reliable and tended to corroborate one another.

*Author: Pratya “Lek” Siriwat*

# Oil Storage/Movement Pattern Change At Refineries And Port Bunkers Likely Reliable Open-source Indicator Of Large Scale Chinese Military Activity Between 2022-2040

## Executive Summary

Despite the variability civilian activity causes, open-source satellite imagery and commercial tracking platforms will likely (56-70%) indicate large scale military activity within the People's Republic of China when multiple components of the oil storage and movement system fail to follow routine patterns or do not reflect world market conditions. Based upon the United States' average daily fuel usage of 400,000 barrels per day during the Iraq and Afghanistan wars, China will likely require similar amounts of fuel to support the assembly and embarkation of a large volume of troops for an amphibious cross strait invasion of Taiwan. Such fuel requirements are likely identifiable through the analysis of oil tanker traffic, strategic petroleum reserve capacity, maritime oil bunkers, overland oil tanker trucks, refinery activity, and domestic diesel shortages. Oil usage will cease to be an indicator when alternate energy sources such as electrical or hydrogen fuel cell vehicles will likely dominate the energy market by 2040.

## Discussion

In 2016 the open-source satellite company Orbital Insight accurately identified the previously opaque Chinese strategic petroleum reserve capacity.<sup>[H](#)</sup>

Subsequently, other open-source companies, such as Ursa Space (See Figure 1), now provide highly detailed oil storage and utilization data.<sup>[M](#)</sup>

Analysis of the satellite data enables other entities to create

real time updated maps of China's oil infrastructure including oil ports, refineries, storage facilities, and pipelines.<sup>[H](#)</sup> Automatic identification system (AIS) ship live tracking<sup>[M](#)</sup> coupled with analysis of trade patterns<sup>[M](#)</sup> detail changes in maritime oil transport or commercial ship activity indicating military diversion.<sup>[M](#)</sup> An alteration in oil refinery activity including a decrease in the normal shutdown cycle towards increased refinery capacity indicates a marked pattern change suggesting unusual need for oil.<sup>[M](#)</sup>



Figure 1 Ursa Space Systems, Inc. satellite image of Chinese oil tank storage.

Source: [Ursaspace.com](https://www.ursaspace.com)

According to a recent report in the Naval War College Review based upon data from the Iraq and Afghanistan wars, military operations for a cross strait invasion would require up to 400,000 barrels per day.<sup>M</sup> The marked increase in oil usage requires changes to normal oil storage, refinement, and transportation activity. Current open-source satellite imagery and analytics would likely reveal this pattern difference. Observable alterations include an increase of inbound oil tanker traffic<sup>M</sup>, a near capacity strategic petroleum reserve, increased overland truck/rail traffic from Russia,<sup>M</sup> increased refinery activity,<sup>M</sup> and increased oil tanker truck activity indicating a significant change in fuel consumption. Port oil bunkers would likely increase to maximum capacity, and bunker exports would decrease. Domestic ship fueling activity including ferries and other naval amphibious vessels that normally participate in military exercises<sup>M</sup> likely indicate activity consistent with large scale military movement. Given the vast size of Chinese oil infrastructure and the sophistication of open-source intelligence capabilities, it is unlikely (31-45%) that China will be able to conceal its oil related activities<sup>H</sup> (See Figure 2).

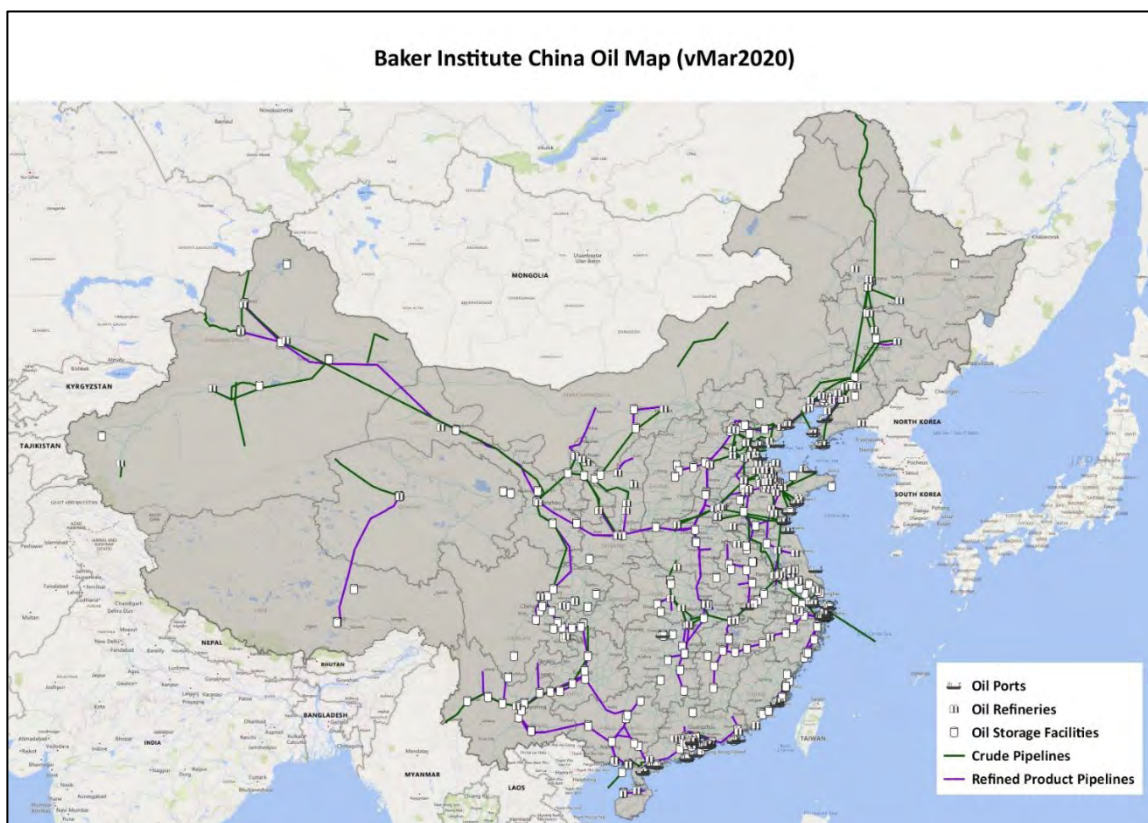


Figure 2 Chinese oil storage, refinery, and pipeline map.  
Source: [BakerInstitute.org](http://BakerInstitute.org)

Normal civilian commercial activity variations will likely affect some of these indicators individually at times, especially if related to current world economic conditions,<sup>M</sup> but multiple factors likely indicate large scale oil usage unrelated to market conditions. The



likely timeline begins months prior to fleet mobilization as oil reserves increased, followed by increased truck and pipeline activity to full refinery capacity, with further trucking to achieve maximum port oil bunker capacity. Satellites will likely detect troop assembly prior to the final embarkation preceded by fleet fueling at port bunkers.

Oil will slowly become a less reliable indicator between now and 2040<sup>H</sup> when alternative energy sources will predominate. Experts indicate that 40% of Chinese passenger vehicles will likely be electric by 2030.<sup>H</sup> Considering the progression to alternative energy sources, electric passenger vehicle development, heavy transportation, and industrial requirements, the 2040 energy turnover prediction is sound. However, unforeseen advances in battery technology or hydrogen fuel cell advancements limit the accuracy of this estimate out to 2040.

### **Analytic Confidence**

The analytic confidence for this estimate is *moderate*. Sources were reliable and had broad general agreement. There was inadequate time given the breadth of the topic, the analyst worked alone and utilized open-source information to construct models of most likely secret Chinese data. Furthermore, given the rapidly changing energy environment, this report may change due to new information.

*Author: John Cletus Paumier*

## 2035: China Highly Likely To Possess C4ISR Structure Able To Target Beyond Guam

### Executive Summary

It is highly likely (71-85%) that China will develop a comprehensive C4ISR system that will support accurate target tracking and engagement creating an operationally viable A2AD system with a range of 5,500km, well beyond Guam by 2035. Currently, the operational validity of China's missile arsenal is questionable due to the underdeveloped Chinese Command, Control, Communications, Computers (C4) Intelligence, Surveillance and Reconnaissance (ISR) structure. A versatile missile array combined with an operational kill chain capability at extended ranges is a significant next step in China's A2AD strategy and will further complicate U.S. and Allied military response options in the Indo-Pacific region.

### Discussion

According to a recent report by the Center for Strategic and International Studies, China's A2AD or counter intervention strategy is centered on an expansive array of missiles (See Figure 1) ranging from short-range cruise and ballistic missiles to more advanced long range anti-ship ballistic missiles (ASBMs). China supplements that capability with "a

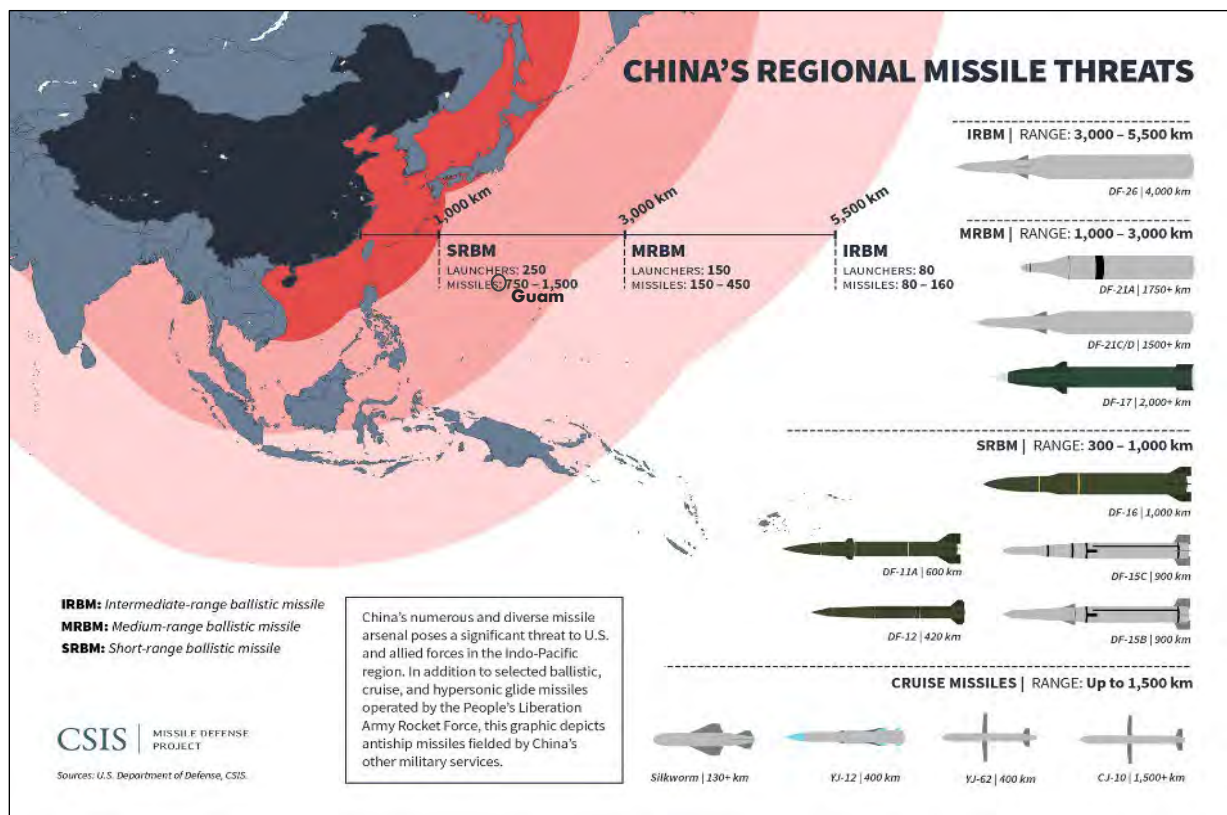


Figure 1 Chinese versatile missile arsenal.

Source: [Center for Strategic and International Studies](#)

number of advanced capabilities such as maneuverable anti-ship ballistic missiles, MIRVs, and hypersonic glide vehicles.”<sup>H</sup> Based on tested flight characteristics, many of these missiles can reach well beyond the South China Sea and encompass U.S. forward bases and naval forces across the entire Indo-Pacific theater. Although China boasts a stunning array of ballistic and cruise missiles, the operational validity of these systems is questionable due to China’s underdeveloped C4ISR capabilities.<sup>H</sup>

Most notably the DF-21 and DF-26, China’s “carrier killers”, boast ranges of 3,000km and 5,500km, respectively.<sup>H</sup> However, in his paper analyzing Chinese A2AD, Dr. Marek Czajkowski from Jagiellonian University notes, “Currently a distance on which the A2/AD strategy may be executed is roughly 400-600 km from the Chinese shores.”<sup>H</sup> This assertion that China’s missile systems are limited by their C4ISR capabilities is further supported by an article from the *National Interest* saying, “The ASBM’s physical threat to U.S. Navy ships will be determined by the development of associated information processing systems and capabilities...The supporting (C4ISR) technologies probably still lag behind the requirement to identify and track a U.S. aircraft carrier in real time under wartime conditions.”<sup>H</sup>

China’s counter intervention strategy is a central focal point in their military modernization plans to achieve regional dominance. China’s goal can only be achieved when China’s C4ISR structure can support the kinematic ranges of their missile systems. It is highly likely that China will pursue two areas to complete the kill chain of their A2AD system. First, as noted by Johns Hopkins Applied Physics Laboratory, the massive infrastructure development of the Subi, Fiery Cross and Mischief reefs appear to give the PLA the ability to saturate the Nine-dashed line region of the South China Sea with a full spectrum of surveillance and targeting radar capabilities (See Figure 2).<sup>H</sup> The second, and more impactful effort is in the space realm where China’s growing investments in satellite coverage<sup>M</sup> could provide terminal guidance of the DF-26

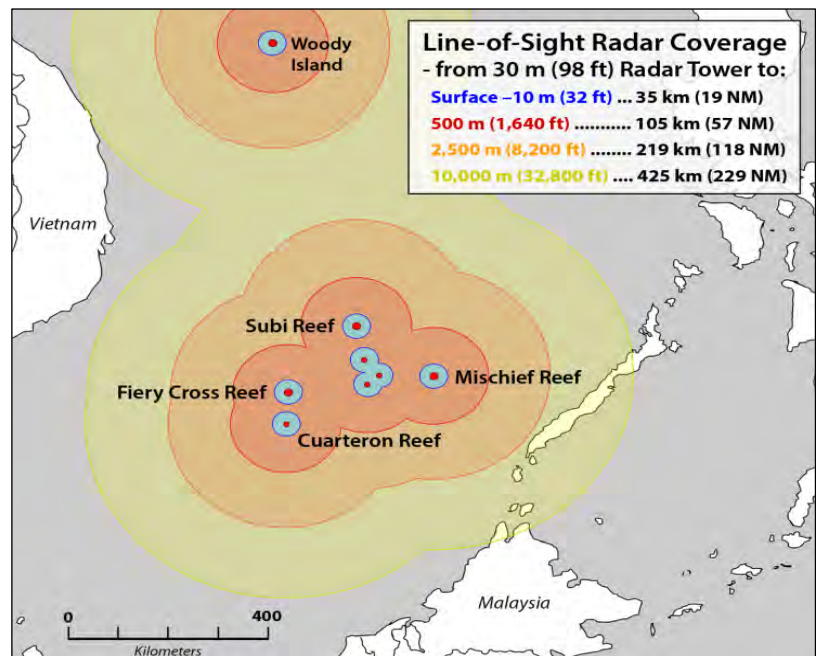


Figure 2 Potential radar coverage from China’s SCS outposts.  
Source: [John Hopkins Applied Physics Laboratory](#)

to ranges beyond Guam.<sup>H</sup> This long-range capability would extend the range where China could contest theater access and maneuver (CTAM) beyond Guam significantly increasing the cost of entering crisis and conflict with China in the Indo-Pacific theater.<sup>H</sup> Based on the increasing number of satellite launches by China<sup>H</sup>, it remains highly likely that the PLA remains on track to complete a full modernization by their stated goal of 2035.<sup>H</sup>

### **Analytic Confidence**

The analytic confidence for this estimate is *high*. Sources corroborate one another and the technical information remains consistent over time with the most recent data and is in line with PLA activities and stated modernization goals.

*Author: Lee W. Hemming*



# 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 compellent 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<sup>H</sup> 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.<sup>H</sup> Troop transport vessels supporting the invasion will likely include type 726 Landing Craft Air Cushion (LCAC)<sup>M</sup> and the Landing Craft Utility (LCU)<sup>M</sup> (See Figure 1). China will also likely use civilian vessels such as ferries to transport vehicles and supplies.<sup>H</sup> Invasion fleet completion will likely occur in concert with Xi Jinping's goal of military modernization by 2035.<sup>H</sup>



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.<sup>H</sup> 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<sup>H</sup> (See Figure 2).

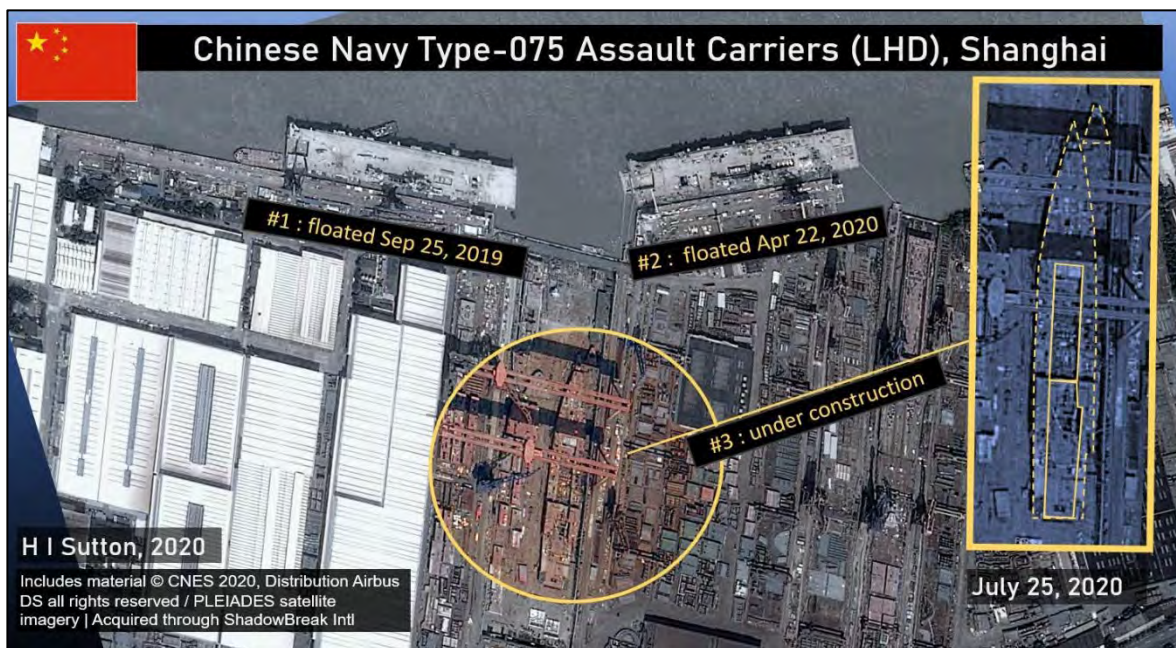


Figure 2 Chinese Yushen Class LHA type 075 amphibious assault ship construction.  
Source: [Forbes.com](https://www.forbes.com)

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<sup>H</sup> (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.<sup>MM</sup> Since the People's Republic of China does not reveal either its fleet size or composition,<sup>H</sup> 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 including type 075 and 071 amphibious assault vessels.<sup>H</sup>



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

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.<sup>H</sup> China assigns few new ships to the East Sea Fleet according to most recent analysis.<sup>M</sup>

A cross strait Taiwan invasion carries substantial political<sup>H</sup> and military<sup>M</sup> 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,<sup>M</sup> 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<sup>H</sup> 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*

# China's Taiwan Invasion Force Likely Requires 1,287,000 Troops Assembled and Readied Over Nine Months; Unlikely Before 2025, Likely By 2035

## Executive Summary

In order to successfully invade Taiwan, China would likely (56-70%) need a 1,287,000-troop invasion force and nine months or less to assemble on the mainland. Despite China's ongoing efforts to restructure and re-train its forces, it is unlikely (31-45%) that it will have these capabilities prior to 2025 but be virtually certain to have adequately trained troops and leaders by 2035. The People's Republic of China requires an invasion force of this magnitude to present a credible threat to Taiwan. Overwhelming force supports the Chinese strategy to win without fighting by rendering resistance less likely. The 1,287,000-troop estimate is based upon a generally accepted minimum invasion force ratio of 3 to 1 to overcome Taiwanese active and reserve forces likely numbering 429,000. Estimated troop additions of 90,000 per month, similar to what Russia was able to do in the weeks leading up to the invasion of Ukraine, when added to the current 416,000 east and southern troops, requires 9 months to reach 1,287,000 troops. Notwithstanding Chinese amphibious transportation limitations and recent reduction in ground forces, their tremendous ship building capacity and time to mobilize large ground forces between 2025 and 2035 make the threat likely.

## Discussion

The PRC's likely cross strait invasion force of 1,287,000 troops falls within the possible range of 429,000 to 2,145,000<sup>H</sup> troops required to defeat Taiwanese forces. The attacking to defending ratio is usually 3 to 1 up to 5 to 1<sup>H</sup> (See Table 1). This invader to defender troop ratio is based upon the assumption that China and Taiwan will likely both have modernized forces with similar combat power including technologically advanced weaponry and equipment.<sup>H</sup> Since neither country has combat experience and both are modernizing, training and readiness would likely be similar. The 2021 China Military

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

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



Power Report (CMPR) lists Taiwan's ground forces at 88,000 troops with total active-duty forces at 169,000.<sup>H</sup> China would need a minimum of 264,000 troops to attain a 3 to 1 ratio over the 88,000 active-duty ground troops in Taiwan. Given an existential Chinese attack, Taiwan would likely utilize all 169,000 active troops with 260,000 reserves<sup>H</sup> for a total of nearly 429,000 defending troops. Taiwan does not publish troop strength, only capabilities.<sup>H</sup> Several authors derive troop numbers from recent CMPRs.<sup>HHH</sup> The 260,000-reserve troop estimate is taken from a Taiwan's defense minister and is likely accurate.<sup>H</sup> Although one author states up to 2,000,000 reserves, they are unlikely an effective force as they are not well funded and likely untrained.<sup>H</sup> On the low end, 3 to 1 against only active-duty force of 169,000 yields 507,000 invading troops. At 5 to 1 ratio against 429,000 troops require a force of almost 2,145,000. The likely invasion force would be 1,287,000 troops or a 3 to 1 ratio against 429,000 Taiwan defending troops. An invasion force of this magnitude supporting multidomain operations would overwhelm Taiwanese resistance resulting in a fait accompli. Recent open-source satellite tracking of Russian troops surrounding Ukraine enables observation of troops type, amounts and locations<sup>H</sup> which apply to Chinese activity as well.<sup>H</sup>

Historically, the United States planned to invade a 30,000 to 100,000 Japanese soldier-controlled Taiwan with 400,000 troops.<sup>H</sup> One million two hundred thousand invading troops is likely to achieve victory, even without fighting. The PRC unambiguously describes their desire to build a large conventional and strategic force, when combined with diplomatic efforts, to "subdue the enemy's troops without fighting."<sup>H</sup> China intends to become a global force directly challenging United States' military dominance and to coerce Taiwan toward unification with China.<sup>H</sup>

The Russian deployments on Ukraine's borders demonstrates the ability to see the type, number, and location of forces<sup>H</sup> as well as the rate of accumulation<sup>M</sup> to predict a timeline. Commercial open-source satellite imagery from companies like Maxar precisely detailed the Russian activities including current movements.<sup>H</sup> Russia deployed 190,000 troops and materiel in ten months with the final 90,000 soldiers deployed in just one month.<sup>M</sup> The People's Liberation Army's current forces in south and east China number 416,000.<sup>H</sup> Considering Chinese infrastructure exceeds Russian infrastructure near Ukraine, China would assemble troops at a rate meeting or exceeding 90,000 per month. Therefore, China would take 9 months or less to reach the 1,287,000 soldiers necessary to conduct a successful cross strait invasion. The movements and assembly locations would be visible to commercial satellites as shown in the Russian example. Troop transport across the strait requires additional time. Additionally, China would likely prepare for a horizontal escalation by sending troops to the Indian border,<sup>H</sup> also visible by satellite.<sup>H</sup>

China's current cross strait Taiwan invasion capability is 25,000 troops.<sup>H</sup> Despite the currently insufficient amphibious capability,<sup>M</sup> China's additional limitations include a diminished ground forces, continuing requirement for security, and lack of transport vessels. China reduced its ground forces to enable naval and aerospace improvements.<sup>M</sup> China requires approximately one half of its ground forces to provide interior and border security.<sup>M</sup> Considering 2021 available ground forces of 1,040,000 soldiers,<sup>H</sup> sufficient invasion capability is absent. Despite China's current limited amphibious fleet, its capacity to rapidly produce a large fleet is well documented.<sup>H</sup> Finally, when China completes the modernization of its overall defense enterprise, it will have time to expand its ground forces to meet the likely target date range of 2025 to 2035<sup>H</sup> to invade Taiwan.

### **Analytic Confidence**

The analytic confidence for this estimate is moderate. Sources were reliable and had broad general agreement. Time was adequate, however the analyst worked alone and utilized open-source information to provide estimates based upon historical examples and western doctrine. Estimating Chinese risk tolerance, unanticipated events such as Taiwanese declaration of independence, and a rapidly changing energy environment, limits the report confidence to moderate despite overwhelmingly high-quality sources.

*Author: John Cletus Paumier*

# PLA Highly Likely To Increase Army And Marine Personnel As Precursor To Reunification Prior To 2049

## Executive Summary

Despite the People's Liberation Army's (PLA) year-over-year rise in modernization-focused military spending and the current advantageous force structure as compared to that of Taiwan, the PLA is highly likely (71-85%) to increase the number of Army and Marine warfighters prior to 2049. China's internal security requirements combined with Taiwan's growing multi-pronged defensive strategy and natural physical barriers provide credible dilemmas for which the PLA must demonstrate overmatch to create a credible land force in support of forced or coerced reunification.

## Discussion

The military reforms Xi Jinping directed in 2013 and implemented since 2015 represent marked improvements within the PLA in terms of advanced weapons system development and the training and doctrine to leverage their capabilities.<sup>H</sup> Resourcing these enhanced capabilities, the Chinese Communist Party (CCP) continues to increase military spending year-over-year with an estimated 6.8% increase in 2021 to a total of



Figure 1 A Taiwanese Soldier fires a Javelin shoulder fired missile during a training event in southern Taiwan.

Source: [Defense News](#)

over US\$209 billion.<sup>H</sup> The military spending value officially released by the CCP does not, however, account for all military expenditures. The Stockholm International Peace Research Institute estimates nearly 40% higher military budgets based on additional resourcing not included in official PLA fiscal disclosures.<sup>H</sup> Adding perspective to China's defense spending, the officially announced PLA budget is greater than the military budgets of India, Russia, Japan, South Korea, and Taiwan combined.<sup>H</sup> Compounding the impact of the fiscal investment the CCP continues to make in PLA capabilities, the absolute value of on-hand PLA personnel also greatly favors China. The Taiwanese government's internal estimates of available manpower during an onset of kinetic conflict with China is far less than the total active and reserve force of 2 million personnel; rather, Taiwanese defense officials estimate 450,000 available personnel.<sup>H</sup> Given the estimated size of the PLA of 2

million personnel,<sup>H</sup> the PLA currently fields a force large enough in size to theoretically accomplish a forced reunification, if not in composition.<sup>H</sup>

Despite the amount of CCP investment into modernization and the currently available PLA manpower, many factors suggest the current number of Army and Marine personnel will have to increase in order to effectively address Chinese domestic conditions and Taiwanese operational dilemmas encountered during coerced or forced reunification. The Taiwanese Overall Defense Concept (ODC) addresses the increasing Chinese technological overmatch and the expected realities of forced reunification; namely, a cross-strait invasion.<sup>H</sup> The pillars of the ODC reside in the use of conventional hi-tech capabilities as a deterrence, protection and survivability of the force during an initial PLA bombardment, and asymmetric capabilities if PLA forces begin crossing the strait.<sup>H</sup> Taiwan's one-time technological advantage empowered by U.S. foreign military sales has since eroded due to the CCP's focus on force modernization<sup>H</sup>; however, for now these conventional capabilities still represent credible operational dilemmas as they contest China's "grey-zone aggression."<sup>H</sup> The main strategic change highlighted in the ODC resides in the capability to contest a PLA invasion in Taiwan's littorals with small, highly mobile, relatively inexpensive, and lethal armaments leveraged throughout the defense-friendly terrain (see Figure 1).<sup>H</sup> A "large number of small things" makes PLA offensive operations problematic from a targeting and counterfire perspective.<sup>H</sup> Recent operations within Ukraine highlight the efficacy of highly mobile, relatively inexpensive weapons systems for use against both armor and aircraft.<sup>H</sup> Demonstrating resolve, as of 2021, nearly 73% of Taiwanese civilians voice motivation to defend Taiwan from an invasion.<sup>H</sup>

Additionally, given the primary directive to perpetuate CCP rule, the PLA are deployed throughout the Chinese mainland to address territorial integrity friction points with South Asian countries<sup>H</sup> and internally to control indigenous populations.<sup>H</sup> Though PLA personnel greatly outnumber Taiwan's available defenders, the internal security requirements associated with controlling a large populace and protecting its 14K mile border historically requires nearly half of the PLA's 2M personnel Army.<sup>H</sup> This, combined with the challenges of a cross-strait invasion, suggest the PLA must increase force structure to demonstrate a credible land force for coerced or forced reunification. Indeed, the PLA intends on completing a 400 percent increase in the PLA's Navy Marine Corps, from 20K to over 100K, while also reinvesting the Army's amphibious units into the Marine Corps.<sup>H</sup> With the 80K Marine personnel increase, the Army requires approximately 200K more Army warfighting personnel to meet internal security requirements and achieve a minimally credible land power force of a one-to-three, defender-to-invader ratio required of a cross-strait invasion.<sup>H</sup>



### **Analytic Confidence**

Analytical confidence in this estimate is *moderate*. The analyst had adequate time to provide an initial estimate; however, the question of the overall willingness of the CCP to utilize current military capability and capacity is complex and depends on dynamic internal and external political conditions. The reliability of sources is of good quality. Some sources conflict with respect to Taiwan's adherence to an asymmetrical strategy; however, overall analyst collaboration is strong.

*Author: Matthew "Kip" Marsh*

# China Unlikely Able To Establish Air Superiority Over Taiwan With Conventional Aircraft And Missiles Before 2035

## Executive Summary

Significant current and future investments by the People's Liberation Army (PLA) is unlikely (31-45%) to establish and maintain air superiority over Taiwan before 2035. Despite decades of PLA investments and modernization in an arsenal of aircraft and ballistic missiles, it is likely (56-70%) the Taiwanese Armed Forces (ROCAF) air defense system would survive PRC air and missile strikes, maintaining enough operational capacity and making the risk to a PLA invasion force prohibitive. The People's Republic of China (PRC) has numerous military options to compel Taiwan to unify with the Chinese mainland. Air superiority is almost certain (86-99%) a pre-condition for any of these military options to be successful.

## Discussion

The PRC has spent decades making vast improvements to their military forces. 2035 remains President Xi Jinping's goal for the PLA to become a fully modernized force and expect to be considered "world class"

by mid-century.<sup>[H](#)</sup> Fighter aircraft and missiles remain central to PRC credibility in executing military options for a "Taiwan contingency". Estimates show that the eastern and southern theater's PLA Air Forces (PLAAF) would have a 2:1 advantage over Taiwanese forces with the potential of a near 6:1 advantage in total aircraft in the PLAAF inventory.<sup>[H](#)</sup> As of April 2022, the PLAAF's newest fighter, the J-20



Figure 1 People's Liberation Air Forces J-20.

Source: [Business Insider](#)

(See Figure 1) is patrolling the south

and east China Seas. Beijing-based journalist, Li Jie reported that the "J-20's new deployment, announced ahead of the Communist Party's 100th anniversary on July 1, is aimed at telling South Korea and Japan that China is strengthening its air defense along the coastal areas, warning them not to join Washington and intervene in the Taiwan issue."<sup>[M](#)</sup>

In addition to a significant advantage in aircraft, in April of 2021 the Center for Strategic and International Studies (CSIS) estimated that the PLA had approximately 2000 short-range ballistic missiles (SRBMs) that could easily range and target ROCAF air defense

assets.<sup>H</sup> “China would have to establish total air superiority and command of the sea in the area.”<sup>H</sup> to have any chance of success at invading Taiwan.

According to Global Security, “Taiwan's close proximity to China has caused the Taiwanese armed forces to adopt an "air supremacy first" strategy that emphasizes early warning. Taiwan has established an air defense early warning network which, when used in conjunction with its ground-based SAMs and fourth-generation tactical aircraft, appears to pose a credible deterrent against an air attack from the mainland.”<sup>M</sup> Should the PRC try

to establish air superiority over Taiwan with aircraft and prolonged barrages with short-range ballistic missiles (SRBMs), the ROCAF is likely to receive advanced warning, allowing them to disperse and protect their fleet of aircraft and road-mobile missile defense assets. While PRC ballistic missiles are capable of 30m



Figure 2 Taiwanese war planes parked on a highway during an exercise to simulate a response to a Chinese attack on its airfields in Changhua in southern Taiwan. Source: [Yahoo News](#)

accuracy on point targets<sup>H</sup> that could damage ROC airfields, many highways in Taiwan can also serve as emergency runways

(See Figure 2).<sup>H</sup> Should portions of ROC aircraft and air defenses survive China’s initial bombardments “a Chinese amphibious invasion would be impossible, because Taiwan could pick off PLA landing craft as they motored across the Taiwan Strait.”<sup>H</sup>

### Analytic Confidence

The analytic confidence for this estimate is *high*. The sources were generally reliable and tended to corroborate one another. Numerous sources remain consistent with current and future Chinese investments and manufacturing capabilities of drone technology and associated advancements are well documented.

*Author: Lee W. Hemming*

# PLA Likely To Invade Taiwan-Controlled Islands Prior To Attempted Unification With Taiwan

## Executive Summary

The People's Liberation Army (PLA) will likely (56-70%) utilize joint operations to invade smaller islands currently administered by Taiwan, such as the Kinmen Islands and Pratas Atolls, as a precursor to reunification. Despite military capacity for larger amphibious operations, the political risks of failure coupled with key advantages of a smaller operation suggest a limited incursion as an antecedent to coerced or forced reunification.

## Discussion

Xi Jinping's 2017 military reforms reshaped the PLA force structure with a net decrease of 300,000 personnel.<sup>H</sup> Despite the net decrease, PLA marine forces increased from 10,000 in 2017 to an estimated 25,000-35,000 as of 2020.<sup>H</sup> The overall decrease, while substantial, still provides a force structure of approximately 2 million personnel<sup>H</sup> – a force large enough in total, if not in composition, to theoretically accomplish a forced unification with Taiwan.<sup>H</sup>

Despite the theoretical capability to seize larger islands, several factors suggest more remote options will likely precede attempted forced reunification. First, the PLA's nascent joint operational capabilities are not combat tested.<sup>H</sup> This, along with what the Atlantic Council estimates as a Taiwan invasion force requirement of nearly 1.2 million PLA personnel,<sup>H</sup> suggests the scope, scale, and complexity of the joint operation as too audacious for untested doctrine and personnel. Prudence suggests attempting a less difficult target in an effort to hone joint operations and battle harden personnel prior to a forced reunification.<sup>H</sup>

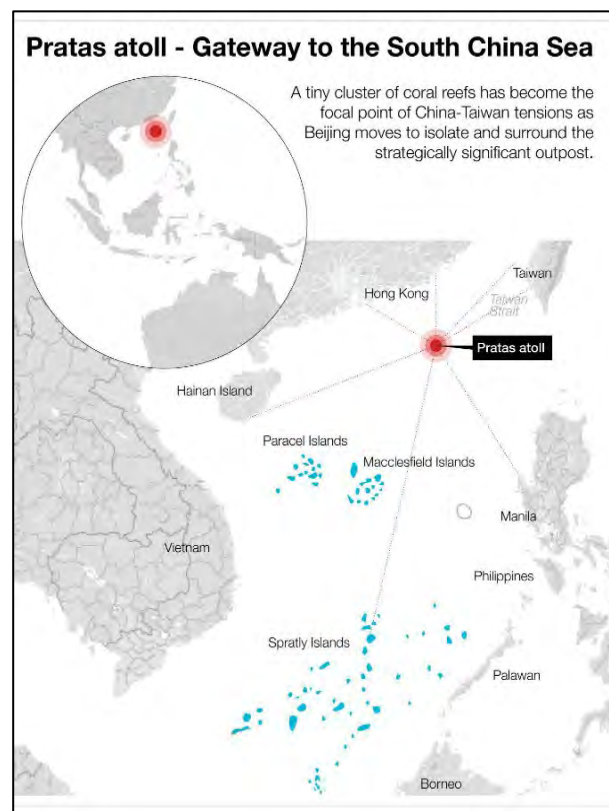


Figure 1 Image depicting strategic importance within the South China Sea.

Source: [www.news.com.au](http://www.news.com.au)



The primary objective for Xi Jinping and the Chinese Communist Party (CCP) is the continuation of the party's rule and protection of its interests.<sup>H</sup> Domestic support is pivotal to these ends<sup>H</sup>. The PLA risks diminishing domestic support if a large-scale military operation towards the island of Taiwan does not meet the desired outcome of reunification, thus a premature forced reunification with Taiwan carries unacceptable risk.<sup>H</sup> Indeed, the vast majority of mainland Chinese citizens do not support forced reunification<sup>M</sup>, let alone a failed attempt costing national treasure and lives. Additionally, a forced reunification attempt risks galvanizing U.S. security support with Taiwan and severely hampering continued Chinese economic growth, the latter directly impacting CCP domestic support.<sup>H</sup>

While the island of Taiwan remains the main reunification objective,<sup>H</sup> the seizure of less operationally challenging islands administered by Taiwan presents many advantages. Four strategically important island groups (see *Figure 3*) present varied opportunities for the CCP to test joint combat capabilities, potentially undermine the government of Taiwan, and to determine international will to support Taiwan.<sup>H</sup> While strategically imperative to the successful invasion of Taiwan, the Penghu Islands are the closest to



Figure 2 Image depicting islands administered by Taiwan.  
Source: [Yahoo News Australia](#)

Taiwanese resupply and relatively well fortified with armor, artillery, surface-to-air missiles, anti-ship missiles, and long-range radar.<sup>M</sup> Given the proximity to Taiwan and the capabilities present, the PLA must quell these islands for a successful invasion of Taiwan;<sup>M</sup> however, of the outlying islands, the PLA is unlikely (31-45%) to attempt invasion of this island group given the operational challenges and advantages other islands provide. Though closer to the Chinese mainland, the Matsu Islands host frequent Taiwanese military exercises and possess similar military capabilities.<sup>H</sup> Given other opportunities, the PLA are also unlikely to attempt forced reunification with these islands as an initial operation. The Kinman Islands and Pratas Atolls, though separated by hundreds of kilometers, both represent features the PLA will likely invade to set conditions for overall forced or coerced reunification. The Pratas Atolls represent a strategic crossroads between contested points within the South China Sea (SCS) (See Figure 1).<sup>M</sup> Fortified by a garrison of 200 Taiwanese marines and coast guard, it is remote and therefore represents increased logistical resupply challenges for Taiwan, particularly as

China tries limiting air access to the island and frequently conducts sorties challenging its airspace.<sup>H</sup> The Kinmen Islands, perhaps less strategically important than the Penghu Islands<sup>M</sup> or Pratas Atolls, is within eyesight of mainland China and correspondingly has closer ties to China than populace from the main island of Taiwan.<sup>M</sup> A successful assault on these islands serves to highlight Taiwan's inability to effectively defend its territory, tests U.S. security commitments within the region, and in the case of the Pratas Atolls, provides a strategic launching point for further PLA actions to the north for Taiwan or to the south for other contested areas within the SCS.<sup>H</sup> Based on the current PLA experience level, the political risks of large-scale forced reunification, and benefits present in smaller-scale operations, the PLA will likely focus their burgeoning joint force on the Kinmen Islands or the Pratas Atoll. These military options provide needed joint operational experience while minimizing the domestic political risks associated with a large-scale failure. Importantly, these options evaluate the political will of Taiwan's security partners while tightening China's strategic control of the SCS.

<b>Multi-Criteria Matrix for CCP Acquisition of Taiwan-Administered Islands</b>						
	<b>Strategic Importance</b> (Lower is Better)	<b>Distance to China</b> (Lower is Better)	<b>Fortifications</b> (Less is better)	<b>International Response</b> (Lower is Better)	<b>Population</b> (Lower is Better)	<b>Overall Rating</b> (Lower is Better)
<b>Matsu Islands</b>	4	2	4	3	2	15
<b>Kinman Islands</b>	5	1	1	1	5	13
<b>Penghu Islands</b>	2	4	4	5	4	19
<b>Pratas Atolls</b>	1	5	3	3	1	13

Figure 3 Multi-Criteria matrix depicting suggested order of CCP island acquisition.

Source: Matrix from Author with information for [Matsu](#), [Kinman](#), [Penghu](#), and [Pratas](#) Islands from various sources as linked.

## Analytic Confidence

Analytical confidence in this estimate is *moderate*. The analyst had adequate time to provide an initial estimate; however, internal CCP dynamics are complex and opaque to western audiences, thus future PLA actions towards Taiwanese islands can change based on CCP demands rather than prudent strategy. The reliability of sources are of good quality. Overall analyst collaboration is strong.

Author: Matthew "Kip" Marsh

# China Highly Likely To Employ Artificial Intelligence Assisted Intelligentized Command And Control System Between Now And 2031

## Executive Summary

Contrary to an assertion, China emerged as an industrial giant, recently surpassed the U.S. as a top high-tech manufacturer, and is a challenging competitor in the foundational technologies. The People's Liberation Army's (PLA) informatization and Artificial Intelligence (AI) advancement make it highly likely (71%-85%) that the PLA will be able to execute the military intelligentization incorporating an AI-assist command and control system between 2026 and 2036. The PLA plans include the development of the capabilities and concepts to cripple the U.S. battle network's command, control systems.

## Discussion

It is highly likely (71%-85%) between 2026 and 2031, the PLA will be able to execute the intelligentization phase of military modernization and incorporate AI-assisted command and control system to disrupt U.S. military command and control information systems (Watch video at Figure 1).<sup>H</sup>

Chinese military thinkers believe intelligentization is the center of gravity for challenging American military representing significant changes through cognitive space in which military decision-making and complex thinking leads to decisive advantage.<sup>M</sup> Xi Jinping stated, “[t]he extent to which Chinese aspirations for an innovative military strategy and doctrine become reality will largely rest on the application of emerging big data and AI technologies to military purpose and marriage of any ensuing new capabilities to existing



Figure 6 Air University clip on command and control in competition with PLA.

Source: [airuniversity.af.edu](http://airuniversity.af.edu)



Figure 3 China test control of driverless tank.

Source: [scmp.com](http://scmp.com)



Figure 4 Jezetec man-portable broadband wireless communication jamming system.

Source: [armyrecognition.com](http://armyrecognition.com)

PLA incorporated Military-Civil Fusion strategy to gain higher acquisition power through state-owned enterprises like the Aviation Industry Corporation of China, and China Aerospace Science and Technology Corp and their subsidiaries (watch video at Figure 5).<sup>M</sup>



Figure 5 Artificial Intelligence in China (key point between 1:49-2:40 minute mark).

Source: [Youtube.com](https://www.youtube.com)

concepts of joint force operation in system-of systems warfare.”<sup>HH</sup> (See Figure 3 for AI assisted control).

China has developed and tested driverless tanks which could be equipped with artificial intelligence to assist command and control as the PRC continues with its military modernization.<sup>M</sup> (See Figure 4).

He provided a strategic digital policy instruction that included AI as a command-and-control enabler.<sup>M</sup> Xi’s creation of urgency and persistent communication drove China to change<sup>H</sup> and embrace innovation as a concept (ways) to modernized and incorporate AI in the tools (means) to achieve the objective of winning with in warfare.<sup>H</sup> China is making swift progress in integrating AI as part its military modernization and Command and Control is one of seven discrete warfighting functional areas where PLA is adopting AI.<sup>H</sup> To accelerate intelligentization with AI,

China is also executing a centrally directed systematic plan to extract AI knowledge from abroad through espionage, talent recruitment, technology transfer, and investments.<sup>H</sup> China’s theft of major technologies is one key tenet of the PLA’s plan in developing the capabilities and concepts to cripple of the U.S. battle network’s command,



control, communication, and intelligence systems.<sup>M</sup> Contrary to the 1999 forecast in Time Magazine's special issue Beyond 2000 that "China cannot grow into an industrial giant in the 21st century," China recently surpassed the U.S. as the world's top high-tech manufacturer, and is a serious competitor in the foundational technologies including AI, 5G, Quantum information science (QIS), semiconductors, biotechnology and green energy.<sup>H</sup> In the case of AI races, China has already overtaken the U.S. to become the world's undisputed No. 1. The National Security Commission on AI forecasted, "China possesses the might, talent, and ambition to surpass the United States as the world's leader in AI in the next decade if current trends do not change<sup>H</sup> (See Figure 6).

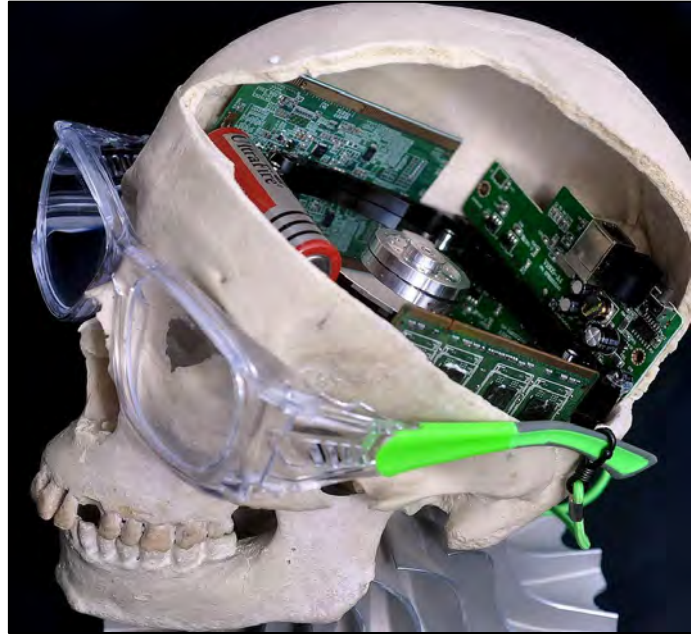


Figure 6 AI is especially appealing to the PLA because it has fewer legacy systems.  
Source: [c4isrnet.com](http://c4isrnet.com)

### Analytic Confidence

The analytic confidence for this estimate is *moderate*. There were numerous sources available which appeared reliable based on the credibility of their publications. While they tended to corroborate one another, they did vary in the confidence of China's AI programs and development. There was adequate time, the analyst worked alone and used an unstructured method. Additionally, given the extended time horizon of the estimate, this report is sensitive to change due to new information.

Author: Pratya "Lek" Siriwat

# Taiwanese Special Forces Likely To Cause Grave Danger Against People's Liberation Army During Combat Operations

## Executive Summary

The Taiwanese are putting a lot of money, time, and resources into ensuring their Special Operations Soldiers are ready to fight and will likely cause grave danger against the People's Liberation Army (PLA) while gaining combat operations. Despite the conversations and stories about how the U.S. Special Forces are training Taiwanese Special Operators it is making an impact and helping Taiwan remain in the top 16 Forces across the world will be able to compete against Chinese forces.

## Discussion

According to Woodward, "The Taiwanese new defense strategy and overall defense concept to counter the growing threat PLA there is more emphasis on Irregular Warfare that supports the both regular forces and Special Operations of adding more training concepts developing new concepts offensive and defensive information and electronic warfare, high-speed stealth vessels, shore-based mobile missiles, rapid mining and minesweeping, unmanned aerial systems, and critical infrastructure protection requirements."

Starting in fall, 2021, the Taiwanese Special Operations Forces conducted an urban tactical exercise, 21-day 505 km mission focusing on marching tactics in full combat gear simulating different kinds of scenarios while exercising communication, combat coaching skills to strengthen special operations and other critical tasks to enhance their skillset to prepare for future conflicts against China.



Figure 1 Taiwanese soldiers prepare grenade launchers, machine guns, and tanks for a drill simulating a Chinese invasion, in Tainan, Taiwan.

Source: [Business Insider](#)

In the last two years, the President of Taiwan is giving the Defense Budget \$17 Billion which is the highest budget ever given to is allocated to Taiwanese Navy for purchasing 10 MH-60R ASW helicopters, anti-submarine sonar systems, advanced avionics systems, MK-54 or MK-50 torpedoes, anti-ship variant of the Hellfire missiles, laser-guided rockets, machine guns. Details of the specific amount of money of this budget, is reported to be included in the classified part of the 2022 defense budget that will help shape and



*Figure 2 Taiwan's special forces advance covered by a smoke grenade during a heliborne assault training.*

Source: [Wall Street Journal](#)

fight with SOF operations in combat.<sup>H</sup> According to Woodward, “SOF can create redundancy in kill chains, targeting, and communications structures. Joint SOF command provides the capability to employ non-standard flexible units that can operate independently in a degraded communications environment capable of targeting land, sea, and air high payoff targets. SOF can support the conventional force fight in creating multiple dilemmas for the adversary on non-contiguous fronts incorporating means that could severely degrade and confound adversary systems and nodes.”<sup>M</sup>

According to Reuters, “A small number of U.S. forces are in Taiwan to train with Taiwanese soldiers, President Tsai Ing-wen said in an interview with CNN, confirming the presence of U.S. troops on the self-governing island that China considers its own (Figure 2).”<sup>M</sup>





Figure 3 Taiwan is strengthening their military training by receiving conducting joint U.S.-Taiwan training  
Click on image to view.

Source: [World Is One News](#)

### **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 used limited resources. Furthermore, given the lengthy time frame of the estimate, this report is sensitive to change due to new information.

*Author: Randy P. Lefebvre*



# China Highly Likely To Develop Small Drone Strike Capability To Defeat Taiwanese Air Defense System By 2035

## Executive Summary

Significant investments in drone technologies by the People's Liberation Army (PLA) make it highly likely (71-85%) that the PLA will have the capability to use a wide array of drones, including small drone technology, to establish and maintain air superiority over Taiwan by 2035. Despite the growth of drone capabilities and proven efficacy in recent wars, Counter-Unmanned Aerial System technologies (C-UAS) are highly likely to remain ineffective leaving gaps in the Taiwan air defense system. PRC drones are highly likely to provide a rapidly deployed first strike capability that can exploit these gaps paving the way for follow on attacks by PLA fighter aircraft and ballistic missiles.

## Discussion

A capability that the PRC could use in conjunction with their conventional air power to establish air superiority in the Taiwan Strait is their growing unmanned aerial systems

(UASs – drones). The use of UAS is not new and has been extremely effective recently in both the second Nagorno-Karabakh War<sup>H</sup> and the ongoing war in Ukraine.<sup>H</sup> (See Figure 1) These wars have notably demonstrated the weaknesses of conventional air defense systems against a variety of UAS.<sup>H</sup> Unlike



Figure 1 The Bayraktar TB2 UAS platform. The TB2 extensive success conducting both ISR and kinetic strikes.

Source: [Defense World](#)

mobilizing fighters and ballistic missiles, these UAS could allow the PRC to deploy drones undetected and strike Taiwanese air defense assets. This potential gap exists due to the lack of effective counter-UAS, (C-UAS).<sup>H</sup> According to Brett Velicovich, former U.S. soldier and current CEO of Drone Experts, there are well over 200 C-UAS technologies in existence, “yet there’s not one solution that I could point to and say, ‘Yes, 100 percent that’ll stop a drone from coming in’...that’s kind of scary when you think about all the money and brainpower being put towards it.”<sup>H</sup> A study from The Center for the Study of the Drone at Bard College reports that, “the proliferation of C-UAS technology might even accelerate the development of technologies that will render C-UAS systems ineffective, particularly in military environment.”<sup>H</sup>

Even the United States, who has maintained air superiority since the Korean War, is struggling to field a comprehensive C-UAS strategy.<sup>H</sup> In 2015, The Army identified a critical gap with respect to drones in short-range air-defense (SHORAD).<sup>H</sup> Since 2015 the Army has attempted to fast track the Initial Maneuver, Short-Range Air Defense (IM-SHORAD) vehicle.



Figure 2 U.S. Army IM-SHORAD Vehicle rapidly developed as part of urgent C-UAS capabilities gap.

Source: [Forbes](#)

(See Figure 2) The Army however is experiencing “problems at a higher rate than usual” despite many of the IM-SHORAD’s system components being mature technology.<sup>H</sup> David Hambling of Forbes contends that, “several countries including China, Israel, and Turkey – all big drone exporters – are working on fielding swarms of dozens, hundreds or even thousands of drones which can coordinate their attacks without direct human control.”<sup>H</sup> The lack of a comprehensive C-UAS technology presents gaps for the PLA to exploit in their pursuit of air superiority over Taiwan. It should come as no surprise that China is the world’s leader in unmanned aerial vehicles (UAV) development and commercial production. In fact, 80% of drones used in the United States and Canada are produced by Chinese manufacturer DJI.<sup>H</sup> This “solid manufacturing base puts Beijing in a strong position to build large numbers of small attack drones.”<sup>H</sup> With Taiwan’s air defense system focused on countering PRC fighter aircraft and ballistic missiles, PLA drones are highly likely an important key to achieving a surprise first strike. With precision targeting of key



Figure 3 Chinese have armed a newly introduced stealthy attack drone which may now be operational.

Source: [The National Interest](#)

assets combined with low collateral damage to Taiwan infrastructure would cripple the ROCAF's ability to prevent a PLA invasion force from crossing the Taiwan Straits. Following these attacks, it is highly likely the PLAAF would maintain complete air superiority and effectively protect a PRC invasion force. As the invasion force approaches their landing sites, these same drones are capable of being deployed to overwhelm beach and other defenses as PLA troops come ashore.<sup>H</sup>

China's strategy for winning "intelligent conflicts" increasingly revolves around a wide array of UAVs that, "enables the People's Liberation Army (PLA) to perform intelligence, reconnaissance and disruptive operations as well as direct attacks on enemy targets at relatively low cost."<sup>H</sup> The PLA currently boast UAV platforms that range from sub space, supersonic reconnaissance with the

Wuzhen 8 (WZ-8),<sup>H</sup> to the Gongi-11 (GJ-11) stealth drone with internal weapons bays similar to the Navy's XB-47 (see Figure 3),<sup>H</sup> and small long loiter munitions that are swarm capable. According to an article in the Global Times, once these smaller drone swarms "...receive an order to attack, they will engage the target autonomously in a coordinated manner. Upon finishing a mission, the system will lead the drones back to base and land automatically. The operator does not need to expose himself or herself in a dangerous frontline as the drones can easily be controlled remotely."<sup>H</sup> This models DARPA's Offensive Swarm-Enabled Tactics (OFFSET) program.<sup>H</sup> David Hambling from *Forbes* notes, "Defending against this type of swarm is challenging (See Figure 4). Jammers may not work against autonomous drones which do not have a direct link to the operator and which may navigate by landmarks (like AeroVironment's SwitchBlade) and do not rely on GPS."<sup>H</sup>

### Analytic Confidence

The analytic confidence for this estimate is *high*. The sources were generally reliable and tended to corroborate one another. While the efficacy of some of the technology is



Figure 4 The launch vehicle, with 48 cells for drones. Click on picture to access video.

Source: [Forbes](#)

questionable, numerous sources remain consistent with current and future Chinese investments and manufacturing capabilities of drone technology and associated advancements are well documented.

*Author: Lee W. Hemming*



# China's People's Liberation Army Invasion Of Taiwan Ports Likely By 2035

## Executive Summary

China's People Liberation Army (PLA) invasion is highly likely (71-85%) of the Taiwan ports by 2035. The PLA's ability to fight on the ground is essential and to have many fighting vehicles and troops on the ground for the invasion. Despite the joint effort and massive People's Liberation Army Navy Marine Corps' (PLANMC) with many ships, winning the war on the ground will require having tanks on the land to fight.

## Discussion

The PLA continues to conduct dozens of exercises and fly many sorties on a yearly basis to prepare for an invasion of seven of the ten ports in Taiwan by 2035. "There is a belief China will prepare for a strong fight against Taiwan according to Easton, PLA studies note that the island's port defense operations could be further bolstered by any available Taiwanese Air Force fighters, Navy fast attack craft, Army helicopter gunships, coastal defense cruise missile launchers, and multiple launch rocket systems."<sup>H</sup>

Taiwan continues to conduct live-fire exercises and nighttime exercises to master training while ensuring its Soldiers are ready to deter a potential attack from China as tensions continue to rise in the region. (see Figure 2). For China to successfully take over and "reunify" Taiwan by force, "the Chinese People's Liberation Army would need to move potentially millions of troops across the Taiwan Strait in actually conquering the island."<sup>H</sup>



Figure 1 Hostile Harbors: Taiwan's ports and PLA invasion plans.  
Source: [Project 2049 Institute](#).

“According to Axe, Chinese military writings, the center of each Taiwanese port will be defended with concentrated ground forces in well-prepared, covered defense works, which could include underground bunkers and tunnel systems.”<sup>M</sup>

The closest port in Taiwan to China’s mainland is the Port of Taichung and considered one of the biggest ports that is crucial to moving large

tactical vehicles and is nearly located by the Taichung International Airport. According to Easton, “The Port of Taichung appears to be the most probable location for a major PLA landing attempt and there are a number of ways the PLA could seize Taichung, which lies on Taiwan’s west coast, just 100 miles from mainland China.”<sup>H</sup>

In the late winter of 2021 China considered to have the largest Navy ship count and continues to grow.<sup>M</sup> According to Shelbourne, “As of 2020, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors. The PLAN is also emphasizing maritime joint operations and joint integration within the PLA. This modernization aligns with the PRC’s growing emphasis on the maritime domain and increasing demands for the PLAN to operate at greater distances from China.”<sup>M</sup>



Figure 2 Taiwan holds anti-invasion drills amid invasion fears from China which claims sovereignty over the island nation. Click on image to view video.

Source: [The World is One News](#)



Figure 3 Port of Taichung

Source: [Taiwan International Ports](#)

### **Analytic Confidence**

The analytic confidence for this estimate is *high*. Sources were generally reliable and corroborate with 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. Given the length of time for this report and potential changes with CCP military may adjust the type of invasion is subject to change.

*Author: Randy P. Lefebvre*

# China's Amphibious Fleet Likely To Double In The Next 5-10 Years

## Executive Summary

It is likely (56-70%) that the Chinese military will develop more amphibious capabilities to compete in the Taiwan Strait to generate a credible land power force. The China military continues to invest heavily in producing larger and faster vessels striving to have the strongest Navy in the next 5-10 years. Despite China having 355 battle boats in the PLAN, there are only three aircraft carriers compared to the U.S. has 11 aircraft carriers and will challenge China to secure critical objectives in Taiwan.

## Discussion

The PLA is spending billions of dollars to have the most robust and most powerful amphibious capabilities by 2028-2030. The PLA placed more emphasis on improving the People's

Liberation Army

Army's (PLAA)

ability to conduct

amphibious, combined

arms operations and

the People's

Liberation Army Navy

Marine Corps'

(PLANMC) ability to

react and deploy

overseas quickly.<sup>M</sup>

According to

Shelbourne, "The

People's Liberation

Army Navy (PLAN) is

slated to expand its

inventory from 355 to

420 ships within the

next five years as this

will support the PRC's goal of building a 'strong and modernized naval force and even to the point of having as many as 460 ships by 2030.'<sup>M</sup>



*Figure 7 This the Type 075 Amphibious Assault Ship practicing the off-loading one of thirty-five the newest ZBD-05 amphibious infantry fighting vehicle to the shoreline during an exercise.*

Source: [Wikipedia](#)



Also, according to Shelbourne, “the U.S. Congress mandates a review of China’s navy growing ambitions. The PLAN comprises modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors. The PLAN also emphasizes joint maritime operations and joint integration within the PLA. This modernization aligns with the PRC’s growing emphasis on the maritime domain and increasing demands for the PLAN to operate at greater distances from China.”<sup>M</sup>

Although PRC has 355 ships which are 59 more than the U.S., the PRC is tremendously lacking in Aircraft carriers, although the third was complete in FEB 2022 and remained eight aircraft carriers behind the U.S. Navy.<sup>L</sup>

According to Brimelow, “The PLAN’s Eastern Theater Navy saw the most change, adding seven ships (one frigate, five corvettes, and one amphibious transport dock) while losing 10 (eight missile patrol craft and two medium landing ships), though the report doesn’t say whether those ships were decommissioned, reassigned, or removed for some other reason.”<sup>M</sup>

Also, according to Brimelow as of March 2022, “Northern Theater Navy added five ships (one cruiser, two destroyers, and two corvettes) and lost five (two medium landing ships and three missile patrol craft) and Southern Theater Navy added three vessels (two nuclear-powered attack submarines and one amphibious transport dock) and lost 17 (one destroyer, four frigates, three tank landing ships, one medium landing ship, and eight patrol craft).”<sup>M</sup>



Figure 2 China now has the world's largest navy – with a new aircraft carrier set to be launched in mid-to-late 2022.  
Source: [News World Wide Coverage \(WNC\)](#)



Figure 3 The Map of PLAN forces provides an updated count of the vessels assigned to each of its three fleets, based in the PLA's Northern, Eastern, and Southern Theaters.

Source: [Business Insider](#)

## 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 used limited resources. Furthermore, given the lengthy time frame of the estimate, this report is sensitive to change due to new information.

Author: Randy P. Lefebvre

# D-Day-Like Invasion Of Taiwan Unlikely; Beaches Too Small, Heavily Defended

## Executive Summary

The landscape is best for Taiwan's defense, with limited space on the small beaches with a less variable invasion approach and bordered by cliffs and dense jungles, making it unlikely (31-45%). Despite the fact China has conducted many different beach landing exercises and drills, the terrain and obstacles of Taiwan have is will unlikely give the China force the same effect. The geography and amount of troops Taiwan must defend their land are drastically different compared to other successful amphibious such as the invasion of Normandy or the Battle of Okinawa.

## Discussion

According to Forbes aerospace and defense writer, David Axe, if China were to invade by beachfront the massive strength of Taiwan forces would use their thousand tanks to prevent utilizing the southwestern beaches and expect to lose most of them.<sup>M</sup> Although there are 14 beaches that are adequate for amphibious operations (only two highlighted in pink in Figure 1),<sup>L</sup> is suitable for amphibious invasion. These two beaches are defended with many tanks and other weapon systems hidden in caves, elevated positions, bridge underbellies, airport hangars, and empty factories giving the Taiwanese Army a huge advantage.<sup>M</sup>



Figure 1 Taiwan potential and high potential invasion beach areas.  
Source: [Express News UK](#)



Prior to invasion of Normandy there were five beaches for the forces to attack and the planning for a 50-mile radius to secure the land from the German's protected area was very challenging to make the mission happen.<sup>M</sup>

According to Ian Easton, senior director at Project 2049, "Normandy's beaches were heavily fortified, but lightly garrisoned. They were defended by around 50,000 troops under German command. To defeat them, the Allies employed over 6,000 ships and over 1,000 aircraft, which together landed

approximately 155,000 troops on D-Day, including 24,000 by air."<sup>H</sup> When comparing to Taiwan, the manning difference massively night and day type of similarity with Taiwanese forces would be almost nine times larger than the 50K under the German Forces at Normandy equaling almost 450K during wartime.<sup>M</sup> According to Wang, "China has never had a naval military operation of any kind in the last two centuries. China had major military action during the Korea war in the early 1950s and a significant border war with Vietnam in the 1980s. It was all land army fighting and minimal air fighting compared to using all of your military abilities like the U.S. does for the last 80 years."<sup>M</sup> The uniqueness of Taiwan is the fact of two-thirds of the terrain (see Figure 2)<sup>M</sup> is mountains which makes it very easy to defend the beaches with artillery and missiles that would make it ten times harder to invade for China.<sup>M</sup>



Figure 2 Taiwan coast is unsuitable for Armies to invade.  
Source: [Next Big Future](#)

### 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 used limited resources. Furthermore, given the lengthy time frame of the estimate, this report is sensitive to change due to new information.

Author: Randy P. Lefebvre



# China's Large Scale, Multi Year, Joint Multi Domain Exercises At Multiple Joint Training Centers Likely Designed To Signal To Taiwan, US Credible Invasion Capability By 2035

## Executive Summary

China likely (56-70%) has adequate training and simulation facilities to train a Taiwan invasion force by 2035. A minimal invasion force of 260,000 troops will likely distribute as 10,000 soldier exercises across multiple Chinese joint training centers in a compressed time frame compared to usual training cycles signaling to Taiwan a credible invasion capability. This will occur after years of smaller scale joint exercises, with progressively decreasing cancellation rates, sequentially training major combat elements of a Taiwan invasion force between now and 2035. China will likely conduct simultaneous amphibious assault exercises demonstrating troop movement capacity required for a Taiwanese invasion.

## Discussion

China needs to train a minimum of 264,000 troops to establish a credible invasion force capable of overwhelming Taiwan's 88,000 active-duty troops at a 3 to 1 ratio (See [Troops Report](#)). The Chinese conducted ZAPAD/INTERACTION-2021, a joint combined arms exercise with MDO style sophisticated communication



Figure 1 Chinese theater map with group armies.

Source: [Defense.gov](#)

and integration involving 10,000 to 13,000 troops at the Qingtongxia Combined Arms Tactical Training Base.<sup>M</sup> The companion exercise occurred on the eastern seaboard with Special operations forces and amphibious marine landings in concert with Russian forces.<sup>M</sup> Once the PLA reaches its modernization goals, credible invasion force generation will likely follow. China will likely train all 264,000 troops of a Taiwan invasion force spread across all six joint training bases as well as at Zhurihe over a comparatively compressed period of time than prior training evolutions. The exercises would require multiple theater army groups, with the main identifier armies being the 71, 72, and 73 group armies which come from the Eastern Theater Command bordering the Taiwan Strait<sup>M</sup> (See figure 1).

The national training center at Zhurihe presents the largest training area complete with a replica of the Taiwanese presidential office building in an urban center and a simulated air base.<sup>M</sup> The Zhurihe complex and surrounding training centers approach the size of Fort Irwin training center.<sup>M</sup> There are six other regional tactical training centers for an additional training, likely for smaller units.<sup>M</sup> China will likely conduct brigade sized training exercises at the six smaller training bases as military modernization progresses towards Xi Jinping's goal of modernization by 2035.<sup>M</sup> The People's Republic of China publishes little regarding the regional training bases. Various sources reveal several bases such as Heihe,<sup>L</sup> Hefei,<sup>L</sup> Tianjin,<sup>L</sup> Bayingol,<sup>H</sup> Qingtongxia,<sup>M</sup> and Yichang.<sup>M</sup> The People's Liberation Army will likely require all of these bases to train a larger 5 to 1 invasion force of 440,000 troops or a 3 to 1 ratio of 1,287,000 against a combined Taiwan active and reserve force of 429,000 troops.

Chinese training and combat readiness is determined by a high percentage completion of announced exercises. A Taiwanese Army officer with operational and intelligence experience, interviewed by our team (See [Annex E](#) for complete notes), described the Taiwanese method for tracking Chinese military exercises. He stated that China usually announces exercises but does not announce cancellations. China silently cancels exercises when designated units are not ready. Thus, comparing announced to completed exercises serves as an indicator for readiness.

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.<sup>M</sup> The Eastern Theater Command of the People's Republic of China will likely lead the pre-invasion exercise at Zhurihe as that command has operational control over Taiwan, Japan, and the Senkaku Islands.<sup>H</sup> The activity will likely be visible to open-source satellite imagery<sup>M</sup> (See Figure 2).

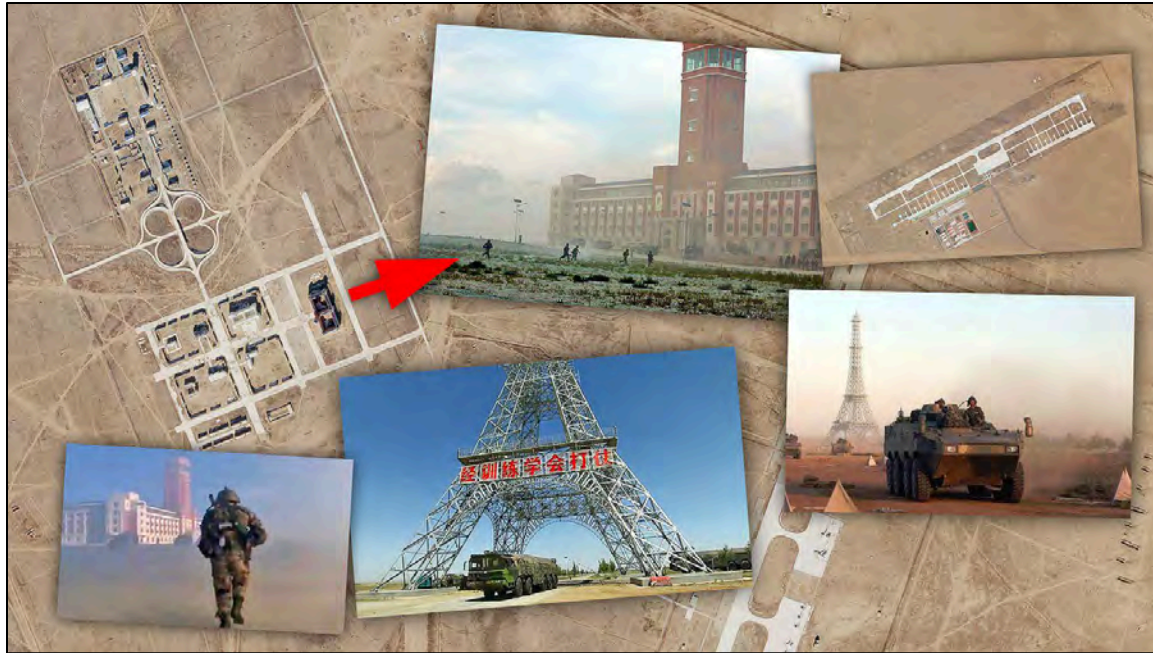


Figure 2 Zhurihe National Training Center with Taiwan presidential office building replica.  
Source: [Thedrive.com](http://thedrive.com)

Despite China's lack of combat experience, realistic intensive training against a capable opposition training force is likely to effectively prepare the People's Liberation Army for large scale conflict.<sup>M</sup> China's blue force provides United States /NATO opposing capabilities at Zhurihe against the red Chinese forces.<sup>ML</sup> China will unlikely (31-45%) initiate a conflict to obtain combat experience over choosing effective training. During our interview with the Taiwanese officer, he expressed the Daoist ideal of "completeness" as the main reason for Chinese focus on realistic training over combat. Completeness resists using energy towards a different goal other than the surrounding circumstances and capabilities.<sup>M</sup> Completeness, as described by the Taiwanese officer, seeks full preparation, maximizing benefits, and minimizing costs to gather the people's will. Furthermore, the Taiwanese officer explained through completeness that China's seemingly aggressive actions are meant to distract the enemy while China progresses toward full preparation. Combining this philosophy with Sun Tzu's concept of winning without fighting,<sup>M</sup> an overwhelming force trained against a U.S./NATO force will likely effectively communicate the presence of a credible military force to Taiwan and the United States in support of unification.

### **Analytic Confidence**

The analytic confidence for this estimate is *moderate*. Sources were generally reliable and tended to corroborate one another. There was inadequate time, the analyst worked alone, and did not use a structured method. Given the extremely limited data from which to draw conclusions, time estimates regarding training effectiveness could accelerate faster than the detailed estimate. Close observation of training evolutions will affect the projected timeline.

*Author: John Cletus Paumier*



# 2049: It Is Highly Likely That China Focuses On Their Goal Of Becoming A Global Superpower While Keeping Taiwan In Their Shadow

## Executive Summary

Unification with Taiwan is highly unlikely (16-30%) to supersede Xi Jinping's ultimate vision of China as the world's dominant superpower by the People's Republic of China (PRC) 2049 Centennial. Rather, Taiwan is almost certain (86-99%) to be a target of opportunity for the PRC to address at a time of their choosing. While China's significant military progress and increased power projection throughout the region threaten Taiwan, the overarching goal remains 2049. The PRC's massive military buildup and modernization efforts in the People's Liberation Army (PLA) currently provide China with numerous military options to force a unification with Taiwan. Despite these military investments creating numerous military options, the cost and risk to domestic stability if a forced unification is attempted is likely (56-70%) too high until 2027-2035. 2027 through 2035 coincides with benchmarks set by Xi Jinping's of achieving a fully modernized military. Until these modernization efforts are complete, it is highly unlikely that Xi Jinping pursue a solution with Taiwan and risk his vision of the PRC as the world's dominant superpower by the 2049 Centennial. Taiwan is likely (56-70%) to remain a target of opportunity for the PRC to address at a time of their choosing. This maneuver campaign is highly likely to maintain the status quo with Taiwan through 2030-2035, after which the PRC's modernized military can reduce the operational and strategic risk associated with a forced unification of Taiwan.

## Discussion

PRC modernization efforts began in the late 1990s after the 1995-1996 Taiwan Strait Crisis when the United States intervened with two Carrier Battle Groups in the South China Sea (See [A2AD](#) Report). Without significant changes, the PLA would not be able to prevent outside intervention in the



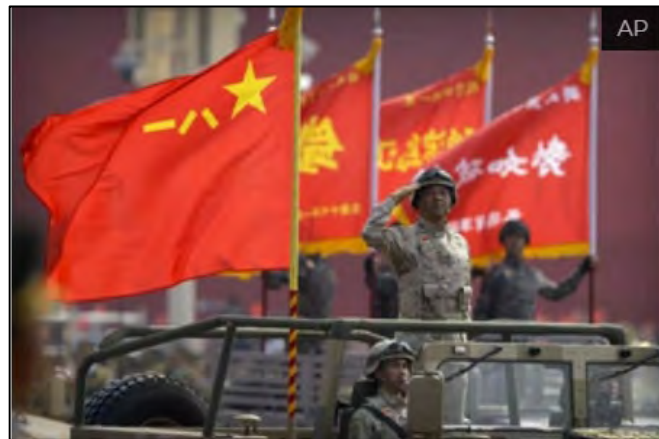
Figure 1 PLAN increasingly more aggressive in the South China Sea.  
Source: [U.S. Naval Institute](#)

region and remain unable to expand China's influence in the South China Sea. Developing an expansive A2AD system was the first step to achieving regional control (See [A2AD](#) Report). The PRC has ensured that this A2AD strategy is highly likely to redefine the risk calculus and

power projection capability of the United States (See [A2AD](#) Report). Underneath the veil of an advanced A2AD strategy, the PLA continues to make significant advancements in their ability to project regional power. China's naval investments will create a PLA Navy (PLAN) that analysts believe will overtake the United States Navy by 2030 (See [Navy](#) Report). These naval and A2AD investments in regional expeditionary operations, combined with force structure changes that are increasing the size of the PLA Marine Corps (PLAMC) (See [Troops](#) Report), are creating the first steps to regional expeditionary capabilities beyond the Nine-Dash Line while continuing to keep Taiwan unification in sight.

Many analysts assert that PLA modernization investments and overall growth are specifically focused on the unification of Taiwan (See [Navy](#) Report). However, The PRC's expeditionary naval investments are highly likely representative of China's pursuit of logistical and operational hubs across the region (See [Navy](#) Report). The 99-year acquisition of key infrastructure in Cambodia, which contains roughly 20% of the country's coastline, provides an excellent hub for the PLAN power projection well beyond the first island chain (See [Cambodia](#) Report). China's other significant project is the Belt and Road Initiative (See Figure 2). Establishment of secure land lines of communication (LLOCs) is further strategic maneuvering in support of access and influence increasing resource security critical to maintaining domestic stability.

Forecasting the likely intentions of the PRC with regard to Taiwan is difficult in that their strategic maneuvering in the region and beyond also directly supports positioning for a possible forced unification with Taiwan. These opaque strategic moves, much like their military-civil fusion (MCV) strategy, cloud the true intentions of assets like maritime ferries (See [Navy](#) Report). Dr. Phillip C. Saunders, Director for the Center for the Study of Chinese Military Affairs notes in his April 2022 lecture at Stanford's Hoover Institute, "while a permanent status quo with Taiwan is not acceptable, the urgent goal for the PRC is to prevent Taiwan independence and an ultimate goal of unification."<sup>H</sup> Although unification is the goal, the status quo does provide stability and keeps the door open for a peaceful unification. Dr. Saunders further notes, "Military solutions have high political, economic and military risk."<sup>H</sup> To reduce risk it is highly likely the PRC will use the domain of time to maintain Taiwan's status quo while keeping Taiwan a target of opportunity as the PRC continues tracking to their global focus of a the China Dream in 2049.



*Figure 2 With Russia's military failings in Ukraine mounting, no country is paying closer attention than China to how a smaller, outgunned force has badly bloodied what was thought to be one of the world's strongest armies. Source: [Economic Times](#)*

### **Analytic Confidence**

The analytic confidence for this estimate is *moderate*. While sources were reliable and tend to corroborate one another, the complexity of forecasting the true intentions of the PRC remain difficult. The analyst did not have enough time to pursue deeper research in many areas that are likely to provide more detailed forecasting data.

*Author: Lee W. Hemming*

# A2AD Cuts Both Ways: China Unlikely To Set Conditions For Amphibious Invasion Of Taiwan Before 2035

## Executive Summary

The Peoples' Republic of China (PRC) is unlikely (31-45%) to set conditions for an amphibious invasion of Taiwan before 2035. Amphibious operations are known for their complexity, considerable risk and the need to dominate the battlespace, specifically the air domain. While the sophistication of warfare has dramatically changed since the last major amphibious operation during the Korean War, the challenges of landing an amphibious assault remain. The overmatch required to defeat modern precision fires from air, land and sea during a contested landing is likely (56-70%) beyond the capabilities of China. Current and future Republic of China (ROC) defense investments in a wide array of missiles now present PRC planners with the challenging task of creating air superiority to protect the formation of an amphibious force from attack while still in Chinese ports.

## Discussion

Noted military theorist Lidell Hart stated, "A landing on a foreign coast in the face of hostile troops has always been one of the most difficult operations of war."<sup>H</sup> History has shown that amphibious operations can provide operational and strategic maneuver that can significantly shape the outcome of a war. JP 3-02 *Amphibious Operations* states, "Operations should create freedom of action for the amphibious force, while controlling the tempo better than the enemy can."<sup>H</sup> The last major amphibious operation representative of this took place during Operation Chromite, the landing at Inchon (See Figure 1). A surprise flanking maneuver struck a major gap in the North Korean defensive lines breaking the stalemate of the Pusan perimeter and allowing

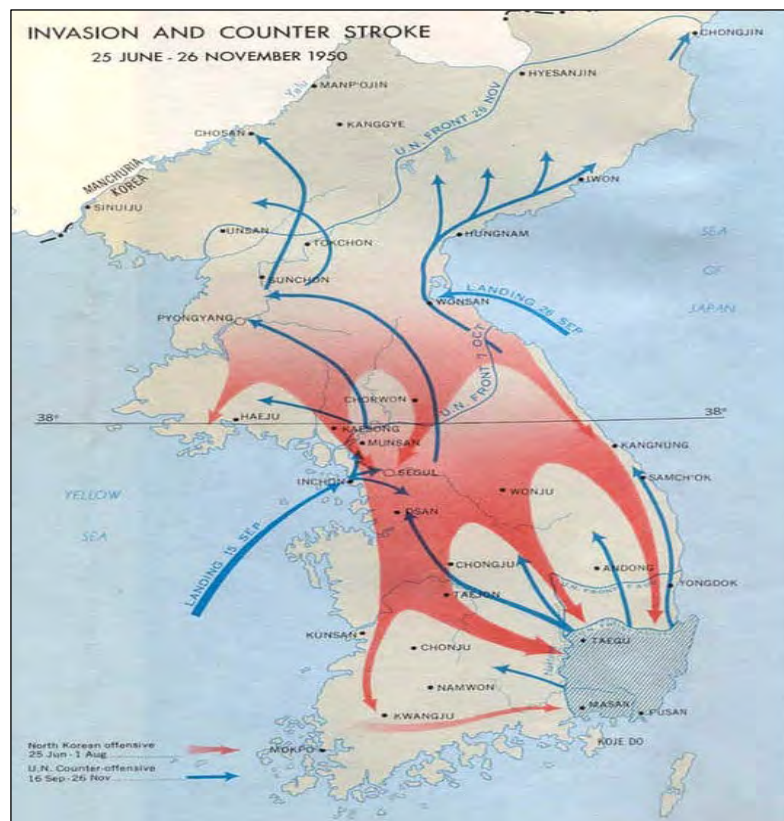


Figure 1 Inchon amphibious landing capitalized maneuver space to strike a gap in North Korean defenses.

Source: [Battle at Inchon](#)



U.S. forces to recapture Seoul.<sup>H</sup> Taiwan however, does not present the People's Liberation Army (PLA) with operational maneuver space to strike a gap. The PLA amphibious force will have to transit under threat of ROC missile strikes and rather than creating maneuver space, the PLA will land on heavily defended beaches. In his Congressional testimony on *Amphibious Operations in Contested Environments*



Figure 2 ROCAF conducting shore defense exercise.

Source: [Reuters](#)

Bradley Martin notes, “One of the major advantages of amphibious forces is their ability to use the ocean and coast as operating space and move into areas where the adversary has not prepared defenses. If the adversary has prepared defenses, the challenges can be formidable.”<sup>H</sup> Prepared defenses is exactly what a PRC invasion force would encounter since the Taiwanese military's sole priority is the defense of the island against invasion from the PRC (See Figure 2).

It is no surprise that China has a significant military advantage over Taiwan in both size and spending power (See Figure 3). According to the 2021 Department of Defense (DoD) annual report to Congress on *Military and Security Developments Involving the People's Republic of China*, China's defense spending in 2021 was roughly \$209 billion USD, roughly thirteen times Taiwan's budget of \$15.4 billion USD.<sup>H</sup> Although China holds numerical superiority in every aspect of the military, the PLA are unlikely to establish and hold air superiority to the extent that is required of amphibious operation across the Taiwan Strait. China remains on track to complete full modernization of their military by 2035,<sup>H</sup> however current modernization and technical advancements have yet to reduce the challenges and risks of an amphibious operation. Despite PRC's growing military advantages, Taiwan still holds numerous advantages and a “porcupine” defense that can strike a PLA invasion force at the point of origin.<sup>H</sup> While China has built an A2AD system that can potentially isolate Taiwan from international intervention if attacked, Taiwan has developed a capable A2AD structure largely centered around a growing arsenal of ballistic and cruise missiles. This significantly complicates PRC planning if a forced unification is considered.

While modest in the context of China's defense budget, Taiwan's 2020 \$2.37 billion dollar investment in 100 Harpoon Coastal Defense Systems and 400 Block II Harpoon 84-L-4 with an estimated range of 78 miles combined with a road-mobile supersonic missile in the Hsiung Feng III with a range of nearly 250 miles gives the ROC Armed Forces (ROCAF)<sup>H</sup> with range and modern precision lethality that would make an amphibious operation extremely challenging (See Figure 4).<sup>H</sup> Analysts note that, "Taiwan has begun developing and deploying missile systems better suited for strike missions, including longer-range, land-attack cruise missiles. Taiwan has pursued these programs discreetly to avoid raising concerns in the United States or the People's Republic."<sup>H</sup>

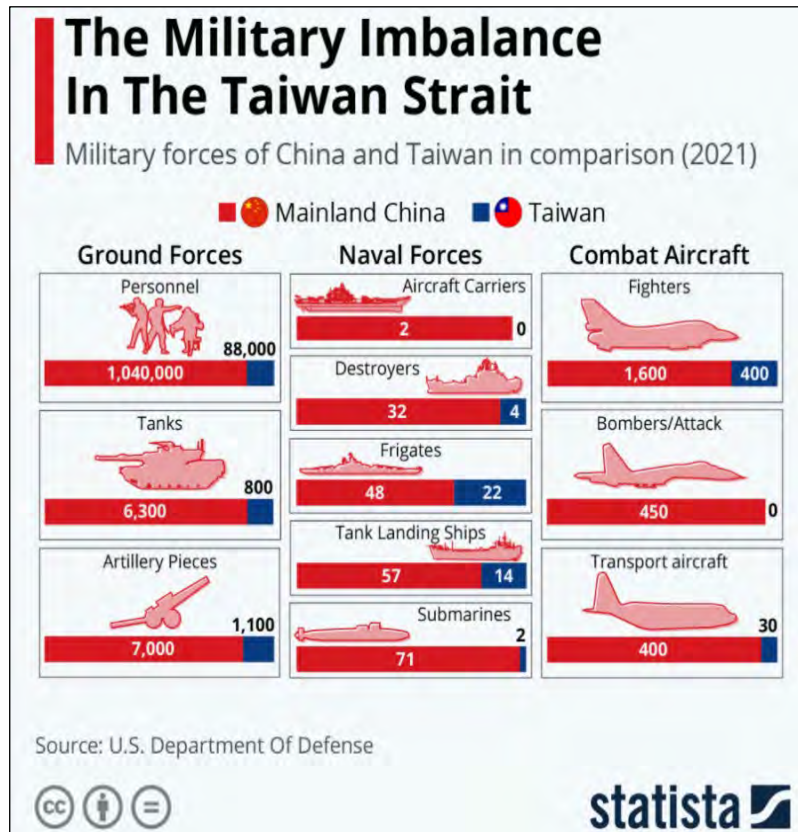


Figure 3 China and Taiwan military comparison.

Source: [Statista](#)

Current hardening of critical assets like early warning radar and missile batteries are improving the ROCAF's first strike survival and counter strike capabilities. A sophisticated combination of overlapping radars, air defense and ballistic/anti-ship cruise missiles can contest a PLA amphibious assault force at the point of origin.<sup>H</sup> Taiwan does not have to win against China, they only need to not lose. As noted in the Department of Defense's 2021 Military and Security Developments Involving the People's Republic of China, "These stresses, combined with the PRC's combat force attrition and the complexity of urban warfare and counterinsurgency, even assuming a successful landing and breakout, make an amphibious invasion of Taiwan a significant political and military risk for Xi Jinping and the Chinese Communist Party."<sup>H</sup>

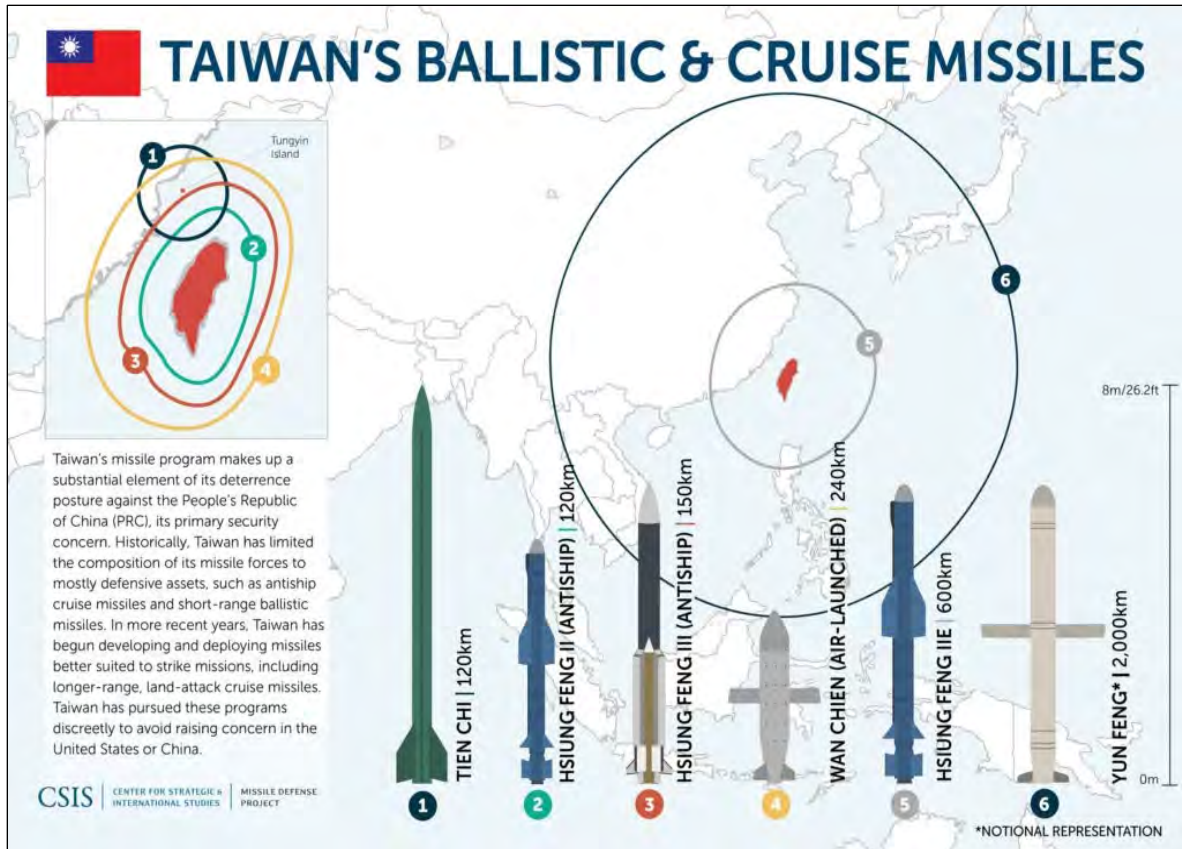


Figure 4 ROC ballistic and cruise missile arsenal. Click on picture to see a larger view.  
Source: CSIS

## Analytic Confidence

The analytic confidence for this estimate is *high*. Sources were dependable and corroborated one another. Technical information and defense investment estimates and goals remain consistent over time.

Author: Lee W. Hemming



# China's Diplomatic/Economic Maneuver As India's Partner Highly Unlikely To Lead To Large Scale Armed Conflict With India Between Now And 2049

## Executive Summary

Despite prolonged disputes and skirmishes along the China-India border, China's diplomatic view of its relationship with India as partners, not rivals, makes it highly unlikely (16%-30%) that the two countries will engage in large-scale armed conflict between now and 2049. India's growing military cooperation with the U.S. poses some concern, but China generally does not consider India a major threat.

## Discussion

China has been busy with diplomatic engagement with India, considering the world's focus on the War in Ukraine. Despite the unresolved military clashes,<sup>M</sup> Chinese Foreign Minister Wang Yi recently stated that India and China should help each other achieve their goals, not “draining each other's energy,” affecting or interfering with the bigger picture of bilateral cooperation.<sup>M</sup> There was some concern that the violence in the Galwan valley<sup>M</sup> would negatively impact the rapidly growing trade rate between the two countries. Still, last year, however, the India-China bilateral trade hit a record high of over \$125 billion, and the first quarter of 2022 data showed an increase of 15.3 percent.<sup>M</sup> In effect, marketing continues to grow despite the two-year-long border standoff between the armies of India and China in eastern Ladakh (See Figure 1).

As far as the continuing standoff on the disputed ground along the Line of Actual Control (LAC) in the China and India border area,<sup>H</sup> there was a lack of official comment from either side on what happened on the ground on May 5, 2020.<sup>H</sup> Despite 13 rounds of Corps Commander-level talk, neither side could agree on the proposal for disengagement. The border tension between the two countries will remain status quo as neither side intends to initiate a large-scale conflict while continuing to invest in infrastructure to support their force deployment in their respective areas.<sup>MMMHHM</sup> The dispute on the land



Figure 1 China-India Border Tensions.

Source: [Bloomberg.com](https://www.bloomberg.com)



control between China and India dated back to 1959, with China maintaining a slow fight, periodically applying a tactic of using minor provocations at the level below the act of war to claim territorial ground along the LAC - the Chinese Salami Slicing Strategy.<sup>HH</sup> The border dispute has not escalated to a large-scale conflict in over five decades.<sup>HH</sup>



Figure 2 A collage, from left, the MH-60 R and the AH-64E Apache; India purchased both types of helicopters from the U.S.

Source: [theweek.in](http://theweek.in)

In terms of India's growing military cooperation with the U. S., China worries that the relationship between India and the U.S. would tilt the balance of power in the region.<sup>H</sup> China's concern is not necessarily India's potential to gain ground on military technologies, but a Chinese Military Strategist forecasted that India could become the “American Eye.”<sup>H</sup> Strategists in the People’s Liberation Army perceive India as a non-alignment believer, and India’s relationship with

the U.S. will diminish.<sup>H</sup> Although the current India-U. S. partnership poses some concern, China generally does not consider India one of its primary security challenges and emphasizes maintaining peace on the China-India border. In late March 2022, Beijing took advantage of a huge strategic opening to keep India on the U.S. sideline while differences between the U.S. and India have widened by siding with New Delhi and made similar statements on the Ukraine conflict.<sup>HM</sup>

## 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

# Missed Opportunities: CCP Unlikely To Succeed In Pulling Philippines From US Sphere Of Influence By 2049

## Executive Summary

Despite the strategic importance of removing the Philippines from the U.S. sphere of influence and a recent political environment supporting enhanced Sino-Philippine relations, the Chinese Communist Party (CCP) is unlikely (31-45%) by 2049 to garner a strategically advantageous diplomatic or military separation between the U.S. and the Philippines. Steadfast Filipino public support for the U.S. security partnership and CCP diplomatic, military, and economic missteps suggest the U.S. and Filipino alliance remains as status quo, if not strengthened over time.

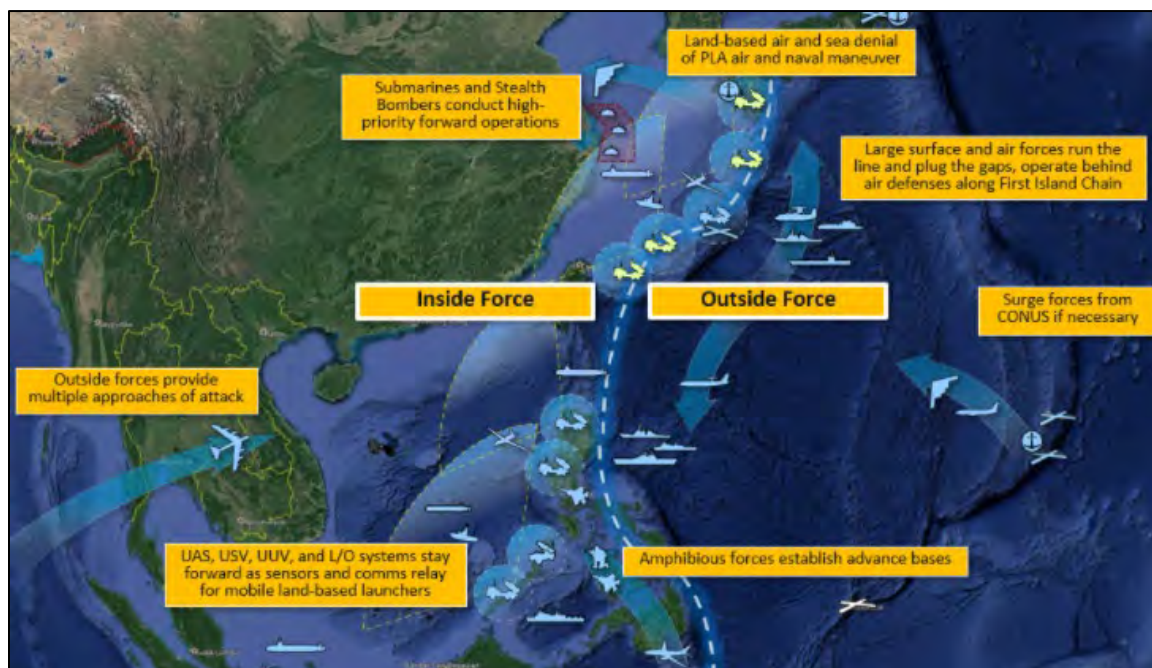


Figure 1 Depiction of possible U.S. utilization of Philippine territory during conflict with China.

Source: [Center for International Marine Security](#)

## Discussion

Since 2016, the Republic of the Philippines President, Rodrigo Duterte, demonstrated marked and open disdain for U.S. presence in the region while promoting closer ties to China.<sup>H</sup> Announcing his realignment with China, Duterte stated, “I’ve realigned myself in your (Xi Jinping) ideological flow and maybe I will also go to Russia to talk to Putin and tell him that there are three of us against the world – China, Philippines and Russia. It’s the only way.”<sup>H</sup> Indeed, Xi Jinping welcomed Duterte’s overtures and promised approximately \$24B worth of Chinese infrastructure investment through the Belt and

Road Initiative (BNI).<sup>H</sup> Duterte’s “Build, Build, Build” infrastructure plan relied upon that investment.<sup>H</sup> Acknowledging the importance of the Philippine relationship, Chinese state media reports statements of Xi Jinping reinforcing the economic and security cooperation between the two countries.<sup>M</sup> Corresponding with the warming Chinese relationship, 2016 through 2021 represented a time of strained U.S.-Filipino relations in which Duterte terminated the Visiting



Figure 2 Depiction of First and Second Island Chains in relation to Philippines.  
Source: [National Defense University Institute for National Security Studies](#)

Forces Agreement (VFA) with the U.S., thus setting a timeline for U.S. military withdraw<sup>H</sup> from the strategically important<sup>H</sup> island chain. The U.S.-Filipino alliance facilitates U.S. power projection within the South China Sea and the First Island Chain, thus challenging CCP diplomatic and military maneuvers that create conditions for coerced or forced Taiwanese reunification (see *Figure 1* for graphic description of possible U.S. military utilization of Philippine islands and *Figure 2* for relation between the Philippine Islands and the First and Second Island Chains). The strategic impact of the U.S. losing the valuable Philippine foothold within the contested South China Sea (SCS) region would greatly benefit the balance of power towards China.<sup>M</sup>

Despite the strategic importance of weakening U.S. influence within the SCS and the ample opportunities President Duterte provided for Chinese investment and enhanced cooperation, multiple factors demonstrate the CCP will not likely create a strategic gap between the U.S. and Philippines. Though the CCP espouses equality among large and small Asian nations, their actions within the SCS complicate and degrade their relationship among potential partners.<sup>H</sup> Indeed, even the avowed anti-U.S. Duterte was drawn back to western support due to ongoing SCS tensions.<sup>H</sup> Representing a reversal of four years of non-support for the United Nations Convention for the Law of the Sea (UNCLOS) resolution against China, Duterte recognized the ruling after years of continued aggressive Chinese actions within their overlapping SCS claims.<sup>M</sup> Reinforcing, if not driving, Duterte’s reversal, China’s promised BNI investments failed to substantively materialize during his presidential term. While Chinese investments in Philippines infrastructure grew 273% between 2016 and 2019, the total investment represented only 2.7% of

all infrastructure investment within the Philippines – hardly the \$24B impact Duterte expected.<sup>M</sup> Indeed, by 2021, the BNI only completed 11 of over 100 promised infrastructure projects.<sup>M</sup>

China's continued aggressive actions within the SCS and underperforming BNI projects precipitated a dramatic and strategically detrimental change (from the Chinese perspective) to Philippine policy towards U.S. military presence. Once a high point for limiting U.S. influence within the Philippines, the 2020 VFA termination would have struck a debilitating blow to U.S. strategic interests with the region.<sup>M</sup> This did not last, as by 2021 the Filipino government reversed the termination in favor of supporting the U.S. during the unfolding great power competition.<sup>H</sup> China's SCS aggression did not garner support from the Filipino populace as 81% of the population believe it is not right for the government to do nothing about disputed territories and 87% believe the Philippines should reclaim disputed territories.<sup>H</sup> Duterte's vocal disdain for U.S. presence also didn't negatively impact the Philippine populace's view of the U.S. as over 85% support the ongoing security partnership.<sup>M</sup> The multistate territorial waters dispute remains a primary sovereignty issue for China.<sup>H</sup> As such, barring major shifts in CCP regional policy between now and 2049, it is unlikely China will relent on its aggressive treatment of regional neighbors, thus reinforcing a divisive SCS environment in which China is unable to garner the requisite regional good-will and support<sup>H</sup> to markedly undermine the U.S.-Filipino relationship.

### **Analytic Confidence**

Analytical confidence in this estimate is *moderate*. The analyst had adequate time to provide an initial estimate; however, the future geopolitical environment is not guaranteed, thus the political relationship between the Philippines, China, and the United States is subject to changing conditions with variable outcomes. The reliability of sources is of good quality. Overall analyst collaboration is strong.

*Author: Matthew "Kip" Marsh*



# 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.<sup>H</sup> The Chinese civilian sector produces 36% of the world's electronic devices<sup>M</sup> while importing 90% of its semiconductor chips.<sup>H</sup> Two Chinese major national strategic objectives include national security and continuing economic development<sup>H</sup> and thus require semiconductor chips to produce the

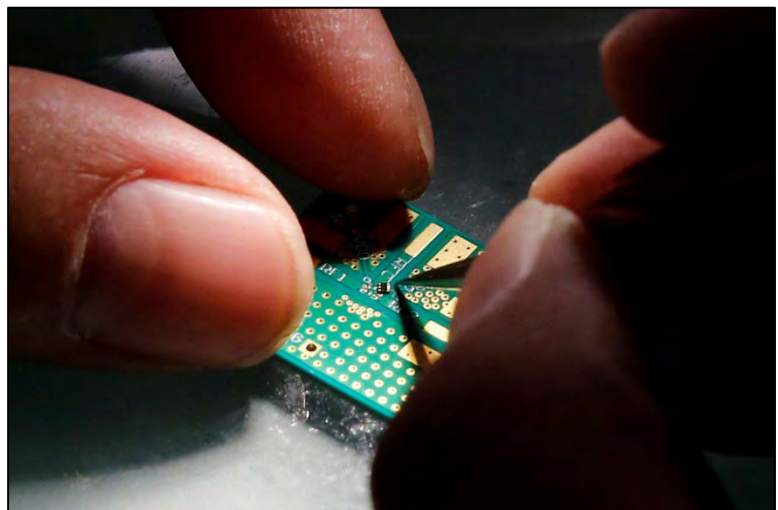


Figure 1 Semiconductor chip placed on interface board.

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<sup>H</sup> (See Figure 1). For these reasons China seeks to produce 70% of all needed semiconductors by 2025,<sup>H</sup> 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.<sup>H</sup>

Taiwan is the world's leading manufacturer of SOTA chips with transistors less than 10 nanometers in size required for advanced military weaponry.<sup>H</sup> Specifically, Taiwan produces 92% of these chips globally,<sup>H</sup> while South Korea makes 8%.<sup>MH</sup> Since semiconductor chip output is proprietary and confidential, capacities are only expressed as percentages<sup>H</sup> 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.<sup>H</sup> 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<sup>H</sup> (See figure 2 and inset of invasion beaches<sup>H</sup>). The loss of these SOTA semiconductor chip foundries would deprive China of its source of this needed military technology.

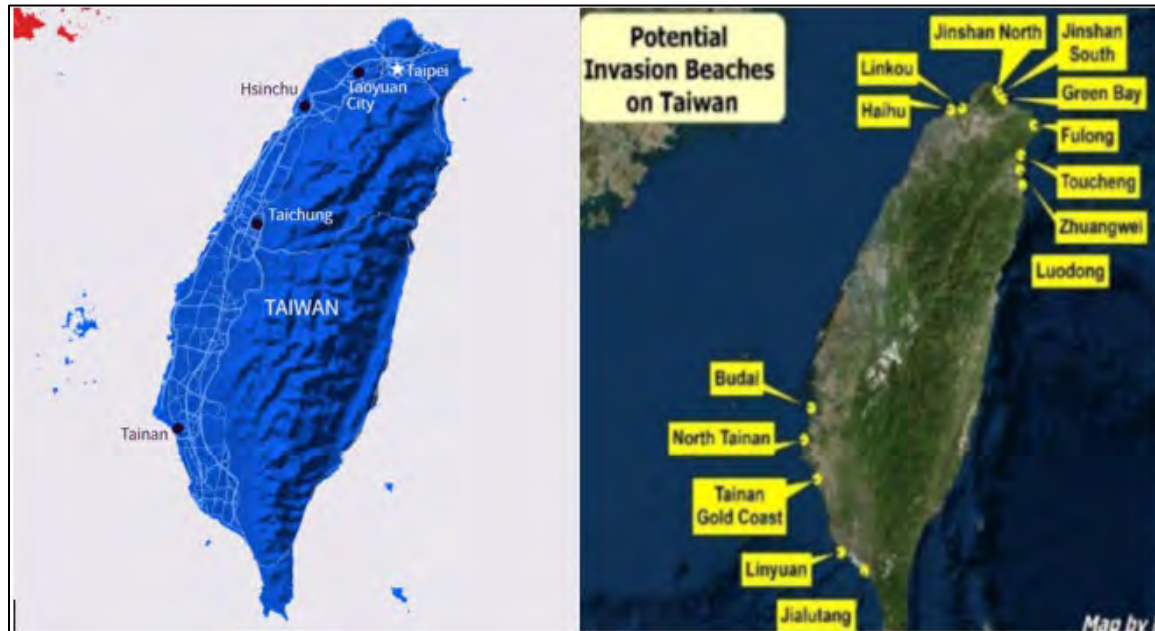


Figure 2 Vulnerable foundry cities near west coast of Taiwan and potential invasion beaches.

Source: [Reuters](#)

China is unlikely to achieve SOTA semiconductor chip independence until 2030<sup>H</sup> due to lack of the ability to acquire semiconductor manufacturing equipment (SME) and the technological capability to produce such equipment.<sup>H</sup> The most sophisticated SOTA 5nm-10nm or smaller chips<sup>H</sup> require foundries with extreme ultraviolet lithography machines only available from the Dutch company ASML,<sup>H</sup> chip design software from mostly U.S. companies and significant capital investment.<sup>HH</sup> China's centrally controlled current chip manufacturing capability is a limited number of 14nm chips, despite 18 billion dollar chip subsidies in 2018,<sup>H</sup> but plans to increase subsidies to 100 billion dollars.<sup>H</sup> Taiwan Semiconductor Manufacturing (TSMC), the leading SOTA chip producer, invests over 30 billion dollars per year in comparison.<sup>H</sup> It will be difficult for China to effectively compete in this dynamic market.<sup>H</sup> Without the capacity to manufacture its own high end equipment<sup>H</sup> and the U.S. limiting China's ability to purchase SOTA chip manufacturing equipment,<sup>H</sup> multiple authors conclude that China will not reach chip independence before 2026-2031.<sup>HHH</sup>

Taiwan's dominance of the SOTA chip industry with Chinese dependence,<sup>H</sup> its potential destruction during a Chinese invasion,<sup>HH</sup> deliberate self-destruction,<sup>H</sup> and even U.S. semiconductor chip dependence and corresponding defense of Taiwan<sup>H</sup> 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*

**Terms of Reference:**  
***Forecasting the Application of Chinese Landpower in the  
Conflict with Taiwan***

**For:**

**Gen. Charles A. Flynn  
Commanding General  
U.S. Army Pacific (USARPAC)**

**By:**

**Team Pacific Warrior  
United States Army War College**

**December 03, 2021**



**Terms of Reference:**  
***Forecasting the Application of Chinese Landpower in the Conflict with Taiwan***

**Requirement:**

What are the options available to China for the generation of a credible landpower<sup>7</sup> force that will set the conditions to achieve unification with Taiwan between now and 2049?

- What will mobilization likely look like in terms of the political, military, economic, social, information, infrastructure, physical environment, and time (PMESII-PT) operational variable framework?
- What are potential signs of impending major Chinese actions to create regional instability as it relates to Taiwan?
- What are the possible indications and warnings of large Chinese force generation?
- From initial indications, how long will force development likely take?

**Methodology:**

The team will conduct detailed research and analysis through various means, including but not limited to open-source data collection from academic and media outlets, historical case studies, interviews with academic subject matter experts to include historians, political scientists, military strategists, and international analysts. The team may utilize but will not limit itself to analytical methods such as Comparative Case Study, Multi-Criteria Analysis (MCA), and Analysis of Competing Hypothesis (ACH) to better understand and assess the data gathered and to better forecast possible Chinese actions in crisis scenarios involving Taiwan.

We plan to execute our project in four phases. The following timeline is only suggestive and may change based on unforeseen opportunities or challenges.

- Phase 1: Data collection (November 2021 – January 2022)
  - Conduct follow-on brief with GEN Flynn to finalize the Terms of Reference document (DTG: TBD).
  - Evaluate existing Chinese doctrine, methodologies, and capabilities utilizing the PMESII-PT operational variable framework.
  - Identify Chinese methodology to develop large landpower forces as part of a broader strategy to unify Taiwan.
  - Forecast Chinese strategies that will prevent USARPAC's ability to project integrated deterrence in support of Taiwan.
  - Evaluate emerging technologies that may be employed in the achievement of the Chinese strategic end state.

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<sup>7</sup> Landpower is defined as the ability to influence populations using threat, force, or occupation to gain, sustain, and exploit control of land, resources, and people. The effective application of landpower is inherently joint and multi-domain.

- Phase 2: Complete Analysis (January – March 2022)
  - Evaluate the research findings and reassess for any gaps.
  - Develop estimates for each PMESII-PT operational variable.
  - Describe likely Chinese destabilizing efforts that may precede major military actions.
  - Develop visual aid concepts to assist in communicating findings.
- Phase 3: Consolidate analysis and prepare report (March – April 2022)
  - Compile a cumulative report that gives GEN Flynn an unclassified, outside perspective of Chinese landpower preparations and methods required to strategically influence the successful unification of Taiwan.
  - Prepare finalized visual aids to support the presentation.
- Phase 4: Out-brief Gen Flynn and staff (May 2022)

### **Challenges:**

- Completion of this study is part of the overall Army War College graduation requirement. As such, students are also completing a full-time graduate-level course load.
- While funds are available for limited research-related travel, time away from the Army War College will potentially conflict with other graduation requirements.
- Once GEN Flynn concurs with the Terms of Reference, students do not have the time resources available to change trajectory.
- Considering limited access to classified resources and databases, this product will remain unclassified and will utilize only open-source information.
- Although each team member has varied backgrounds from across the services, no team member possesses Chinese language skills or first-hand insight into the Chinese culture, political system, or military.

### **Resources:**

- The team will maximize the Army War College on-site electronic resources and databases.
- The team will maximize worldwide professional contacts.
- The team will leverage the Army War College professional staff with expertise in the INDOPACOM region.
- The team will maximize connections with international fellows from the region or have experience interacting with the primary actors.
- The team has a diverse composition of Active Duty and Reserve Officers from multiple services and one Department of the Army Civilian, all with varied professional backgrounds.

- The team has access to software and services that can generate 2D and 3D visualization models if they become applicable to the final product.

#### **Administration:**

- The final product will be provided in PDF format and is solely for GEN Charles Flynn, CG, USARPAC, and those he so designates.
- The final report will be ready at the presentation in May 2022. The optimal time for the outbrief is between 9-13 May 2022.
- Team Point of Contact:
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  - LtCol Lee Hemming, [lee.hemming.mil@armywarcollege.edu](mailto:lee.hemming.mil@armywarcollege.edu)
- Team Members:
  - COL John Paumier, Medical Corps, United States Army Reserve
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## Annex B – 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.*<sup>4</sup>



## Annex C – 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	
Content can be corroborated?	Check some of the site's facts	2						15-20 High
Recommended by subject matter expert?	Doctor, biologist, country expert	2						11-15 Moderate
Author is reputable?	Google for opinions, ask others	2						6-10 Low
You perceive site as accurate?	Check with other sources; check affiliations	1.5						5-0 Not Credible
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 themselves	1						
Site's bias is clear?	Bias is OK if not hidden	1						
Site has professional look?	It should look like someone cares	1						
<b>Total</b>	<b>15-20 High 11-14 Moderate 6-10 Low 0-5 Not Credible</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

19 Dec 2001: The criteria and weighted values are based on a survey input from 66 analysts. For details see: <http://dawnormann.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 D – Analytical Confidence Assessment

<b><u>PETERSON TABLE OF ANALYTIC CONFIDENCE ASSESSMENT</u></b>	<b><u>Points Possible</u></b>	<b><u>Points</u></b>
<b>Use of Structured Method(s) In Analysis</b>	<b>(1-10)</b>	
<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		
<b>Overall Source Reliability</b>	<b>(1-10)</b>	
A rating of 10 indicates the highest reliability		
<b>Source Corroboration/Agreement: Level of conflict amongst sources</b>	<b>(1-5)</b>	
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		
<b>Level Of Expertise On Subject/Topic &amp;</b>	<b>(1-5)</b>	
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		
<b>Amount of Collaboration:</b>	<b>(1-5)</b>	
5: Part of aggregated individual analyses		
4: Worked on a team		
3: Worked with a partner		
2: Casual discussion		
1: Completely individual work		
<b>Task Complexity</b>	<b>(1-5)</b>	
5: Minimally complex & challenging		
4: Somewhat complex & challenging		
3: Moderately complex & challenging		
2: Quite complex & challenging		
1: Very complex & highly challenging		
<b>Time Pressure: Time given to make analysis</b>	<b>(1-5)</b>	
5: No deadline		
4: Easy to meet deadline		
3: Moderate deadline		
2: Demanding deadline		
1: Grossly inadequate deadline		
	<b>Score:</b>	<b>0</b>
	<b>Total Possible:</b>	<b>45</b>
	<b>Score:</b>	<b>0</b>
		x 10
	<b>Analytic Confidence</b>	
	<b>Adjusted Score:</b>	<b>0</b>

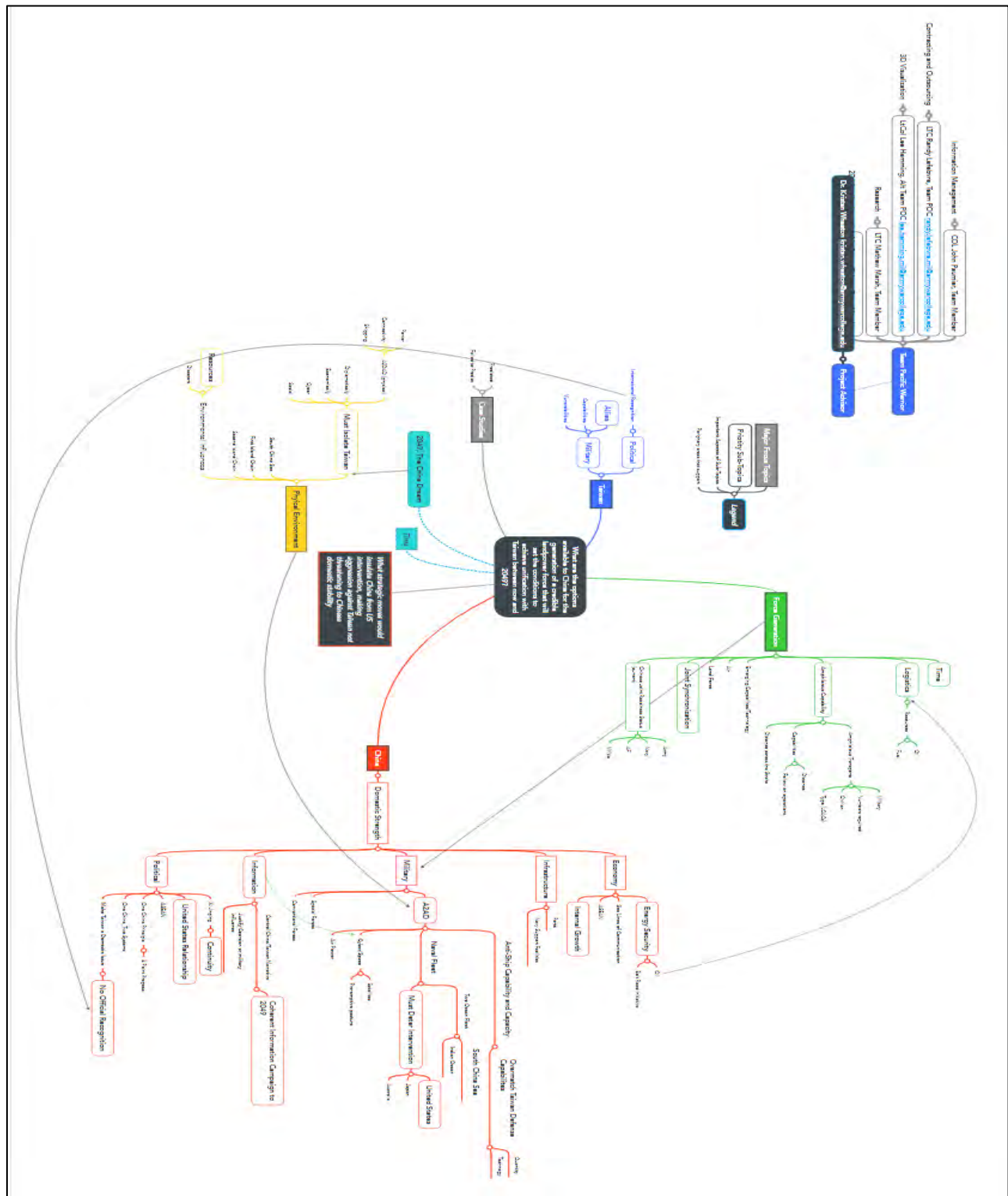
## Annex E – Friedman Corollaries

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 F – Team Pacific Warrior Mindmap



## Annex G – Interview Notes

### Interview with Team Pacific Warrior with Army War College Classmate Student from Taiwan.

15 March 2022

**Taiwan Officer** My personal background is as a FA office officer, but also, uh, in having an ADA background. So pretty much do that as in the field, but my office, like the staff job background is all planning and operations, uh, stay in the army headquarters and J uh, joint staffs, J uh, J 35, uh, specifically for over six years.

**Clete:** Oh, wow.

**Taiwan Officer:** Yeah. So, I, I have pretty much done that for a while. Um, and I've been I with the army G five as well. Um, but as part of the job is to get into the form affairs. Mm-hmm <affirmative> on the force build in the force, build around fourth.

**Kip:** Are you a Lieutenant Colonel?

**Taiwan Officer:** Yes. For now, Lieutenant Colonel. Yes. Oh, for now? Probably retire. Yeah. Yeah. Pretty soon.

**Kip:** How many years do you have in the army?

**Taiwan Officer:** Uh, for now's 17 years. Okay.

**Randy:** So, the question here, is what are the options available to China for the generation of a credible land power force that will set the conditions to achieve unification with Taiwan between now and 2049? What are the potential signs of impeding major Chinese actions to create regional stability as it relates to Taiwan? What are some possible indications and warnings of a large Chinese force generation, then from initial indications?

**Taiwan Officer:** Do you want to focus more on land power?

**Randy:** Yes, that's one of the things that we're thinking about, like, for example, we thought about, and again, we were doing like assessments, for example, like how long, you know, would China even think about invading a beach in Taiwan? Would China ever think about, um, trying to invade a port in the way? if they did invade Taiwan, how would they even, how would they even generate that population? We found civilian ship carriers to make it look like people are going on cruises in the south China sea, but along it has tanks and a thousand men on it.

**Taiwan Officer:** I understand. (Takes a few notes)

**Clete:** So, to pull back the scope a little bit. Our first thought is, two main thoughts that we think are govern, how China's going to behave is the Sun Tzu idea of winning the battle without fighting. And to that end, we're using the Chinese game of "Go," all right. To, so that he's, you know, to use the American term, he's stacking the deck Gaz in his favor, significantly in covering all his bases so that when he gets all his bases covered all the, his vulnerabilities, right?

**Taiwan Officer:** Acknowledges (continue to take notes).

**Clete:** Then he builds a giant force and positions them ready to do a cross straight invasion. Now whether he does or not. So that's where Randy's getting into this, whether he does or not executed cross straight invasion, that he has such sufficient capabilities to develop. And I, and I'll kind of just do this in a quick detail of what we did. So, he's got enough oil, he's got it stored in enough places. He's there are signs that he's moving his oil to supply the forest. He's got a south China; he's got a south China sea fleet total be covered.

**Taiwan Officer:** Acknowledges.

**Clete:** So that, so that the oil flow will be uninterrupted, not a vulnerability. He's got his east China seed fleet built big enough, but he controls the sea.

- He controls the air with A2AD and with his Air Force that would then support a large amphibious evasion fleet to come across.
- He's built enough ships to transport the troops, including civilian vessels, like ferries, which we've detected, and he can move his logistics and, his trucks and things in the same fashion.
- So, then he's got his joint doctrine figured out to be able to, um, to, to command and control, you know, a very sizable force.
- We've determined the size of the force necessary to take the island, which, which we are saying is between four and 2 million with the likely now reviewing 1 million troops, all right.
- We've determined how many ships it's going to take; how many waves is it going to take.
- We've also figured out where he's probably going to generate these forces from inside the country,
- how is going to move them to the ports, right.
- And so, we've talked about, um, the will the people, right? So, you have to have the population behind you, that's in mainland China, that they support such an action in and that, um, you know, to do information operations in Taiwan, to get the Taiwan populous, you know, to be prepared for the idea that, you know, either you
  - o A. get invaded and get them, you know, or have all this terrible stuff happen or B. you just kind of join us.
  - o I mean I kind of see him, you know, sort of getting the Hong Kong thing straightened out, cause that's pretty messed up right now because you know, to make it look sort of more palatable mm-hmm, <affirmative> the other thing that, that I've just I'm writing a paper on is, is that the vast majority of the best computer chips in the world are made in Taiwan and just a couple factories actually.

- China is heavily dependent upon the United States is heavily dependent upon that. And um, you know,
- China's three main,
  - one of China's three main principles that have been written all over the place is that they do not want to do anything that disturbs their economic success.
  - If the chip thing is taken offline and they can't make chips, then they're not likely to, um, act until they have that base covered.
  - So, these are all the, you know, sort of the bigger pit of what we're looking at too, you know, set conditions so that they have all those “Go” pieces put together.

**Lek:** So, all of these are our forecasts from an American perspective, trying to think like Chinese.

**Kip:** So, it was kind of looking at, um, the Taiwanese overall defense concept.

**Taiwan Officer:** Okay.

**Kip:** And specifically, and so you have kind of the three pillars of that, which I'm sure you could probably tell me better than I can tell you on this, but you know

1. the conventional deterrents and that's kind of with the F-16s and you know, conventional things that you through for military sales that, that you all buy from us and perhaps developed domestically, I'm not sure.
2. you have your ability to survive the first impact of, you know, Chinese artillery. So how survivable are your forces?
3. As far as I understand your asymmetric capabilities. So, the large number of small things. Um, and so I was looking at your strategy, and then what is China's response to that strategy?

**Kip:** Does that, does that make them have to then increase their force structure to overwhelm your defenses?

**Kip:** Um, and that kind of gets to the word credible. So, what is an incredible land power force from your perspective? And do you all have any intelligence or, uh, scholarly writing in your country that talks about Chinese, the Chinese response to your defense strategy? Okay. Cause from what I understand, your defense strategy is not all that old, maybe 2017ish. Um, and when you came out with that defense strategy, did you see any changes.

**Randy:** Okay. So, we just gave you 10 questions, so we'll be quiet now.

**Taiwan Officer:** No, it is fine, I took notes to address. So, um, so operational design, operational design, you see it from current situation design environment.

1. So, looking at 2049, what is China is trying to achieve the great rich nation, right. And, but in between the intermediate objectives, 2035, which is meaning all the modernized military. Right.



Which is, has already met that standard now.

**Randy:** Yes, I understand.

**Taiwan Officer:** The standard. So, so, uh, I'm not, I'm saying, sorry, I'm not saying that it's made modernization completely. Right. They're on the path.

**Clete:** They're on the path.

**Taiwan Officer:** Yeah. And so, if you look at there, their phase, uh, phase objectives always achieving the objectives three years or two years earlier, and they were published that in there, in their punishments, in their open up.

**Randy:** public books about China.

**Taiwan Officer:** Yeah. Yeah. And that's, that's one part of the thing that things that you must, you have to, um, like understand that they're trying to they're on the right path and they're on the right path of growing the military to a modernized way. And I cannot deny that they're growing the force but looking at them, looking at their force structures, how they're, how are they developing their force? Um, according to the current threat already building the force based on Taiwan, Taiwan Strait is already trying to, um, handle that, uh, think we call it, we got it.

**Clete:** Yes.

**Taiwan Officer:** No, they're trying to compete. Exactly. They're trying to compete. They're trying to break through the two 80 bubbles. They're trying to break the first channel chain. Right. And second island chain. Okay. That's why they're building a lot of long-range, um, maritime force mm-hmm <affirmative> and that's the first question.

**Taiwan Officer:**

So second, um, according to Sun Tzu without fighting, right? But it, but to, to, to my perspective and to a lot of, uh, a lot, uh, Chinese perspective, um, China is not trying to win without fighting is trying to meet completely.

We call it completeness. So, if you investigate looking into other wars and this war completeness, "Chin" has been mentioned 30, 36 times.

**Clete:** Say again.

**Taiwan Officer:** Completeness.

**Clete:** Yeah. But then you said another word out today. Chin.  
Chin what's that mean?

**Taiwan Officer:** Chin? Uh, Chan means completeness. Oh yeah. Sorry. Uh, as we mentioned, 36 times, and it means winning the battle or achieving your objectives with the lowest damage.

**Randy:** Okay. Yeah. Okay.

**Taiwan Officer:** So, it's not trying to win without fighting. It's willing to fight, but it's willing to ready to take the lowest damage in many ways.

Um, so looking at all those conflicts around China, um, you, you should, you should, I think another way, to approach it is what is this main concern?

**Taiwan Officer:** What is PRCS may in concern? So, you might know that they, like at the end of this year, this a 20th party Congress coming up and that's actually a decisive point for president, uh, chairman. Xi, if he's going to go continue his third round or not, if you, if after the third, uh, the 20th party Congress, the seven people got it all switched up.  
That means she's not getting it.

**Randy:** Wow interesting information.

**Taiwan Officer:** But the seven people remain like 80% there. Like the coach young, still there. Well, he's there, it's kind of maintain another five years and he's making that Imperial state, you know? So, so you're saying one thing is that the most concern is interior cons, uh, consolidation.

**Randy:** Right.

**Taiwan Officer:** And then you will start to think about the outside conflicts.  
When you think about the outside conflict, you will not see Taiwan as the only concern what's the more, what, what, what is a more serious issue? Well, I, I would say Taiwan and south China has an equal level.

**Randy:** What was the first one you said south China, see Taiwan and Del?

**Taiwan Officer:** And Del.

**Clete:** The Diaoyu Islands

**Randy:** Oh, Diaoyu islands

**Clete:** You got the same islands. You got the Japanese name and the Chinese name.

**Taiwan Officer:** So, if you look at these three conflicts altogether, which is going to be there, they're not going to explain the battlefield in multiple directions. you're going to start one regional conflict first with specific ways. Right. This means the CMM, the Chinese, um, Maritime Militias and that's quite a legit solution they're conducting right now without mobilizing their actual Naval force.  
And they can actually, you can see it in the news right now

- they're like destroying the Japanese co scholarships.
- they're running into the Filipino ships.

**Clete:** Yeah. This is the private fishermen?

**Taiwan Officer:** Uh, with, uh, yeah. We call the private fishermen - Militia.

**Lek:** Third arm, a third Navy.

**Taiwan Officer:** Yes. So, so militia is in, in every single theater, they can organize their own militia, maritime land power, and air force. But then now they don't, they don't have the air force militia. That doesn't make sense to them. But it's, as a theater commander, you are authorized to organize your own.

So that's what they do. They, they go to, uh, private sectors or fishermen yeah. And say, hey, I'll take you as one of my wings.

Okay. So, you'll be my militia. I'll give you the orders. When you go, we are good to go, and I will provide your AOR that you can fish.

**Randy:** Oh, I see.

**Taiwan Officer:** Explore the resource well mutual, you know, benefits. Okay. Yeah. In other ways, but then, any other side is a third country, so you can pretty much older to people what he wants to do.

**Lek:** Yeah. That's good to know. So, is there an open source of literature, which describes the theater commander's organizing?

**Taiwan Officer:** yeah. Yeah. Open source, um, in English is open source, but my open source is Chinese. I'm sorry. But if you.

**Clete:** Let me, ask, so we took a little course on searching the Chinese internet and a lot like PRC internet. And I came up with the idea that I can't trust any of this information. It's a little bit garbage and I started getting messages from them. So, it's like that don't want to do it. But if it's stuff that you could guide us to that's fair game.

**Randy:** Like using the Baidu China version of US Google

**Taiwan Officer:** Use that. So, if you are, you're researching Chinese data, that's one thing you didn't notice that you cannot really look in. You cannot really, really get anything from, from their CP and from, from their white paper, defense, white paper, you must compare with different years of white paper to figure out the difference and figure out what they're doing. So maybe we, and that means open source.

**Lek:** So, instead of the dot C for China, is there a dot TW for Taiwan, if we were to look for something published by the Taiwanese government or scholar.

**Taiwan Officer:** I would say that's the first part of the what's that word crypto <laugh> language for? So, a lot of, a lot of open sources are only written in Chinese. And that makes USARPAC and INDO-PACOM, send a lot of people to interact with us because we are, you know, apparently the same language we have to share the same culture. We can study intelligence better.

**Kip:** Right.

**Taiwan Officer:** So, I, if you're interested, I can, I can elaborate more on the intelligence with like some pictures. Um, but that, that, that, that would be, that would be the step of the CNN. I'm just using that as one of them, I think you read that in our Defense White Paper as well. It's called a gray zone. Gray zone conflict.

**Clete:** We, don't know much about the gray zone conflict. We hear the words we have this idea about. We have no details.

**Taiwan Officer:** Okay. This, so, yeah. So, so, so that, that, I think you can, you can search for more facts. I don't know, done that as well. So that's my second answer to that. And so, I'm saying the third comes into which part comes first. Well, if you look at the conflicts that are recently going, going escalating, um, which means that just last year from 2020 in October, all, all the way down to 2021, um, to September,

- there are 554 sorties of air patrols, um, from China, from China to a DZ.  
But another fact is that our DZ goes into China right. Territory.

**Randy:** Oh, okay that is helpful to know.

**Taiwan Officer:** Yeah. So, so another fact, that's another fact of it. And you might as

- ana escalation of tension and that, that is, and another fact is looking at how many more maritime area patrols that United States, Japan, Australia, and UK have sent into the South China Sea and the East China Sea.
- So that's mutual escalation. Okay. That's one fact.
- So if you're asking me which part will light up first, I have no idea, but if you are saying that, which you can, you can actually tell that which part will crash first, the, the part that your ships and Australian fish, I mean, ships and the POA ships are coming in the I eye the most will be the, the part that, that starts first.

**Kip:** We asked General Flynn when we interviewed him.  
How he, oh yeah, we got the same concern then. Yeah.  
And he said, you know, that's absolutely going to happen.

**Clete:** You know, in the sense that that may not necessarily be a trigger you because they know it's going to happen. Right. So, when that's going on, you can expect that.

**Taiwan Officer:** So, interesting, interesting concept. So, um, last week, the last week (7 MAR 2022), um, um, there's, um, ISR Chinese aircraft fell into the South China Sea. And the month before (FEB 2022) you are F 35 was in the ocean

**Randy:** that's right.

**Taiwan Officer:** You just got it to recover. And I'm not saying anything like assuming, well, more exercise, you get that kind of opportunity to get raising up, but what kind of, what kind of like reactions afterward that consequence comes, come afterward.

So when the third 35 fails out, why, why were Americans? So, um, so nervous about like picking it up, picking it back up, because there are a lot of Public of China Navy ships in the water around trying to look for it. Right. And, you know, another fact is that the underwater, um, underwater surveys have been explored very deeply by the POA these 20 years.

So, I'm meaning that the seabed's are over-studied by them already.

- That's why the Americans are so nervous about like the ship I, the aircraft failed out because there are submarines down here, they try to take over. Yeah. So, when went back to Taiwan, I worked with the



Army G5, and I was in the Army G2 for over a year. And I was designing the ships that they sent out in Taiwan, around Taiwan Strait. Okay.

So, there are unmanned submarines that kind of like studying the seabed's and what are they doing? So they are so, so, so you might say national gas, natural gas, oil, and fisheries, but the other important thing is the **underwaters cables**. Yeah. That connects the 5G network. Um, and ships out all the, all the electricity's from, from the north that connects me, uh, Taiwan, Japan, and the Philippines and other countries down there.

So that's a very important part to think about like how dominant the POA are underwater in the East and the South China Sea and around Taiwan. So that's, and that's also part that we study to counter the blockades. Okay. So, so, so one aspect, one perspective to look at it. And that's, and that's also one of the reasons that we study so much on, under, on the water and try to develop our underwater capabilities, um, domestically.

**Kip:** Do you think a blockade is the most likely course of action if they tried to forcibly, uh, reunite Taiwan?

**Taiwan Officer:** So, so when thinking about the blockade, what kind of blockade are you talking about? It's actually taking a lot of ships to do and, and, you know like we have been studying how they going to conduct the definitely they are capable of doing, but after they finish the Taiwan blockade, what are they going to do with the Sea and, and think the other bodies of water.

**Kip:** They wouldn't have necessarily volume.

**Taiwan Officer:** All, and that is why experts from United, from Taiwan, are saying, oh, they're not capable. Not yet.

**Clete:** Right. But see, they're building this, I think right now they're building an east, trying to see Navy from what I can figure out and they're going to keep cranking on that. And so, the one thing that we've identified is, is that, uh, when they switch in their shipyards to transport ships and Ferries, that's an indication that they've reached, you know, the fleet size, they wanted to get to accomplish whatever goals they're.

**Taiwan Officer:** Looking to do. Yeah. So, looking at the CPR, 20 2021, um, then you guys wrote it, um, that you guys, uh, the China PRC is not trying to develop more on the transport capability because he's using a CMF, that's the civilian-military fusion. Yeah. And there are a lot of cargo ships that can be mobilized right away from the civilian contractors, civilian companies, along Zhanjiang, Beihai, Shantou, and Jiangsu, these other seaports.

So they are actually on the right track like mobilizing there are the Naval powers or on the transport, but there's still.

**Lek:** Sorry. Are you saying that they are capable now of using CMF? Or are you forecasting that they will be able to use it?

**Taiwan Officer:** but there is still Taiwan Strait.

**Clete:** They have the capability now, but it's limited.

**Taiwan Officer:** Yeah. But there is still Taiwan Strait. Taiwan Strait is at least the narrowest distance is 170 kilometers/126 miles. So, so we're **looking at least four hours** of the *hovercrafts, the fastest one, yeah*. Hovercraft four hours. And a lot of things will happen in the four hours. And according to the cm, uh, the, the PRC, um, strategy, the first, the first strike is never going to be amphibious the going to be long-range airstrikes, and then it comes to maritime inters. And then, and then eventually you'll come to amphibious landing and start to come over. So, I'm just saying that, uh, there are a lot of indicators other than around, around the sea, around the coast that you should be focusing on. If you're, you're bringing up the suggestion to the USARPAC commander, um, which who is right now, probably focusing on the MDTF building up, um, you should probably look at more, which I, I think they're pretty much focusing on the BMD capabilities, the ballistic missile defense. I think I think they're, they're building up a very capable force on that through the Army for Army rep. Yeah.

**Lek:** Are you saying USARPAC?

**Taiwan Officer:** Um, I mean USARPAC Yes.

**Clete:** So, what, what other indicators mentioned other indicators? What other indicators do you see?

**Taiwan Officer:** Other indicators? I would say how the, uh, support force is mobilizing, you know, there's the Space Force and the Cyber Force under the Strategic Support Force. And you can see, how many, how much Cyber Force is conducting these operations. That's one indicator looking at how Cyber Force is doing because I can tell that I can say that though.

So Taiwan has five services, maybe Marine Corps, Air Force, Army, and ICE force.

**Lek:** What's ICE.

**Taiwan Officer:** I see, um, information, information, cyber, and electronics. Call ice force pretty much. It is. It is actually the one who is really conducting operations every day, over 40 million time every day. So, that is a **huge indicator**.

If that, that frequency got raised up, that would be a huge indicator, but also through the cyber force, um, and the national security office, they, these two, are you, um, collaborating on the cyber-attack? and, uh, prop get information, propaganda, uh, defense and offense. um, these are open, so source, well, yeah. So, so, um, so if you see more of these, that coming up, that means there's kind, they're trying to infiltrate to the morale of Taiwan, trying to change it to take over from China and pretty much like that would be a **huge indicator**. Like they're trying to take over something.

**Clete:** So, what kind of timeframe do you see for that operation to begin and to, you know, start time on that. It says that they're starting to do it how long it would take and that, you know, what action might Taiwan take at the end of that sort of process?

**Taiwan Officer:** You mean from the two indicators I just mentioned.

**Clete:** So, the information operations through cyber, for instance, to try and influence the Taiwan populace. So, they would, you know, they decide they're going to act at this date, which it could be 2030, 5 or 2040, who knows. And that, you know, they might start at this date with, you know, so they got baseline stuff, and suddenly you see a spike. Yeah. It's like, okay, we started. And that kind of stays, you know, when would this be? How long would this take and what, how, what would its relationship be

too.

**Taiwan Officer:** Oh, I'm okay with that question though. Why we should be really asking is what is it? Objectives? What is its end state? So, if you are using, you're using propaganda, but it's not achieving what you are trying to achieve. You're not going to do what's next. So, looking at, um, what is, what PRC is doing right now is using a lot of propaganda. If you, if you read into, if you read Chinese part, there are like, like we use line, uh, that for, for, for, for WhatsApp, our, our version is a line.

**Clete:** L I N E

**Taiwan Officer:** yeah. L I N E. So, so there is a lot of propaganda, little videos being shipped around by every, by, by everyone. So, in my family, I, my, um, parents-in-law and my parents they're the older age. They're, they're, they're kind of brainwashed by like, hey, China is a good thing. While the other part, like, we are all, we all aware, like what China can do. So that's kind of propaganda and look at how the prop end has been, has been producing in how is effective in Taiwan, not very effective, like pretty much that you can see the status that you can see the statistics, um, the population that supporting-to-supporting PRC.

Your reification is only 37%.

**Kip:** The last, uh, uh, the survey I saw was the question was, you know, would you be willing to defend the island in the event of an invasion? And it was like yearly 73% of the populace.

**Taiwan Officer:** I would say that's something that way I should never try.

**Kip:** Really.

**Taiwan Officer:** Okay. So, so by, um, the reason I'm saying that, because we are not like Korean, we don't have borders. All we have is the ocean around us. So, everyone's going to end up staying there and fighting.

**Kip:** Right. So that's totally different. I think. What I showed though, is the willingness to fight, because you're right. You're on an island.

**Taiwan Officer:** And that's, that's one part, that's the part I don't trust. So, so eventually, like a lot of people run away and then figure out, oh, there is no way to run.

**Clete:** There's no, to go know you're a cornered animal. So, it's dangerous.

**Kip:** So, it's 73% until it goes 100%.

**Taiwan Officer:** Scarborough Shoals. We think ours as well. So, on those, on those islands, we still have a couple of little reefs that we couple islands that we have troops in. And so, so we, we, we always come, we always hear, uh, some like statements saying that, uh, we cannot defeat. We cannot, we cannot try to, but there are advantage issues. There are we the fact that we have, we have soldiers down there we're trying, they're defending the country that, um, is showing the fact that we are still capable of defending our waters in our Region.

**Clete:** So, would the PRC if they're going to come after Taiwan attack those places first, maybe.

**Taiwan Officer:** That would be one course of action. Of course. So, thinking in PRCs eyes, if the island is right next to you within two kilos, right. Two kilos, right. Are you going to take over, are you going to take over? Are you?

**Clete:** I think it would be defended and defended from the mainland too. Right?

**Taiwan Officer:** So, in 19, I think 1960, or we have called Artillery Shell War August 20, and that's happening in Kinmen Island. And during our war, there's going on for, for years of Artillery shells, we go numbers, odd numbers, we fight, we, we, we throw the shells, and you fight, you throw shells back to us and what is even days, even, even numbers.

We, we, those troops there are no fires. So, so people can go there and, and do their trade and stuff like that. But when it's odd days, that's crazy. That's crazy is crazy.

- So, if you are a commander of PRC, I mean, East theater, are you going to invade that island? Well, you, the language, the same cultural background, the same, you can easily talk with each other. Are you going to invade? You're not going invade.

I, I, I will say like going to, because easy you are just sent, I was just like, um, trying to propaganda it through, we're not going to hurt you once you, as long as you are cooperating with us, something like that, but there's a lot more course of action that can, it can come from those islands. But the main thing is still on Taiwan island, the main operations.

**Kip:** Do you see the, we call it English, the salami slicing. Tactics, uh, that's where, you know, a lot of the literature. And I think a lot of the thought process that we here in, in this group, uh, tends to be that China's pattern is that they will slowly, particularly as we get closer to 2049, and that goal Rejuvenation, Reunification, that Those things will have to happen or else they will not or President Xi will not meet his instate if he doesn't reclaim even those small islands. So do you think the closer we get to 2049, the, greater, the likelihood that those islands could be taken?

**Taiwan Officer:** Uh, I think those islands were serving as a role of the buffer zone, you know, like, like, so, so salami slicing, well, which are doing right now in South China, Sea, and they're trying to do it in, in the East China Sea are like too strong to defend. And because we're defending the Japanese are defending as well, it's too big a threat to them. Right. And so, if any, any aggression goes up, escalated, tension, escalated.

**Taiwan Officer:** What's going to happen in the South China Sea. Is it really valuable to take those through little islands? Or you might argue that, well, we can do Aircraft and go there and, and landed and refill and stuff like that. Are you going to do that while there are easy targets for long-range?

**Randy:** Probably not.

**Taiwan Officer:** Yeah, probably not. Right. So, is it valuable, or really is something that China is trying to, trying to get more of the area as they can take into taking under the Seabed which they have been studying for over 20 years? What is the real purpose of that doing? Is it really getting more territorial waters or exploring the underwater resource?

**Lek:** So that is along the line of the Joint Fires scenario we played last week, I'm just thinking, just thinking along with the line of what you just said so the key objective in the South China Sea is the mineral under the sea or some sort of resources under the sea. And, uh, winning with

minimal losses. Could mean that they're just waiting for the other side to make a mistake. And while scenario we played a red and we made a mistake because the blue made a mistake or sudden the submarine popped up in front of the spread island. That the red guy decided to attack but would that ever happen if it just.

**Taiwan Officer:** Because no, that, that, that exercise. One of the, one of the things that really, I really write a lot of things about <laugh>. So, because he doesn't talk about Japan, doesn't talk about Korea. So, there are a lot more like variables in there. They can mislead the concept.

**Kip:** When, when conflict gets out and ODC, you mentioned so Overall Defense Counsel.

**Taiwan Officer:** No, I didn't write it. No, I was, I was in the J 35 by then and I was translating the first version really? So, I, I was like, yeah. So, Admiral Lee was the one, who developed it. And he was a submarine guy. He got a lot of experience; he's got a lot of talent there. So, and what saying, especially was focusing on asymmetry. So instead of focusing on like big, um, like beautiful fires, long-range fires, which have been building for the last three or 30 years, and we have progressed a lot on that. Um, we should focus more on how to construct, how to, how to, how to, um, neutralize, um, the POA, uh, Naval force, what is approaching. So, looking at Taiwan's surrounding waters asymmetry should be the answer, like a smaller size, more agile, more mobile submarines, or boats and that's, what's the main, main idea. And also within Taiwan itself will be like more of these we call it, we call it high Mars. And we're also buying Highmark from you recently. So, and we, by using those market, um, rocket launchers, um, can, um, acquire more, um, dominance on the close range, closer range offshore. To defeat the enemy from landing. So, it's extending that battlefield to the ocean. But it's the decisive battle will be on the unsure. So, so which is what the Taiwanese are focusing on home Homeland defense you're using, sorry. Yeah. Sorry. You're using a lot of long, long-range, short-range combined mm-hmm <affirmative> and using a lot of more mobile, agile under one force to integrate with those Maritime Air Force and extend it offshore. And the same time your lane powers are consolidating your decisive battles. That's the idea.

**Kip:** So, our, I guess at least my thought my thesis is because of your ODC strategy, um, really China or the PLAs only play is to overwhelm it with the volume of a soldier, the volume of Naval ships. Have you seen, is that true or are there other strategies that the PLA is going, are going to employ to overmatch your asymmetric capabilities?

**Taiwan Officer:** So, we, we call, we call the POAs overall strategy is Trius invasion. Oh. So, so the first will be a long-range strike and then comes with, uh, um, being the same time. It would be like a cyber force cyber-attack and then comes with, um, um, yeah, like, like, um, what's that? EW. Electronic Warfare and then comes to the air interference and the air will come forward and try to take the air dominance and the maritime dominance and the navy force will forward come forward. And then that's when those, um, land powers trying to assemble, um, on the, on those seaports and they're, mobilizing their first wave of, of an amphibious landing. They call it waves for waves.

**Kip:** How many waves do you think it will take?

**Taiwan Officer:** How many waves to take that in order to do what.

**Kip:** In order to get a beachhead and push forward?

**Taiwan Officer:** Mm. That depends on how long they can seize the air and maritime dominance.



**Kip:** So, assuming, assuming they achieve air and sea dominance, mm-hmm.  
If it's a million soldiers that they must get across the, uh, the channel or the strait.

**Taiwan Officer:** So, looking at 0 71, 0 72, their main, uh, amphibious landing Aircraft I mean, aircraft, the ships, right. Landing, both those, uh, one can take about 2000 people on the ship and that's including all the, all the vehicles and stuff. So, for each wave, they can only assemble this many people. I, I forgot the number. Yeah. This many brigades, but there, our, our, our, our west coast is not all, it's not all green, green beaches.

**Kip:** No, no.

**Randy:** Yeah. It looks like there are two beaches that look like to attack based off the terrain features.

**Taiwan Officer:** So, so, so looking at those beaches, we have been organizing Homeland defense for over 70 years.

**Randy:** How many?

**Taiwan Officer:** 70 years? 70. Yeah. So, so ever since 1949, we've been there. And by the time we were there, <inaudible> was like, hey, we need to fight back. And that's when they started organizing a home defense, we try to organize another counterattack.

**Kip:** Y'all have great topography for defense.

**Taiwan Officer:** So, so like, we, we made the best use. This is a small island. What can we do?

**Randy:** So, so to that point, Jay, if you could, you just talked about the beaches and appreciate it. Based off the research of seeing those, like there's one north and the south, it kind of looks like. What would you say that Taiwanese are afraid of in reference to China? If you're to name one or two biggest threats, what you say that is?

**Taiwan Officer:** You mean the Taiwanese population.

**Randy:** You mentioned earlier based on your scanners, you've seen there are 554 sorties that have been flying over this past year mm-hmm <affirmative>. Is that a fear? Is it fear, I mean, we know that China hasn't invaded anyone in 70 years, and so they're not the invading type? Where do you, is there anything that the Taiwanese, military is afraid of in reference to the Chinese?

**Taiwan Officer:** Two parts of Fear/Risk:

1. So, the civilian part is always feeling, we are feeling coerced by the one country, two systems that are imposing on Hong Kong and looking at what Hong Kong is happening right now. Is never going to happen to Taiwanese people. Taiwanese is like, so that's a civilian part, the changing of the way of life on freedom,
2. So Military part, um, because we divided by, we, we bring it out.  
Let's just look at our, our, um, national defense strategy. We divided to like the eight, the eight items, the like joint strikes, joint, ISR, um, cyber, um, and joint blockade, uh, color blockade, enjoying color landing, and, uh, and, uh, joining logistic support, all those, all those things. We cannot really say, like, what, what, what is our major threat? Because we

look at theirs, the PRC invasion as a progressive, um, formula.  
So we know what is, what is using first and second and last.

**Randy:** Okay that is very helpful.

**Taiwan Officer:** So, we, we, uh, we study as much as how they, how they've been used their strategy and tactics. So, if you're asking what we are, so we are very afraid of, not following their strategy.

**Randy:** Right now, with Ukraine, we hear a lot about the news, tell us what they want us to tell us the term fake news or what have you. And to your point, as China is flying over with air formation sorties, 15 jets flying over that's what we see in our news. But you're sitting there at one of these beaches or you're at work and you're like, okay, there's just another sortie, but I'm sure your guys are focusing on these to make sure the jets are armed or not?

I would think that maybe that's a fear, but maybe not.

**Taiwan Officer:** Uh, That's a fear, definitely!

**Randy:** For example, like, and when, when a Russian aircraft flies in Alaska airlines in, in that region or in our airspace F-16s join Russian aircraft to say, okay, time to slip away.

**Taiwan Officer:** Yes, that Happens as well and is like the Navy Ships. I mean, you every one of those, our fighters go out every day. They're pretty good too!

**Lek:** So, the three phases that you mentioned, is it a sequential phase in the brand that the first wave will be long-range, and strike followed Cyber, and EW followed by the amphibious. And if so, is the risk, the multi-domain concurrent phases they have already started to build their landmass along, the water. And then at the same time, launching as a strike, attacking maritime cyber while they're now growing the. I see that as the potential that it is not going to be sequential. The concern is they're going to build-up, they're going to mask.

**Taiwan Officer:** I don't think that they're going to ask though. They're still going to follow a certain boat wave. So, so this is how this is what lending operations might sound like. So, you can only organize a certain number of brigades into the first wave, but they're not, they're always shipping out 0 7 1, 0 7 2s and they're big ships. By the time they cross Taiwan Strait, like the midline of Taiwan Strait, they have to switch the deliverables, smaller boats, and then switch them to smaller boats.

**Clete:** So, so I, I have a question. Um, so if a business, as usual, it, they send out their ships, you send out your ships to meet them. They send their planes; you send your planes to meet them right. I bet that goes in a kind of predictable fashion, right. There's almost a sort of normal way of doing business. Do you foresee that if they were going to try and start something that, that it might look different than that it might not appear as business as usual? Refuse, you know, that you would come up to meet them. You know, and then they'd bring more in or something like that. Do you think something like that could be an indicator?

**Taiwan Officer:** It would be an indicator. Yeah. So, uh, but I cannot really say the, what, what, what they're going to do in the future. But if you are, if you are the commander, you are, and you are sending your aircraft to, to do a different route or do a closer route to the territory, that means something right. And, and, and sure the enemy will see as a different, like escalation attention, they will send out more troops or they are even they'll heat up the, the, the launchers before you do that.  
So it's obvious.

It's possible. What I'm well, I can, what I can say is that both all the, all the actors in the regions know what each other's doing right. By their ISR capability. So, it's very transparent in the fact that China was hiding. It's true. Right. So, I guess you guys know more than I am.

**Kip:** Well, we, we had speculated, we discussed that just this morning that it's hard to hide any of this. It is hard to hide.

**Taiwan Officer:** Yeah. So, your technology is very hard to hide you know? Yeah. You can't hide.

**Clete:** Yeah. You can run, but you can't hide that's right.

**Kip:** I was just going to make the comment that all this visibility, this transparency creates a form of deterrence. You know, if you can't mask your troops without causing escalation in Taiwan and partners, um, you know, military response, it creates deterrence. So, I guess, I guess my question is do you think China will, will attempt a forced reunification?

**Taiwan Officer:** Mm. Or, yeah, that is, that is one, um, like, like, like frequent ask question in Taiwan, but the real question behind that is what do you, why, why do you think that China will conduct a force unification?

**Kip:** I think that because you have the suggestion that, that must happen by 2049 as a goal, as a stated national goal of China. Um, and the While they also say they want peaceful reunification, you know, the whole, you know, we're not, we're not taking off the table, the forced aspect of its kind, it just leaves the door open.

And, and it's so large risk, which is why we're all interested about it is because it's kind of the most dangerous course of action,

**Taiwan Officer:** So, when we're doing all during our exercises, so we're all realize, we all understand that most dangerous reflection is, is so like most of the time it won't happen. And so, we like, we massive the force into it. And one, the, um, one thing I must, I have to say is that China is not a country. You CAN'T bring out your ideas to the leadership.

And it's after President Xi came up in 2013, it became more towards that Authoritarian country, saying that is the seven, the seven people under him are his guys. Yes.

**Clete:** Right. We know that. Yes.

**Taiwan Officer:** So if you're asking me who may the call to do that attack? Oh, Xi does. But how many years can Xi continue that road? Right. So, if, in that situation, one man can decide that not much, I don't know what's going to happen in the future. If another guy comes up and he doesn't, he decides not to do that because he doesn't want to waste, any energy, any resource within his country to do so because he realized by attacking Taiwan, he's going to consume too much of his economic engine. And he's looking at your shirt right now. He's like, holy shit. Don't do that. I'm sorry. So, okay. So that, that's my, that's my argument.

**Lek:** So, we're saying that the most dangerous course of action is PRC massing and attacking across the channel to Taiwan mm-hmm <affirmative> but it's probably the lead is likely course of action because PRC wants to employ the completeness strategy of.

**Taiwan Officer:** I always have the idea of completeness. Yeah. I always have the idea. If you are using

other war, that much completeness is the only objective you, you don't want to, you don't want to damage yourself too much to, to achieve the objectives, which can finally, you can, you can easily find that, find that in, uh, in a war, state period in, uh, in, uh, five generation, 10 countries, period, um, in hand dynasty, in some lines you in dynasty, you can easily find a theory being employed. Yeah. So, I don't, I don't think, I don't think, um, the Chinese PRC leadership has different ideas, but with that being said, though, we always trying to maximize the preparing preparation.

**Lek:** So right. For, for the unlikely, uh, possibility of the mass invasion curve, you see that it is going to happen in three waves that you mentioned that for whatever reason, they decide to not go with the complete, the strategy and decide to come across, it's going to be an airstrike right. Cyber & EW in a different order.

**Taiwan Officer:** So, so, so probably the order I mentioned was, um, like the formula I mentioned. Yeah. You, they conduct that. You can tell, you can, you can see that from their annual exercises, especially Eastern theaters per say the joint they call joint strike 2021. I think you can see them how they are conducting the amphibious landing operation.

**Randy:** Right. That's what the research that we saw is that they're showing us but I'm like the beachfront, and again, I'm still studying it working on that now the unlikeliness of, to invade the beaches based on how shallow some of the beaches are so far out and then some of the resources or do you see it different? Do you these big, massive boats could even get close if they would use landing docks?

**Taiwan Officer:** But I think that the main thing, the critical thing is to joint operation though, still have the theory of the joint operation hasn't been quite, quite complete. So, by the time they started, I, as that you can see them around the east coast or south coast, um, Eastern theater it'll be organizing joint operations centers.

And there are three services under the joint operations center, service sales, under operations centers. So, you can see that being organized along the shore, in the important seaports, they're going to ship, ship out the people and the airport guys. Yeah. Because there are now only four to six capable and pious landing brigades, um, in China. So, **they will be the first wave** and can see them moving the, so by, by saying that you guys can know more than I do.

So you can see if you see them from moving from Garrison base to the Seaport direction. And another brigade is moving in that direction. Oh, what's going on there?

**Randy:** So, you have the beach, but then you also have the ports and um, excuse me, I found that based on the research, the closest port looks like one of your largest ports. So, the thought is heavily secure a port to make sure that if this brigade is coming, you guys could secure that, that port, is that something that sounds realistic?

**Taiwan Officer:** Yeah, Key Terrains. Yes, we would secure.

**Lek:** Because China is so big and their manpower is trade everywhere from your country, from your country, Taiwan military perspective, how do you see PRC getting the hundreds of their millions of soldiers toward the Eastern course.

**Taiwan Officer:** If you study train railroad if you study a little bit more on China's geography. So, you would realize that most of the railroads are built, um, during the, uh, for Japanese capitalization period

of time. And then before that, it was like, um, you know, at the end of dynasty all the way to the beginning of the ROC years, and there is a lot of warfighting each other and the, we call it a civil war. They pretty much a lot, a bunch of waters like occupying some province. So, the people under him will be the system we call it system Chi. So, if you're, if you are that province and a province, um, uh, the water of the province you'll get your own army and you, you fight the other province, okay. To get the territory.

And they're all mobilizing by railroads. Look at looking the maps of China, the railroads are still there. It's so massive. And, and a lot like the numbers like crazy. So even the rocket force, a lot of a large part of the rocket force are mobilized through the railroads. So, so I, I, I, I really, and that's one, one point I mentioned, yeah.

Is it very transparent if the railroads are still moving and a lot of vehicles, military vehicles on, on them, that means the, the symbol is like the, the brigade is trying to move now? Mm-hmm <affirmative>. And you can easily tell what, what brigade is moving. So, it is like, like you guys, you have, you have the, you have the striker brigade, you have the like inventory brigade. They have, they have three kinds of brigades, and they know they call it combined brigades. Um, which means that the brigade will be a little bit bigger than the usual size of the regular army mm-hmm <affirmative>, but they have ADA capability, long-range, short-range, um, also ISR, and then outmanned vehicle as well within that brigade. And it's divided to light brigade, um, metal brigade and heavy brigade. Yeah. Heavy means like tank strike, something like that three, three times. Okay. So, there will be the third or four waves that are mobilizing to conduct the amphibious because they have to be on the ship.

**Clete:** So, one question, don't expect a, to know an answer for you to know an answer, but what do you, could you see of a Taiwanese reaction to China suddenly moving a million troops to the Eastern seaboard and assembling ships, not saying that they're coming, they just, just like what Russia did on the border of Ukraine. So, you line up all the troops and they're there, and everybody, you can see them. So, the compelling part is you can see them right. They're there and they built the capabilities. So, they've done drills. So, they've, they've run these kinds of drills and they've done contested drills. And, and you can see that they got the joint capability. And so, I'm thinking 2035, you know, or later, what do you think the Taiwanese reaction would be to that situation?

**Taiwan Officer:** I think that's the answer. I, I think that's the question you already know the answer. People are just going to come up, you know, like, especially when Ukraine is acting like this, like, especially when is acting like this, you know, like people in Taiwan really see the danger, um, of not reacting.

**Clete:** So, they would mobilize and react.

**Taiwan Officer:** Oh, well they would follow the route. They would follow what they have been educated to do. Yeah. So, you can, you can, um, if you read to the Taiwan news that we are currently, um, conducting, uh, a mobilizing rehearsal, um, it has been extended. It was like, it was four days max in the past years, but this year has been extended to two weeks. Um, and then that, that signal, that, *that indicates one thing that, that is that how, how much our reserve force has been put on under a spotlight.* And if we are mobilizing, mobilizing that many reserve force, that also implies one thing that also



wanted, wanted the civilians to under understanding if you are not reacting, you feel not reporting to the unit, what would happen to you? Look at your Korean.

**Lek:** Okay. So, from that perspective to is still a competition phase, they build up along the shore million men strong or two million men strong you build up because you think they might do something. What would tip the scale? When does that competition become an escalation from your perspective?

**Taiwan Officer:** I, I think, I think that's, you know, like every war starts with, uh, it's.

But the mistakes happen all the time. Right. I just want to confirm.

That, you know, like when I, I, one very interesting thing, I I'm observing in the Russian Ukraine, um, or is that, uh, most of the Russian population don't, don't realize they're having heavy invasion, but that's not going to happen in Taiwan. Um, Taiwan is so transparent. Like we, like, there's an organization called transparent organization international. I forgot the name. It's, uh, in IGO, it came to Taiwan and ranked one. That's like number two or three of the world that's most transparent, uh, under our democracy. So, one little thing, some car crashed in Titan, which like a very urban area.

Another guy in Tae will know. There's nothing you can hide. So, if a missile launches everyone will know. Or some cyber force neutralizes mm-hmm <affirmative> telecoms in, we'll know.

- So, what I, I'm trying to say, Taiwan is super smart to any kind of incident looking at all those earthquake Typhons, we're having every single year within two hours, you, there is, there is IG, uh, NGOs, and there is red cross and there are military mobilized into that area trying to rescue people out.
- And I like that the communication system is in Taiwan. So yeah, it's very fast to mobilize in Taiwan that, that I can very, I'm very confident.

**Kip:** So how about the connection with mainland China? Uh, so you all within your island, very transparent, you all have a lot of connections to mainland China as well. And I think one of the concerns that you mentioned in the Russia and Ukraine issue is that the Russian populace isn't informed at what's going on in Ukraine, they're, the state media is, you know, controlling the narrative very much controlling the narrative. I would assume the same thing would happen in China.

It, when, if it, when that would, uh, transpire, you'll also have connections to the Chinese mainland through family and business and things of that nature. Correct?

**Taiwan Officer:** Yeah. So, 2008 and into all the way down to 2016, the eight years when per Xi was, was, was on, was on. Um, we are, we have very close relationship with China, including trade and, and politics and diplomacy. Well, trade was a big part, right? In 2016, when Thai came up, he, she sensed that the Taiwan sense that it wasn't supposed to be right. Because we are relying on China too much. And its good idea because when, if China shuts down, we are all done. So, she's moving that economic Alliance down southward, we're still on. We're still trying, uh, very hard to, but that, that, that implies one thing that China, I want breaking away. The cons the consensus that you, we usually that we used to have been breaking, breaking apart.

So I used to talk to my relatives in China. I used to; I still have it. Yeah. And like with share the same surname, uh, I remember 2007th, 2006, I, in the Chinese New Year, time I was video came to like with my family back there and say hi and stuff. There's, uh, in the other end, there was a POA Sergeant major.

The video in the family.

**Kip:** In the family, in.

**Taiwan Officer:** The family, in the family. So, so I will be like, dad, *I'm not supposed to talk*, quit it, quit it. So, I, so I avoided, uh, just let my dad talk and I just kind of avoiding a video, but, but we, we had never talked ever since 2000. Yeah. But that wasn't really our family. Like, you know, after 70 years being apart, it's not that you are family anymore. Right.

Right. It's common blood wine.

It's breaking away. What I'm trying to say, is that people are breaking away. We know you're from China, I'm from Taiwan. You speak differently from us. I have asked you don't have a.

**Randy:** In this other class that we're in was, you know, there's over a million people that are from Taiwan that live in China. And so, the concern was that, but you just, you just define it, like it was close, but over time it's gotten kind of spread-out mm-hmm <affirmative> like that long-distance relationship.

**Taiwan Officer:** Somebody else there that's, that's the self-identity identity issue. Yeah.

**Randy:** Just really quick. And I don't know if you can speak on this, Is China worried about India's border and as far as like putting troops on that line or something to that effect? Is that something that your country thinks about?

**Taiwan Officer:** I, I always think that China has a very, um, strong concern about India. Mm-hmm <affirmative> and that's why it's maintaining that good relationship with Pakistan. Yeah. Um, and also, it's trying to make Nepal and Bhutan those countries trying to like, cooperate with China. Mm-hmm <affirmative> um,.

**Clete:** So, are Nepal and Bhutan cooperating with China?

**Taiwan Officer:** Yeah. If you ask the officer around here, you know, I've talked to him <laugh> yeah. So that is going to maintain a huge concern, including the, the Tibet, um, Tibet, um, the people bigger, bigger people. Yeah. Because that's the that's one, the one big issue that the democratic countries are using against PRCs, not humanitarian, you know?

**Clete:** So, we get these troop numbers about PRC mm-hmm <affirmative> and, and I see their ground troop numbers. And then I get a whole force number. So, the ground TRO number somewhere around million, 985,000. And, and they reduce the forces they're doing modernization stuff and then they have a, another part of it that takes them up towards 2 million, but that's all the other services. And so, you know, when we're, when I'm thinking about bringing troops down to here, I'm thinking of mostly ground forces, you know, like I can't count the Navy dudes and the air force people and you know, I just don't think they count for this group. It's going to go over. And so, um, just in, in rough, you know, simple tense calculations as it were. So the thing, and what I wrote in my paper is that they're going to take a million people down there and they're going to have to bring a whole bunch of other people into the army in order to send troops up to there and have troops in the middle of the country, you can't have a

sailor or an air and defending the interior of the country, you need ground shoots.

**Taiwan Officer:** So, well, I, I don't know, like, like expertise, like details. So, from my, from my previous studies, um, the original POA size has been trimmed out a lot from more 4 million after 1949 has been trimmed out for, 11 times already. And part of the arm forces. Yeah. Part of the ground, a lot of portions of the ground forces are shifting down to air force and maybe you're right.

And the air force guys, they are basically air, um, Airborne Divisions. <affirmative> wow. still army guy by wearing Airborne uniforms. Um, my, my job is to be Airborne down somewhere, but if you are looking at how many people can, can counter that, how that, that area, um, that, that simultaneously, uh, you should look at, uh, the, they're like east, east, um, theaters capability, west theaters capabilities.

So, India is in charge by the east? No west. Yeah. Taiwan and Japan are in charge by, by the east. Yeah.

And a little bit north, but not much. Right. So, looking at how, how much force they have, they have the fleet, they have the air force, they have the rocket force. Mm-hmm <affirmative> the ground troops, but their force is like that. So, when they're talking about modernizations, it's about filling the force structure first.

Okay, you might have this many brigades, but there are a lot more slots you didn't see, that are not filled. So, when they finish the monetization process, that means those slots are filled. And when our experts and your experts said, oh, it's, it's being modernized. It achieved its objectives already. That means the slots are fully filled. We can see the, from, from their Brigades moving outward. So now the reason why it's, that's not fulfilled because whenever they're conducting a joint strike exercise, there's always a couple of brigades being combined to one brigade to the exercise. Actually, a lot of that's a lot of countries had that problem.

**Randy:** Well, I know we've been talking to you for an hour and 26 minutes and so not, not to take up your whole afternoon, so just kind of go around and see if there's any closing questions so we can let you get going. Kip, do you have anything.

**Kip:** So, real quick, uh, you know, we we've talked about how the, the PLAs, not quite there yet in terms of their functional joint operations, mm-hmm <affirmative> they have the doctrine to get there, but functionally they're not there yet, so they're not trained, uh, to do it well. Um, what is from the Taiwanese army perspective? How do you rate China or the PLAs joint capacity at this point?

**Taiwan Officer:** I don't know. Okay. I am not the expert on how to rate them, so, but I'm, they only fact I know is that I'm not, not capable enough yet, but they will be.

**Clete:** So, to follow on to that, one of the questions put to us was at their national training center. Is there something that we could see from that training center that indicates that they are ready and their training center?

So, is there something that we could notice that they're doing at their training center, maybe from satellite or whatever that indicates that they have achieved that kind of readiness?

**Taiwan Officer:** Okay. So, one interesting point I, I, I can provide you is that you should see if they have put out news of their going to conduct a joint exercise, but they didn't. That means those, those units that is supposed to produce proceed with the exercise, have some issues.

**Clete:** Say, say that again.

**Taiwan Officer:** So, if you are looking at their plans, so, so per se, uh, for east theater, um, uh, 317 brigades are conducting this exercise in this state, but they're, they're not there. They're not doing it. And there's, so you can tell that there's something wrong with the, something.

**Clete:** I do have one question. So, um, and this is related to a potential paper here. So, the one thing that we see in the writings frequently is that, is that they're getting stuff, right? The equipment they're building the doctrine, right. And all the stuff's going well. But the one thing that they don't have that we have tons of is actual wartime experience. And so none other people have this experience. And the way that we have gotten the experience is by doing, uh, we could use the term police actions, right? And so one of our thoughts is they're building the belt road initiative and they're doing it. Some places are weak. And one of the fears for us is that they could coerce the place because, Hey, you're not and up your end of the bargain. And then say they pick a place that's kind of unstable. And suddenly, they have an interest there and something bad starts happening. And they say up, we got to go and do these giant police action. So, they go in and basically have a war of a limited nature to get them their combat experience. Do you see that as something that's likely or that they could leverage to have their troops, especially their leaders and maybe their junior leaders, lieutenants, you know, captains, um, to get that necessary war experience, that would be part of this overall plan.

**Taiwan Officer:** I, you know, I, I couldn't really say, I can't really answer like exactly what they're doing, but I, I can only assume authority countries to our understanding. We never make a call like that for, we never leave decision-making right. Authority, to the front leaders.

**Clete:** To the, what leaders. No, I'm not saying they, they make the decision like that. What I'm saying is, is that, is that these, the army in total PLA and the whole ship bang doesn't have wartime experience. Oh.

I mean, to send them out there too.

Get so they, so they, so they would have, so they would, so they would have, they purposely pick a somewhat unstable country. They give the aid and then they're not getting paid back. They're, you know, they're not holding up their end of the bargain instability happens. So, the, the PLA says, or the PRC says, we're sending in troops because we've got to do a peacekeeping action. And they start a war.

**Taiwan Officer:** That comes back to my original point of completeness.

**Clete:** So that's part of completeness, isn't it.

**Taiwan Officer:** It? Completeness are you going to destroy, like, make them some damage on yourself in, to act, get those experiences,.

But that's how you get the experiences by fighting in war.

**Lek:** To your point. Right? So, to, to tag onto that, hypothetically, hypothetically Thailand is important to China as it is for us. There is a poor order, uh, concern between Laos Cambodia's and Thailand insurgent war conflict. If China was too hypothetically one to train their lieutenants and captain How.

**Clete:** They would you think they would send those guys more units to support allows and Cambodia to stir up some skirmish with Thailand, for example? Oh,.

Just like when Russia did that, so that was one of our questions that Randy read to you was how are they likely to create regional instability to start something, right? So, if they did that right on their border air, and then that could be their excuse to send troops in there to get combat experience, because that I'm telling you the writings all over the place say that they're getting themselves good on everything. But even from our history that we didn't do so well till we got combat experience. So, once we have our, our leaders have combat experience, then they're more, um, you able to handle when they actually do get into the big deal.

**Taiwan Officer:** I I'll, um, I don't know the exact answer.

**Clete:** Well, we're not asking for an answer. It's just, that it's thought because you have a different perspective.

**Taiwan Officer:** To my viewpoint, to my standpoint, I, I don't, I don't think that if, if, if they're going to do it, they were going to do it like 10 years ago. It should have been done 10 years ago, like sending people to those conflict areas, contest the area to do so. And why didn't they do so, because the most concern number one is domestic consolidation, which they're still trying to struggle through right now. And, and second is the, is the threat around him around PRC, which you can see that from right now is border conflict with India.

Um, the contested waters in the South China Sea in Taiwan and, and islands. Um, so I think there's a lot more to worry about, instead of getting into the possibility of inflating another war overseas, which cannot, cannot stretch that far into. So.

**Clete:** They don't want to start something on one of these little islands somewhere to then get that experience? I don't think so in such a way that doesn't like, get the whole world pissed off, like the Ukraine thing.

**Taiwan Officer:** I don't think so. So, completeness that's again, a, um, would you rather, I don't think that in Chinese leadership was, was trying to sacrifice its interior control to get our underneath leaders that come by experience just to fight well. There the method is used to train, lead the train of leaders to fight well, to get more exercise. I don't think it's going to inflict a war.

**Clete:** So that's a good answer.

**Taiwan Officer:** Might be the last question.

**Lek:** My, my thought on this is other than building the, uh, manpower and the equipment logistics is the key <affirmative>, uh, do you think they would reach out to outside three coming through, uh, the sea lane to get, to build up the logistics, like maybe coming in from Africa and using Cambodia port to build up the logistics so that they can use the land to get to <affirmative> Oil, ammunition, food.

**Taiwan Officer:** I mean, that's what China has been doing over thousands of years, right? Of course, through other countries. So, if you're looking at Chinese history, you, by the, by the time China is, um, like in China dynasty, um, town dynasty, song dynasty, especially dynasty, like the Mongolians, when they're rolling in China, it stretches out and using those, we call it subordinate countries. Subordinations like Cambodia was one of the tribute nations that, offer tribute that we can use your base to ship out all, all the stuff we want overseas.



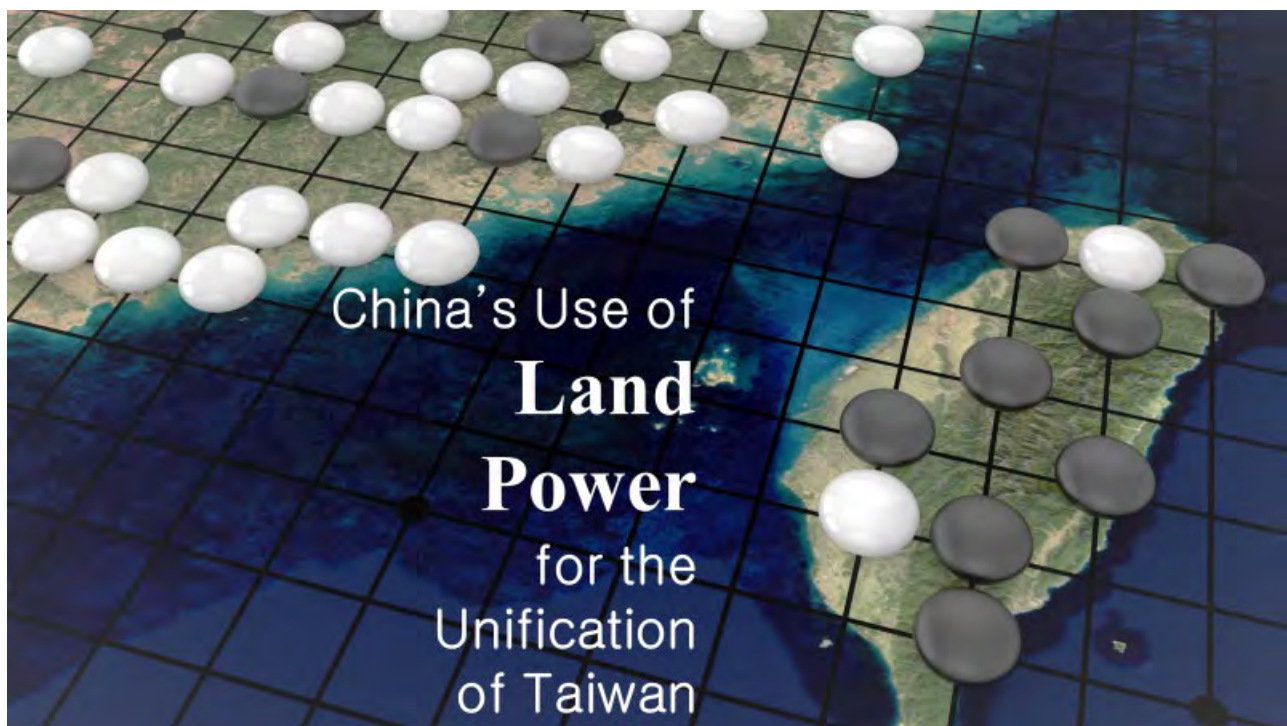
So looking at <inaudible> one of the strongest Dyna in, in Chinese history, or like 560 years, he stands out <inaudible> with the Innu in, uh, he was leading a fleet and a bunch of, uh, a bunch of, um, uh, uh, like treasury and fruits seeds on the ships. And you see, he sells all the way down to, um, all the way down to, to past Malacca and go, go westward to India on those, on those countries.

And that's one way of showing the power of the Dynasty. So, looking at, looking at, looking at Xi right now, what is it doing? He has mentioned this guy so many times when he's doing a public speech and what he's doing is trying to stretch out like, like usually Dennis, the emperor does. So of course, he's going to get some more control and he's going to take the control over the country. Xi is going to get more control of the other one around the ground road. And that of course another means is the death trap.


**Randy:** Okay. Well, we appreciate your time.

**Taiwan Officer:** No problem.

-----End of the Interview-----



## Estimative Words Key

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%		

## Landpower

***Landpower:*** *Is defined as the ability to influence populations using threat, force, or occupation to gain, sustain, and exploit control of land, resources, and people. The effective application of landpower is inherently joint and multi-domain.*





## Terms Of Reference

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

A dark blue map of East Asia, showing the Korean Peninsula, Japan, and the mainland of China. The map is used as a background for the slide.

## Terms Of Reference

- What will mobilization likely look like in terms of the political, military, economic, social, information, infrastructure, physical environment, and time (PMESII-PT) operational variable framework?
- What are potential signs of impending major Chinese actions to create regional instability as it relates to Taiwan?

A dark blue map of East Asia, showing the Korean Peninsula, Japan, and the mainland of China. The map is used as a background for the slide.

## Terms Of Reference

- What are the possible indications and warnings of large Chinese force generation?
- From initial indications, how long will force development likely take?



## The Options Available to China Are...

- **Unification by Maneuver**
- **Unification by Fires**
- **Unification by Mistake**



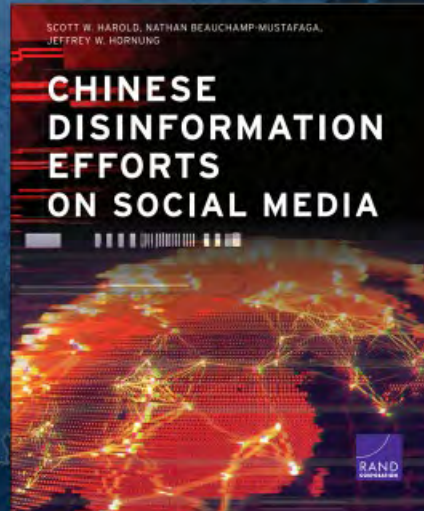
## Unification by Maneuver

- **Geographic**
- **Non-Geographic**
- **Requires credible military force**



## Unification by Maneuver

- **Geographic**
- **Non-Geographic**
- **Requires credible military force**



## Unification by Maneuver

- **Geographic**
- **Non-Geographic**
- **Requires credible military force**
  - **Broader Definition of Landpower**

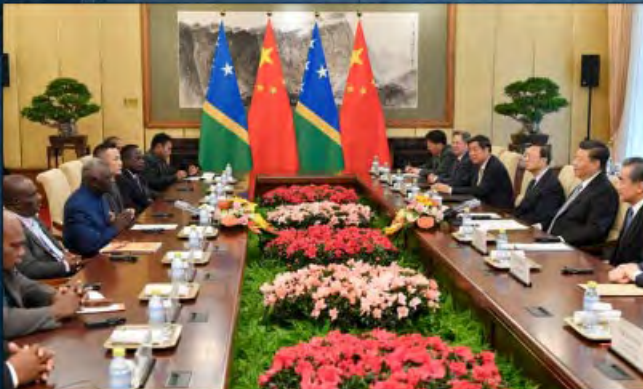




## Unification by Fires



## Unification by Mistake



• Solomon Islands

*"The opportunity of defeating the enemy is provided by the enemy himself."*

## Depiction of China's Options Over Time



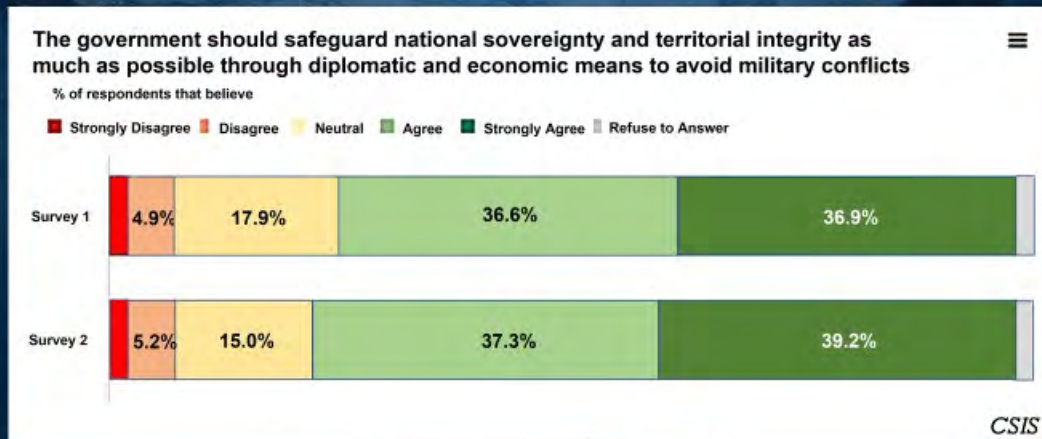
**“...promote the peaceful development of cross-strait relations, and advance the process of peaceful reunification of the motherland” – President Xi Jinping**



**“We will advance the peaceful growth of relations across the Taiwan Strait and the reunification of China...” – Premier Li Keqiang**



## 2019 Domestic Popular Sentiment



## Maneuver and Chinese Concept of Time



**Confucianism**



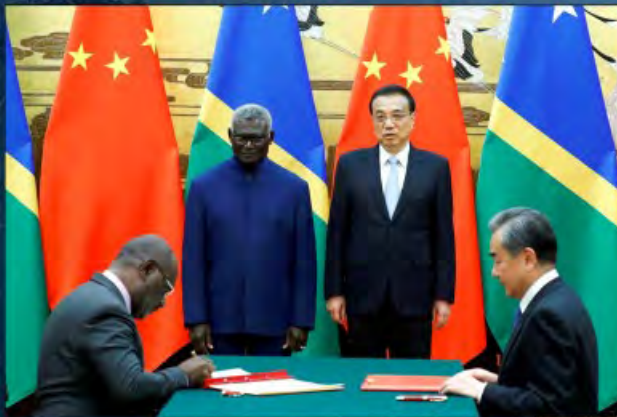
**Buddhism**

**Taoism**





## Chinese Concept of Time



2016  
2019  
2021  
2022



## Geographic Maneuver



[illegible]

# Singapore

**CHINESE INVESTMENTS IN SOUTHEAST ASIA'S LOGISTICS INDUSTRY**

**MYANMAR-CHINA OIL AND GAS PIPELINE**  
**KEMUNPUY PORT**  
 • US\$2.5 bil investment by China National Petroleum Corp  
 • Connects strategically important port to Myanmar, Taiwan, peninsula

**QUANTAN PORT CONSORTIUM**  
**QUANTAN, MALAYSIA**  
 • Granted to Beibu since 40% stake since 2013  
 • RM2 billion to expand the port's capacity to 1.5 mil TEUs

**MALAYSIA-CHINA QUANTAN INDUSTRIAL PARK**  
**QUANTAN, MALAYSIA**  
 • US\$40 joint venture between Malaysia and Chinese companies  
 • Granted to Beibu since 50% of the Chinese share with Glencore Investment Company holding 5%

**INVESTMENTS BY INTERNATIONAL PORT HOLDINGS**  
**MYANMAR, INDONESIA, MALAYSIA, THAILAND**  
 • Myanmar International Terminal (started in 2006)  
 • Jakarta International Container Terminal, Tanjung Priok in 2009 (40% stake)  
 • Westport Holdings in 2006 (100% stake)  
 • Longbeach Terminal since 2004 (100% stake)

**SINGAPORE**  
**SINGAPORE**  
 • APM's increased stake to 14.5% from 10.2% with an investment of \$500 million  
**COSCO-PSA TERMINAL**  
**PRER PRERANG TERMINAL, SINGAPORE**  
 • COSCO Pacific owns 40% stake  
 • COSCO's latest expansion for Phase 3 and 4  
 • 50 mil TEUs by 2017

**Strait of Malacca**

**China Index**  
 Measuring PRC Influence Around the Globe.

**Ranking & Scores**

Country & Territory | Please select

**Overall Score**

Overall scores measuring the PRC's overall influence in the countries studied. Click on the dropdown button to look at the PRC's influence in each of the map domain areas.

Rank	Region	Score
1	Central Asia	033070
2	Singapore	226400
3	Thailand	000400
4	China	719000



## Thailand



## Philippines



## Non-Geographic Maneuver

China dominates broadcast media in the Middle East and Central Asia 74%.



### China's trans-Myanmar oil and gas pipelines

Pipeline's will bring 12 million tonnes of crude oil and 12 billion cubic metres of gas a year into China

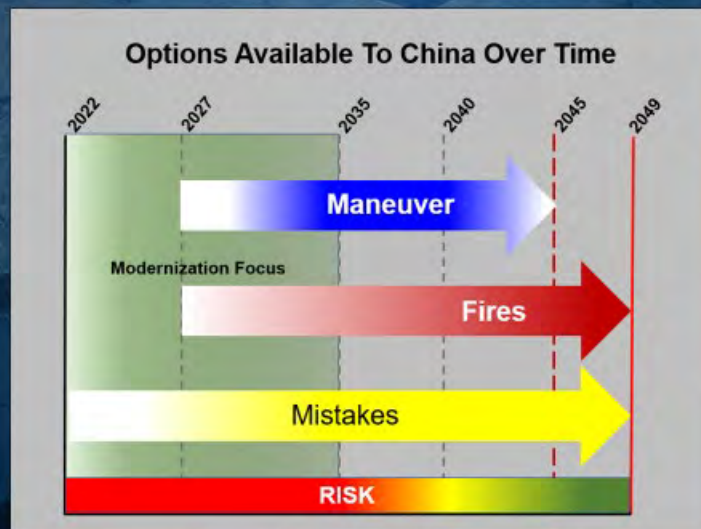


## Non-Geographic Maneuver





## Unification by Maneuver



## The Options Available to China Are...

- **Unification by Maneuver**
- **Unification by Fires**
- **Unification by Mistake**

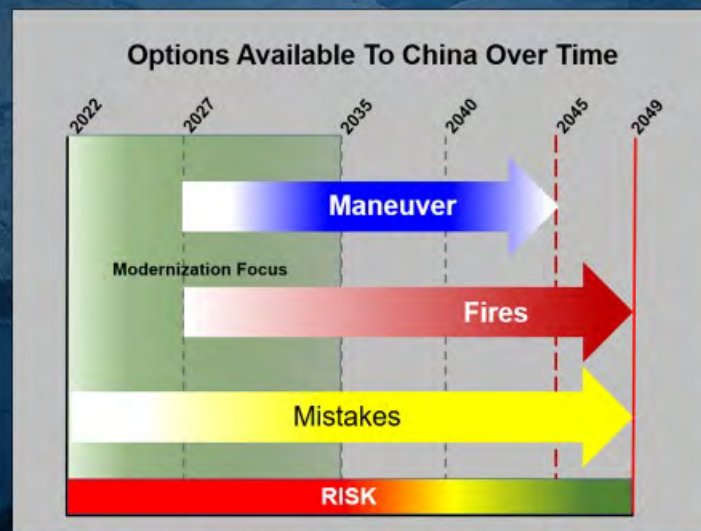


## Unification by Fires



Mariupol, Ukraine

## Unification by Fires





## PLA Force Requirements and Force Generation

Taiwan Strait Military Balance, Ground Forces

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

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

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

Table 1: Taiwan and Chinese Forces with invasion ratios

## PLAN Force Requirements and Force Generation



Figure 9. RO-RO Ferry SHENG SHENG 1 Unloading Tanks onto Semi-Submersible Barge and Floating Pier during Exercise EASTERN TRANSPORTATION-PROJECTION 2020A (CCTV)

## PLA Force Requirements and Force Generation

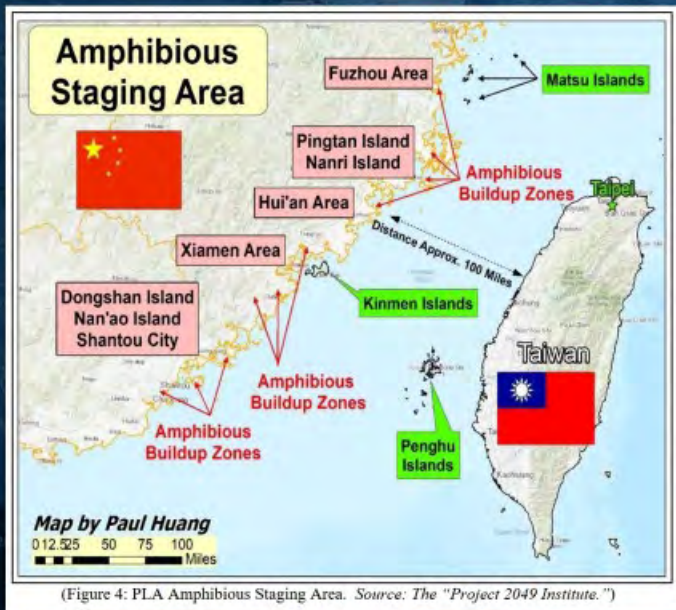


## PLA Troop Movements

- Likely reinforce the Eastern Theater





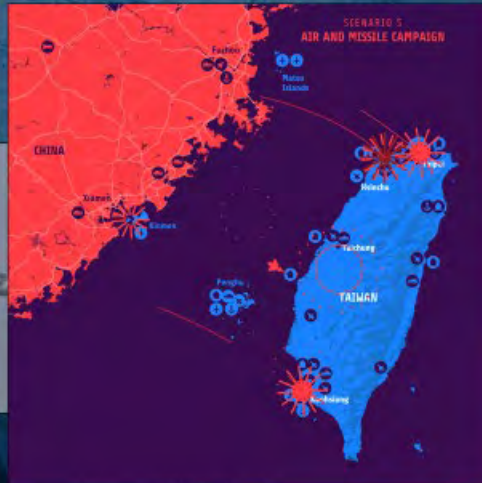


## Staging Areas

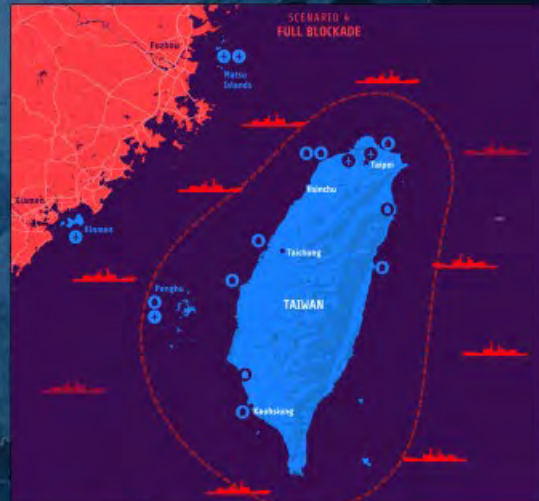
## Force Generation to Kinetic Operations



## Unification by Fires Strike Campaign

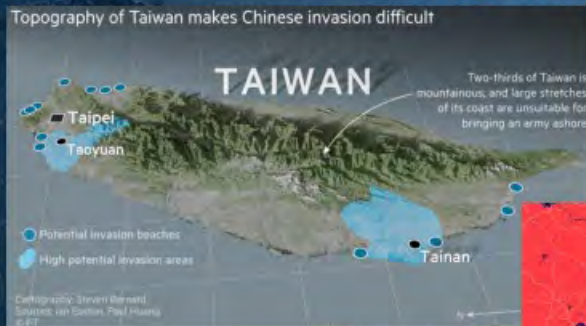


## Unification by Fires Blockade





## Unification by Fires Amphibious Invasion



## The Options Available to China Are...

- **Unification by Maneuver**
- **Unification by Fires**
- **Unification by Mistake**

### US secretly training Taiwan forces since last year: Reports

*The Wall Street Journal reports about two dozen members of US military have been working with Taiwan's ground and maritime forces.*



## Unification by Mistake



## China's "Five Noes"

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-strait 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 on Taiwan.





## Ambiguity Cuts Both Ways



## Mistakes by Commission



## Mistakes by Omission

THE DIPLOMAT

TRANS-PACIFIC VIEW | DIPLOMACY | OCEANIA

### The Solomon Islands Crisis Shows America Needs a New Pacific Strategy

The U.S. has been largely subcontracting its foreign policy for many Pacific Islands to Australia and New Zealand. That needs to change.

By Alexander B. Gray and Cleo Paskal  
November 17, 2021

The recent eruption of civil unrest in the Solomon Islands has prompted extensive commentary in the United States, Australia, and New Zealand seeking to understand the **causes** of the violence. While some of this commentary has captured the myriad issues generating dissatisfaction with the government of Prime Minister Manasseh Sogavare, including **discontent** with his 2019 switch of diplomatic recognition from Taiwan to the People's Republic of China (PRC) and Beijing's **corrupting** role in the Solomon Islands, **less** attention has been paid to the larger lessons for U.S. policy in the Pacific.

PACIFIC ISLANDS

## Unification by Mistake

