The Genesis and Role of Aircraft Carriers in China's Geopolitics

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Introduction

"A man-of-war is the best ambassador."
Cromwell

"An aircraft carrier is 100,000 tons of diplomacy."
Henry Kissinger

"Without an aircraft carrier, I will die with my eyelids open; the Chinese navy must build an aircraft carrier."
Liu Huaqing

Deng Xiaoping's opening of China to international trade in 1978 and the ensuing dramatic economic boom could only be achieved by sea • Flanked by land-based neighbours, none of whom are favorable to it, it is a geopolitical island. The Middle Kingdom has been able to develop by building ports as hubs for special economic zones, with an annual GDP growth rate that has often surpassed 10% and remains one of the highest in the world. The flows of commodities and energy that feed its industries and those of manufactured goods that irrigate the world in return rely on shipping routes that are vital to these exchanges. The permanent protection of its maritime approaches in the China and Yellow Seas is an existential necessity. This protection is offered by the world's largest coastguard fleet backed by a maritime militia that plays on the ambiguity of its status. Defending its maritime traffic and fishing fleets on the world's oceans—where its ships sail under the principle of freedom of navigation—wherever they may be threatened in the world calls for a combat navy fleet commensurate with its interests.

The Middle Kingdom is gradually evolving into a true thalassocracy • In 2022, the People's Republic of China (PRC) emerged as the largest builder of merchant ships and its navy has more warships than the United States. But it is still not sufficiently balanced to qualify as the world's leading naval power, ready to face any adversary that threatens its interests anywhere and on any sea. To achieve this, it lacks the means to deploy its power far and wide, capable of striking both on land and at sea. It lacks aircraft carriers and intends to make up for this deficit.

Chinese is developing its aircraft carrier programme at a brisk pace • Its primary interest in these warships is based on historical lessons learned from especially painful events directly affecting it. It has repeatedly come up against the power of the U.S. naval aviation without being able to counteract it. Its design control expertise relies on a combination of reverse engineering technologies from all sources, R&D and creative innovation. Its first real aircraft carrier (1), with sea trials scheduled as early as 2024, could, if successful, spearhead a series of ships that would allow the People's Liberation Army Navy (PLAN) to challenge the US Navy and its allies for control of the world's oceans by 2049.

(1) There are several types of aircraft carriers: some fitted with Catapult Assisted Take-Off But Arrested Recovery (CATOBAR) systems. The only ones in service in 2023 are American (eleven units) and French (PAN Charles de Gaulle); all of which are nuclear-powered. Other carriers use different take-off and landing methods. These are Short Take Off and Vertical Landing (STOVL) and Short Take-Off But Arrested Recovery (STOBAR) vessels. They are the most common.

Systemic progression • As it does in all facets of the naval realm, China has not confined itself to analysing only the tactical and strategic aspects of deploying integrated battle groups. It has also examined the technical aspects, progressing step by step without skipping a beat, mindful of the project's complexities and the need to master the design of the different segments that make up a carrier strike group (1) (carrier, aircraft, escort, logistics, etc.), like those the US Navy has been using effectively for the past 70 years.

(1) On 1 October 2004, the US Navy's carrier groups were renamed "Carrier Strike Groups" instead of "Carrier Battle Groups" to highlight the increasing emphasis on landward power projection. France has retained its "*Groupe Aéronaval* (GAN)" designation for these units. This operational formation is made up of an aircraft carrier, frigates or cruisers specialising in various areas of combat and an airborne group of several dozen planes. It also comprises one or two nuclear attack submarines (SSN) and at least one fuel and food supply vessel.

Geopolitical context

Replacing the United States, the "benchmark" adversary

Today, an aircraft carrier is unquestionably the most complete and most forceful means of power projection available. A system of systems and at the same time a warship, a nuclear power plant and an airfield, implementing and ensuring the maintenance, arming and refuelling of several dozen fixed and rotary-wing aircraft; it is also one of the most challenging platforms to master, both technically and tactically. Commanding the naval air group at its heart is further complicated by the presence of warships specialising in the various fields of combat (anti-aircraft, anti-submarine, anti-missile, anti-surface, etc.) which form its escort, as well as oil tankers and nuclear attack submarines. They provide guidance, support, information and logistics. Besides the range of weapons systems that ensure its protection, the group's strategic mobility (1,000 km per day) and tactical flexibility (speed of more than 25 knots) make it a much harder target to hit than static airbases, whose position, precisely known in peacetime, makes them particularly vulnerable to a first strike.

With freedom of navigation on the open seas, countries with aircraft carriers can deploy a naval and air force anywhere in the world's oceans without notice and with full autonomy **(1)**. The sea currently carries 90% of all trade and 80% of the world's population lives within 200 km of the coastline where the vast majority of industrial, armed forces and government centres are concentrated, making them potential targets. A carrier strike groups cruising in international waters does not need prior authorisation for overflights or to establish bases in more or less friendly foreign countries, unlike the case of long-distance air deployments and the advance deployment of refuelling aircraft **(2)**. Another advantage is that once they are close to their targets, aircraft deployed from an aircraft carrier can intervene at short notice or even ensure a permanent presence in flight. However, these two action approaches are complementary, the first allowing for rapid intervention, the second for constant presence in the area **(3)**.

The PRC, with its "*Chinese dream*" economic and political ambitions on a global scale, has progressively embraced the need for a navy that can safeguard its interests worldwide and equip it with aircraft carriers, in a very high cost procurement programme. This choice is primarily explained by the nationalism aroused by the repeated failures of the PLAN's maritime division (PLAN) in its clashes with the US Navy since its creation in 1949. The successive crises in the Taiwan Strait are reminders of the dark hours of the

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(1) People Liberation Army (PLA) analysts who studied the Royal Navy's success in the 1982 Falklands War concluded that aircraft carriers played a pivotal role in the UK victory over Argentina.
(2) To avert a possible *coup de main* in Somalia immediately after Djibouti's independence in June 1977, France set up the Saphir II group operating from the Clémenceau aircraft carrier from 16 April to 15 June. It was relieved by the Foch aircraft carrier when the independence ceremonies were held. This vessel stayed in the area until 30 November, once the situation had stabilised (Coutau-Bégarie, 164).
(3) The aircraft carrier Clémenceau was deployed in the Eastern Mediterranean from October 1983 to January 1984 (operation Olifant XVIII) to provide backup for the French army contingent which was hit by the Drakkar attack (58 dead). It headed back to Toulon for a short maintenance period until 24 January. Air readiness was then provided by the French Air Force, which conducted a demonstration reconnaissance flight with 4 Jaguars (operation Chevesne): the round trip lasted 7 hours, non-stop, with four in-flight refuelling and guidance provided by the frigate Suffren. The aircraft lacked autonomy in the area and the operation was not repeated. (Coutau-Bégarie, 143).

"*century of humiliation*" (1). The Chinese regard the dominance of US aircraft carriers as a modern incarnation of gunboat diplomacy and stress the fact that China, despite its greatly enhanced military power, remains undersized and underprepared against US naval power. The American aircraft carrier has become the benchmark adversary and the embodiment of the combat ships they want to outperform technically and operationally.

This ambitious programme enjoys strong public backing and the rising prominence of the navy in the armed forces. Since 2004 the PLAN commander has served on the Central Military Commission, the most influential body of the Chinese armed forces. Drawing lessons from the United States' post-World War II experience, China has opted to develop this formidable instrument of power projection, the aircraft carrier, to equip itself to intervene successfully wherever required in the future. Like all major initiatives driven by the Chinese leadership, this development is based on a long-term, systematic, step-by-step approach designed to avoid technological dead ends and deliver successful results. Although President Xi Jinping has set a target date of 2049 for realising the "*Chinese dream*", he wants the armed forces to be fully modernised by 2035.

(1) For the Chinese, the "Century of Humiliation" dates back to the first Opium War with Britain in 1841 and culminated in the defeat of Japan in 1945. However, this last milestone did not mark the end of China's economic decay, which continued under Mao with three initiatives, all of which proved disastrous: the "Agrarian Reform" (1950-1953); the "Great Leap Forward" (1958-1961) and the "Great Proletarian Cultural Revolution" (1966-1976). China's share in world GDP was merely 5% in 1978, down from 32.9% in 1820 (Maddison, 44).

Technological development
Progressive appropriation of its opponents' strategies and methods

Admiral Liu Huaqing (1916–2011), although from an army background, is commonly referred to as "the father of the modern Chinese Navy". He led the PLAN from 1982 to 1988 and spearheaded its transformation from a mere coastal defence force to a blue water navy, capable of operating far from home. A veteran of the war against Japan and the Long March, from 1989 to 1997 he served as vice-chairman of the Central Military Commission (CMC).

He was instrumental in shaping the navy's far-reaching strategic vision in the mid-1980s. This is embodied in the steady expansion of Chinese maritime power throughout the Pacific. The first phase, originally scheduled for the year 2000, was to extend the PLAN's command of the "near seas" (South China Sea, East China Sea, Yellow Sea), i.e. the maritime approaches to China's coastline in the west and extending to the first island chain in the east—the Kuril Islands, Japan, Ryukyu, Taiwan, the Philippines, Borneo and Natuna Besar—all beyond China's jurisdiction. The second phase, to be achieved by 2020, would extend the range of operations to the second island chain—the Bonin Islands, the Marianas and the Carolinas. Lastly, the third phase to be implemented by 2049, would position China as a leading naval force, with world-wide operational capabilities.

Liu clearly grasped the significance of Sea Power and especially its naval aviation component throughout the 20th century. He had occasion to discuss aircraft carriers in detail with his American counterparts in the course of cooperation treaty negotiations in August 1984 with the US Navy and the US Air Force to counter the Soviets, a common enemy at the time (Lehman, 156). On 1 January 1986, a naval exercise saw American and Chinese ships operating in unison for the first time.

A staunch supporter of "flat decks", in 1987 he stated: "Without an aircraft carrier, I will die with my eyelids open; the Chinese navy must build an aircraft carrier", an allusion to a proverb that refers to dying without fulfilling a heartfelt wish. He launched the development of the navy, which continues today at an unprecedented pace, including the programme to build air platforms on man-made islands and nationally designed aircraft carriers.

Closer Ties With the US and Procurement of Western Technology

In 1985, a few months after Admiral Liu's visit to the United States, a Chinese ship breaking company purchased a British-designed aircraft carrier from Australia. This was an astute choice since the British were behind most of the innovations that led to the creation of the concept and the technical and operational refinement of this type of warship: steam catapults, arresting gear, angled deck, mirror deck landing sights, etc. The PRC's newly acquired rapprochement with the United States must also have helped in securing the necessary approval to export this type of war equipment. Ultimately, as she was originally intended to have a longer service life, this aircraft carrier was built to high technical specifications.

HMAS Melbourne (R21) is a British built Glory class aircraft carrier. Launched on 28 February 1945, it entered service in January 1953, shortly after she was completed in late 1952 (Le Masson, 118). With 16,000 tonnes of displacement (19,966 fully loaded) she is equipped with a 5.5-degree angled deck, and a steam catapult. Upgraded in 1968, then in 1971-73 she was fitted with two steam catapults and a mirror landing system. In 1981, the Australian Navy, after having first decided to overhaul the Melbourne to maintain her operational capabilities until 1990, finally decided to decommission her in June 1982.

In February 1985, Australia's former flagship was sold to *China United Shipbuilding Co Ltd* for A$1.4 million to be decommissioned and scrapped in the Chinese port of Dalian. However, China reportedly held on to the flight deck section to use as a basis for a possible reverse engineering project for a CATOBAR carrier to operate aircraft similar to Skyhawk jets and propeller-driven Trackers.

Commanding China's Maritime Approaches

The first phase of Admiral Liu Huaqing's maritime strategy is lagging behind schedule. China favours a long-term, step-by-step approach. It applies a *fait accompli* approach to avoid any violent confrontation not of its own making, which could undermine the success of its political goals for 2049. To create ambiguity in its actions and avoid the risk of conflict, it relies on a maritime militia in the neighbouring seas. Made up of a large number of pseudo-fishing boats, these operate simultaneously in swarms of several hundred to occupy shoals in contested waters. They cannot be deterred without using weapons, which is out of the question when dealing with civilian ships. China then takes possession of reefs, performed reclamation activities to make them into islands, which, according to the Law of the Sea, are artificial and therefore have no territorial waters or exclusive economic zone (EEZ).

China is also using its coastguard to bolster its presence. A law enacted on 1 February 2021 authorises them to use their weapons in waters under their "jurisdiction", without precisely defining this term. China delimited these waters in 2009 with the so-called nine-dash line based on a so-called historical right not recognised under the Montego Bay Convention. These waters encompass more than 62% of the South China Sea and feature the Spratly and Paracel archipelagos, as well as Taiwan and the Taiwan Strait. The resulting zone overlaps with the EEZs of the bordering countries, giving rise to numerous maritime disputes. But, who would be prepared to clash over a handful of reefs with the region's leading naval force, which also has right to veto on the UN Security Council and is a nuclear power?

The nine disputed man-made islands **(1)** occupied by the PLAN in the Spratly Archipelago include Fiery Cross Reef, Subi Reef and Mischief Shoal. Close to the geographical centre of the South China Sea, these three naval airbases have runways of more than 3,000 metres in length. They are strategically relevant for two reasons. The aircraft operating from them are primarily involved in protecting China's strategic "bastion" in the South China Sea where their Ballistic Missile submarines (SSBNs) are patrolling. They can also operate, without air-to-air refuelling, on all the straits of the first chain of islands that give access to China's maritime approaches which China does not control and whose openness is crucial to its economy. These closely spaced complementary aircraft platforms represent a second-best solution to the aircraft carriers that China has not managed to obtain in the envisaged timeframe. Nevertheless, they enable the

(1) While neither the PRC nor the DRC have accepted its decision, on 12 July 2016 the Permanent Court of Arbitration (PCA) in The Hague, Netherlands, ruled that China does not have "historic rights" over the majority of strategic waters in the South China Sea.

permanent air cover of the South China Sea that is crucial for implementing the first phase of Admiral Liu Huaqing's strategy. The other six artificial islands in the Spratlys round out China's maritime power by serving as helicopter bases, ports, and logistical outposts for the various units of its maritime forces in these waters.

Opting for Soviet-Made Aircraft Carriers

The honeymoon with the United States and its allies, the only nations building real aircraft carriers, was short-lived. The crackdown on the Tiananmen Square protests from 15 April to 4 June 1989 led to a general arms embargo on China. It remains in place in 2023. At the same time, the gradual collapse of the USSR led the Soviet empire to part with a large proportion of its fleet—in particular its aircraft carriers—due to its inability to maintain the vessels. This represented a new windfall for China's aircraft carrier programme.

Over a three-year period, Chinese firms purchased three Soviet-era aircraft carriers for "recreational" purposes: the Minsk and the Varyag in 1998 and the Kiev in May 2000. However, the sizeable amount of these purchases (USD 334 million) reflects the government's involvement and the coordinated efforts of the shipyards. The Varyag was acquired by the *Chong Lot Tourist and Amusement Agency*, a company with several retired PLAN officers on its board of directors (Scobell, 6). The buyer's stated plan was to remodel the Varyag into a floating casino in Macau. However, the waters around the former Portuguese colony are not deep enough for the vessel and no gaming permit seems to have been applied for. When the Varyag arrived in China in early 2002, it docked in the northern port of Dalian, a considerable distance from Macao.

The Kiev and Minsk are Soviet-built aircraft carriers belonging to the same class. Like all other Soviet carriers, they were built in Nikolaev, in what is now Ukraine. Launched in 1972 and 1975 successively, they entered into service three years later (Labayle-Couhat, 758). They have 36,000 tonnes of displacement (43,000 t fully loaded). They have a 4.5-degree angled deck but no ski jump, and operate vertical take-off and landing Yak-38 Forger aircraft. These hybrid ships are part cruisers, part aircraft carrier, which is why they are said to be "capable of everything and fit for nothing". This probably explains why they were rejected by the Chinese when deciding on the type of vessel that could be developed for the PLAN. The two ships were converted, one into an amusement park and the other a military history museum. The Minsk, which has not been maintained, is anchored off the port of Nantong and is reportedly in very poor condition.

The Varyag (ex-Riga) is a STOBAR model aircraft carrier. Similar to Russia's Admiral Kuznetsov, it was launched in 1988, but was never fully completed. At 70% complete, the shipyard sold it to China in 1993 (Prézelin, 302). It has 59,100 tonnes of displacement (65,000 tonnes fully loaded). Its aviation facilities feature a ski jump with a 12-degree ramp and a 7.5-degree angled deck.

Changes in Strategy and Technical Design Control

In the late 1990s, President Jiang Zemin took the decision to embark on the aircraft carrier programme. The decision to order a vessel was reportedly taken by Central Military Commission (CMC) in 2004 or 2005 and almost certainly coincided with the announcement of its revised strategic military guidelines.

On 24 December 2004, President Hu Jintao announced "new historical missions". Two of these were to protect China's "national interests" and to safeguard "world peace". These notions include China's territorial sea claims within the first island chain as well as its "overseas interests". They confer a global role on the PLAN, including controlling sea lines of communication (SLOCs), protecting Chinese interests overseas and its expatriate citizens, and contributing to international humanitarian aid and natural disaster relief. The concept of "distant-water operations" will shape the strategic and doctrinal rationale for modernising naval forces in general and, by extension, for procuring several aircraft carriers.

To develop a new type of aircraft carrier on its own is a risky endeavour for China. To do so in cooperation with a country like Russia, which has mastered the technical design but no longer has the shipyard expertise to build large warships, would jeopardise the project. This would compel China, which, by contrast, has state-of-the-art shipyards and a strong industrial momentum, to share its innovations.

The only remaining solution is simple: to implement the programme unassisted, copying everything that can be copied to fast-track the initial learning phase. The decision to finish building a vessel already in progress, with a unit of the same type, the Kuznetsov, as a reference, significantly reduces the risk of failure. Russia, currently struggling to implement this aircraft carrier, has no reason to object to China's involvement and can even expect its assistance in recommissioning it. While China is convinced of the superiority of Western-type aircraft carriers, it has nevertheless chosen to control their design in stages:

- finish building the most advanced aircraft carrier available;
- carry out extensive technical tests, comparing performance with the Kuznetsov;
- reverse engineer as many features as possible;
- identify the necessary changes; modify the plans accordingly;
- build a much improved version of the ship to refine the expertise of the design departments and the shipyard;
- Design and build a real aircraft carrier by developing catapults and ancillary facilities.

Brief chronology
of the programme

Development of carrier-based fighter aircraft

The same methodology applies to carrier-based aircraft. The result is the J-15 Shenyang, China's version of the Russian Su-33 Flanker. A replica of the flight deck and island is built onshore in Wuhan above office buildings. It has allowed flight deck crews to be trained before the aircraft carrier is ready for deployment. At the same time, the fleet's pilots were trained to take off and land on the replica by a group of Brazilian aircraft carrier pilots.

In November 2012, a first daytime squadron of J-15 fighters took off and landed on the aircraft carrier Liaoning.

On 27 August 2014, at least two Chinese pilots were killed while testing aircraft belonging to the Liaoning's air wing. The planes were also reportedly lost.

In late 2016, A J-15, designed specifically for CATOBAR, conducted its first electromagnetically catapulted take-off on an experimental Electromagnetic Aircraft Launch System (EMALS) runway at the Xincheng Naval Aviation Pilot Training Centre in western Liaoning Province.

On 27 May 2018, five and a half years after the first daytime deck landing by J-15 fighters on the Liaoning in November 2012, a television report showed footage of at least one J-15 fighter taking off in the dark from the craft's 14-degree angled deck as well as the successful landing of another jet of the same model.

On 9 October 2021, the onboard fighter school became operational. It has completed day and night deck landing pilot certifications, conducted fighter training sorties, and validated a programme to convert qualified shore-based pilots and train secondary education recruits.

Type-001 Liaoning

The Varyag arrived in Dalian under tow from Nikolaev (Ukraine) on 3 March 2002. The works to analyse, study and refit the ship lasted until 2011. Initially named Shi Lang (1), the ex-Varyag made its first sea outing on 10 August 2011. It was curtailed to four days, when the aircraft carrier ran into technical problems, as is normal for a prototype.

On 24 September 2012, the handover ceremony of the Chinese Navy's first aircraft carrier, renamed Liaoning (2), was held in the port of Dalian, in north-eastern China. The ship was commissioned into active service in 2013 in Qingdao, its new base port.

(1) Admiral Shi Lang (1621-1696) was commander of the Manchu fleet that conquered the island of Taiwan in 1681
(2) Ships of all kinds are given their names on the day of the naming ceremony. Furthermore, the three types of Chinese aircraft carriers have been modified over the years of construction. For the sake of simplicity, from now on we will refer to their final name and type. These are, in order of construction: Liaoning, type-001 ; Shandong, type-002 ; Fujian, type-003.

From 25 November 2013 to 2 January 2014, the aircraft carrier Liaoning pursued its 37-day sea trials and combat system assessments. It was escorted by two destroyers and two frigates. Aircraft and submarines also took part in the test exercises.

On 25 December 2016, a Chinese carrier battle group comprising five surface units around the Liaoning sailed around Taiwan and entered the South China Sea through the Bashi Channel, which separates Taiwan from the Philippines. This marked the first time that the Liaoning entered the South China Sea. It had crossed the first line of islands and exited the East China Sea through the Miyako Strait near the Japanese archipelago, before entering the South China Sea through the Bashi Strait, south of Taiwan Island.

On 7 July 2017, the Liaoning called at Hong Kong for the first time. This show of force in the former British colony less than a week after a high-profile visit by Chinese President Xi Jinping is of great symbolic significance. It also coincided with the commemorations to mark the 20th anniversary of the entry of the People's Liberation Army (PLA) into Hong Kong following its handover.

On 4 January 2018, the Liaoning with its air group on board, transited the Taiwan Strait for the first time, escorted by five warships. China, with its passion for symbolism, is committed to re-enacting the painful events of the Taiwan Strait crises by reversing the roles.

From 20 to 21 March 2018, the Liaoning carrier battle group once again crossed the Taiwan Strait southbound after President Xi Jinping issued his strongest warning to date against Taiwanese separatism. However, the aircraft carrier remained on the western side of the median line between the two states.

On 31 May 2018, the Liaoning air group reached initial operational readiness, enabling it to conduct offensive and defensive operations from the carrier. The Liaoning's air wing is believed to consist of 24 Shenyang J-15s (a variant of the fourth-generation Sukhoi Su-33 twin-engine air superiority fighter), as well as a dozen Changshe Z-18, Ka-31 and Harbin Z-9 helicopters.

In April 2021 and December 2021, the Liaoning was deployed to the Philippine Sea and the South China Sea, each time escorted by the Renhai Nanchang-class cruiser. According to the Japanese Self-Defence Force, the December deployment involved night flight operations approximately 200 nautical miles southeast of Okinawa. The aircraft carrier was accompanied by a Fuyu (1) fleet replenishment ship.

Type-002 Shandong

In early 2014, construction of a second STOBAR aircraft carrier began in Dalian. It is a nationally developed and improved version of the Liaoning. It was only on 31 December 2015 that Xi Jinping officially announced that the ship would be 100% Chinese built.

The aircraft carrier was launched on 26 April 2017 and began sea trials on 12 May 2018.

On 13 August 2019, its air fleet was estimated at 36 J-15 fighters, 50% more than the Liaoning, which carries only 24. This was achieved by optimising the hangar, a more compact island structure and additional on-deck aircraft stands.

(1) The three Fuyu Type-901 fleet replenishment ships are large vessels with 48,000-tonnes of displacement fully-loaded. They were designed to provide support for aircraft carrier groups.

On 17 November 2019, it sailed through the Taiwan Strait for the first time on its way south. It is worth highlighting the symbolic nature of this operation. It came shortly after Taiwanese President Tsai Ing-wen announced that her running mate in the 2020 elections would be William Lai, a prominent pro-independence voice in Taiwan.

On 17 December 2019, the Shandong was commissioned into service in Sanya on Hainan Island, its new base port.

On 5 August 2022, Shandong conducted multi-domain exercises in the South China Sea to pave the way for long-term deployment.

Type-003 Fujian

A satellite image taken on 17 April 2019 shows what appears to be true Chinese-made aircraft carrier under construction at the Jiangnan shipyard in Shanghai.

According to the Pentagon's annual report on China's military modernisation, it is said to be larger than the original two carriers and equipped with a catapult system. It is reportedly somewhat smaller than the 100,000-tonne American aircraft carriers, but larger than France's flagship, the 42,500-tonne Charles de Gaulle.

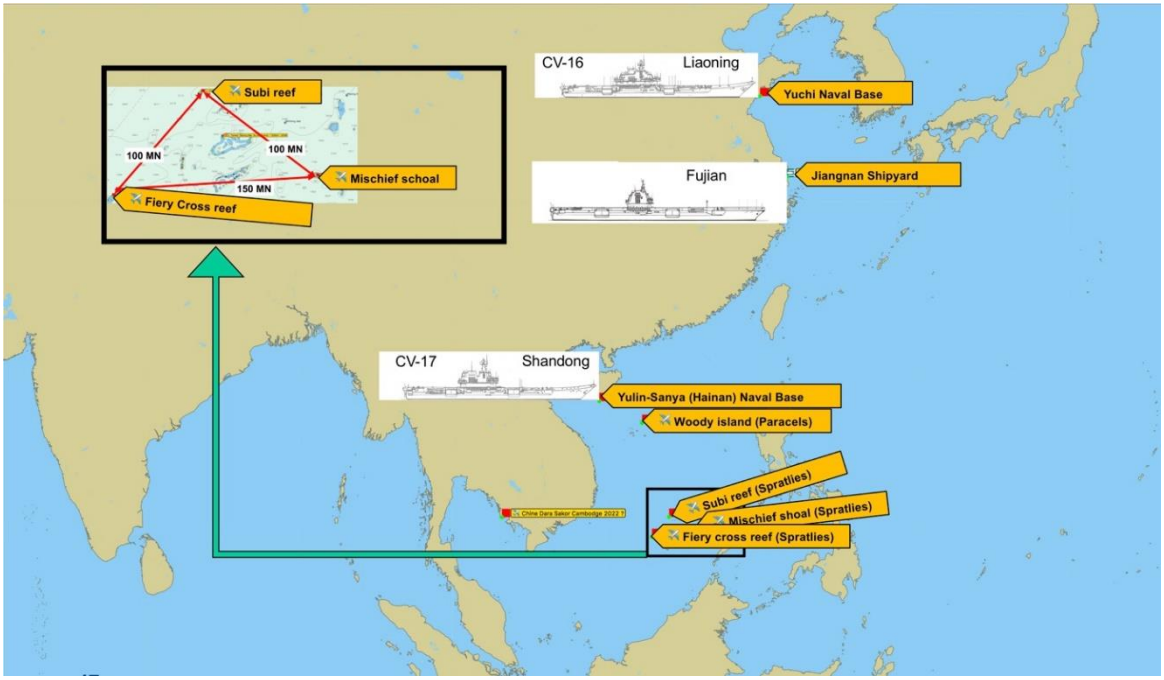
On 17 June 2022, the Type-003 Fujian was launched as China's first aircraft carrier due to be fitted with electromagnetic catapults, like the US Navy is doing with great difficulty on board its brand new USS Gerald Ford.

Summary of vessels deploying fixed-wing aircraft

Tableau 1 • PLAN aircraft carriers (February 2023)

Construction phases	**Liaoning CV-16 Type-001**	**Shandong CV-17 Type-002**	**Fujian Type-003**
	STOBAR	STOBAR	CATOBAR
Full-load displacement	65,000 tonnes	70,000 tonnes	80,000-100,000 tonnes
Chinese Shipyard	Dalian	Dalian	Jiangnan shipyard
Start of works	6 December 1985	2015	March 2015
Launched	December 1988	April 2017	17 June 2022
Duration of works	2005 -2011		
Start of sea trials	10 August 2011	May 2018	
Commissioned	24 Sept. 2012	17 Dec. 2019	2024/25 ?
Flight group (fighters)	24 J-15	36 J-15	?
Naval bases	Yuchi Northern Fleet	Yulin-Sanya, Hainan Island Southern Fleet	

Figure 1 • Shipyards, naval bases and air platforms (2023)



The PLAN is also reportedly planning to build a new class of amphibious assault craft, the Type 076. It would feature electromagnetic catapults, giving it the capability to operate fixed-wing aircraft and turning it into a light aircraft carrier (1).

This recalls the experiment conducted in 2022 by the US Navy, China's benchmark opponent, on board the amphibious assault ship USS Tripoli (LHA-7). For several months, this ship carried vertical take-off F-35B Lighting II joint strike fighters alongside its helicopters. In the United States, this concept is called an "assault aircraft carrier".

(1) US Department of Defense, *2022 Report on Military and Security Developments Involving the People's Republic of China*, November 2022, p. 129, available here.

Rising Strength
and New Domestic Challenges

China seeks to erase the "Century of Humiliation" during which it suffered economic and political decline. It places the blame squarely on foreign maritime powers, omitting the numerous domestic revolts that contributed to this situation. Following the end of the Second Sino-Japanese War in 1945 and the victory of the Communist forces over the Kuomintang in 1949, foreign nationals were expelled from the mainland. But the Nationalist presence in Taiwan and a handful of other smaller islands remains a key geostrategic issue. It has gone on to generate a series of crises with the United States, which has opposed any attempt at forceful unification. None of these have worked in China's favour. Xi Jinping, whose goal is to achieve the "Chinese dream" by 2049, intends to guarantee its success and continuity by developing the world's leading economy, under the aegis of first-rate military assets, in particular a navy capable of commanding its SLOCs and safeguarding its interests worldwide. While the PLAN has already surpassed the US Navy in terms of number of units, it has yet to match its tonnage. It lacks aircraft carriers, complex and costly systems of systems, but with second-to-none power projection capabilities from the sea to almost every production and government centre in the world.

Due to China's proximity to Taiwan, its military capabilities are already amply sufficient to crush the island's defences. However, they are no match for the US Navy, which is capable of projecting its power everywhere, on land and at sea. This could cut off the "silk roads of the 21st century", primarily by sea, which are essential to the functioning of China's industries, its economy and its consequent social stability (1). Without the mobile power projection capabilities of aircraft carriers, China cannot achieve its political goals and sustain its position as a world leader. Indeed, no fixed network of overseas airbases, whose use is necessarily subject to precarious diplomatic agreements, can ever match the flexibility of aircraft carriers and the high survivability provided by their escort and mobility.

How many carriers will be needed to complete the missions they will be tasked with? Eleven like China's benchmark opponent, or more than that to have any hope of outclassing them? How long will it take to develop the tactical and operational experience to implement them effectively? How long will it take to build them in the two shipyards equipped to do so unless others are converted? As the world's largest commercial shipbuilder in 2022, it could do so without significant difficulties. Will its economy allow China to continue increasing its annual defence budget by an average of over 7% for a prolonged period? Will it be able to find enough qualified crews at a time when young people are striving for an ever more "connected" lifestyle?

The PRC is currently enduring the cumulative effects of several crises, social, health, financial… The memories of the events of Tiananmen Square in 1989 remain vivid in its leaders' minds, and the risk of a nationalist surge, if the situation were to deteriorate further, could lead to a hasty attack on Taiwan, regardless of the cost and the risk of US intervention. The programme would suffer as a result.

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(1) Laurent Amelot, "*L'Indopacifique à l'épreuve des nouvelles routes maritimes de la soie pour le 21ème siècle*" ["The Indopacific in the face of New Maritime Silk Roads for the 21st Century"], Institut Thomas More, note 53, November 2021, available here.

China's two aircraft carriers are now operational. They were both at sea in January 2023. The Shandong was engaged in multi-domain exercises in the South China Sea. The Liaoning was concluding a two-week deployment to the western Pacific where it had conducted a series of multi-domain exercises with its convoy, racking up 320 take-offs and landings.

Conducting these large-scale exercises almost simultaneously is a show of force. They allow the Chinese Navy to put its operational readiness to the test. With the deployment of the Liaoning-led force off the island of Guam, China was able to demonstrate its high degree of competence in power projection from the sea.

Terms and abbreviations

CATOBAR • Catapult Assisted Take-Off But Arrested Recovery

CMC • Central Military Commission

EEZ • Exclusive economic zone Zone

EMA • Electromagnetic Aircraft Launch System

MN • Nautical Mile (1852 m)

PLAN • Popular Liberation Army-Navy

PRC • Peoples's Republic of China

SSN • Fast attack submarine - Nuclear-powered attack submarine

SSBN • Nuclear-powered ballistic missile submarine

STOBAR • Short Take-Off But Arrested Recovery

STOVL • Short Take Off Vertical Landing

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