**Chinese Aircraft Carrier Program**

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Since the 1970s, the [People's Liberation Army Navy](https://en.wikipedia.org/wiki/People%27s_Liberation_Army_Navy) (PLAN) has expressed interest in operating an [aircraft carrier](https://en.wikipedia.org/wiki/Aircraft_carrier) as part of its [blue water](https://en.wikipedia.org/wiki/Blue-water_navy) aspirations. In 2011, [People's Liberation Army](https://en.wikipedia.org/wiki/People%27s_Liberation_Army) Chief of the General Staff [Chen Bingde](https://en.wikipedia.org/wiki/Chen_Bingde) confirmed that China was constructing at least one aircraft carrier. On 25 September 2012, China's first aircraft carrier, [*Liaoning*](https://en.wikipedia.org/wiki/Chinese_aircraft_carrier_Liaoning), was commissioned. On 31 December 2015 it was reported by several news sources that China was building a second aircraft carrier using entirely indigenous design.

Since 1985, China has acquired four retired aircraft carriers for study, the Australian [HMAS *Melbourne*](https://en.wikipedia.org/wiki/HMAS_Melbourne_(R21)) and the ex-[Soviet](https://en.wikipedia.org/wiki/Soviet) carriers [*Minsk*](https://en.wikipedia.org/wiki/Soviet_aircraft_carrier_Minsk), [*Kiev*](https://en.wikipedia.org/wiki/Soviet_aircraft_carrier_Kiev) and [*Varyag*](https://en.wikipedia.org/wiki/Soviet_aircraft_carrier_Varyag). Reports state that two 60,000 ton Type 089 aircraft carriers based on *Varyag* are due to be finished by 2015. [Sukhoi Su-33s](https://en.wikipedia.org/wiki/Sukhoi_Su-33) are the aircraft most likely to be flown from these carriers, but China has also developed its own multirole fighter, the [Shenyang J-15](https://en.wikipedia.org/wiki/Shenyang_J-15). based on [Su-33s](https://en.wikipedia.org/wiki/Sukhoi_Su-33).

**Acquisition of retired aircraft carriers**

Chinese shipyards have gained some exposure to carrier design with the acquisition of retired hulls such as the Australian [HMAS *Melbourne*](https://en.wikipedia.org/wiki/HMAS_Melbourne_(R21)) acquired in 1985. The carrier was not dismantled for many years and according to some reports she was not completely broken up until 2002.

Through various ventures, China has also purchased the ex-Soviet carriers [*Minsk*](https://en.wikipedia.org/wiki/Soviet_aircraft_carrier_Minsk) and [*Kiev*](https://en.wikipedia.org/wiki/Soviet_aircraft_carrier_Kiev). These carriers have become [floating amusement parks for tourists](https://en.wikipedia.org/wiki/Minsk_World).

There had been other plans to purchase foreign second-hand carriers in the past. For example, a possible deal between China and France for the sale of the [*Clemenceau*](https://en.wikipedia.org/wiki/French_aircraft_carrier_Clemenceau_(R98)) fell through in 1997.

**ex-HMAS *Melbourne***

Main article: [HMAS Melbourne (R21)](https://en.wikipedia.org/wiki/HMAS_Melbourne_(R21))

Chinese reverse-engineered a land-based replica of the steam catapult and landing system from that of [HMAS *Melbourne*](https://en.wikipedia.org/wiki/HMAS_Melbourne_(R21)), and a [J-8IIG](https://en.wikipedia.org/wiki/Shenyang_J-8#Variants) was used to conduct take-off and landing trials on the land-based flight deck in April 1987, which was not finally confirmed officially until 27 years later in April 2014 by [CCTV-13](https://en.wikipedia.org/wiki/CCTV-13). Both the take-off and landing were conducted on the same day, and the test pilot was [PLANAF](https://en.wikipedia.org/wiki/PLANAF) pilot Li Guoqiang (李国强). The experience gained was applied to the [Shenyang J-15](https://en.wikipedia.org/wiki/Shenyang_J-15).

**ex-*Kiev***

Main article: [Soviet aircraft carrier Kiev](https://en.wikipedia.org/wiki/Soviet_aircraft_carrier_Kiev)

Several days after ex-*Varyag* went on its first-sea-trial in August 2011, ex-*Kiev* welcomed guests in its new role as a luxury hotel with a £9.6 million ($15.6 million) refit. The owners believe that China's naval ambitions as well as a general curiosity about aircraft carriers will result in public interest.

***Liaoning***

Main article: [Chinese aircraft carrier Liaoning](https://en.wikipedia.org/wiki/Chinese_aircraft_carrier_Liaoning)



*Liaoning* before refurbishment

The 67,500 ton ex-[Soviet aircraft carrier *Varyag*](https://en.wikipedia.org/wiki/Chinese_aircraft_carrier_Liaoning) ([*Kuznetsov* class](https://en.wikipedia.org/wiki/Kuznetsov-class_aircraft_carrier)), which was only 70% completed and floating in [Ukraine](https://en.wikipedia.org/wiki/Ukraine), was purchased through a private [Macau](https://en.wikipedia.org/wiki/Macau) tourist venture in 1998. Following [her troublesome tow to Dalian shipyard](https://en.wikipedia.org/wiki/Chinese_aircraft_carrier_ex-Varyag#Towed_to_China), the carrier underwent a long refit. *Varyag* had been stripped of any military equipment as well as her propulsion systems prior to being put up for sale. In 2007 there were news reports that she was being fitted out to enter service.

On 10 August 2011, it was announced that the refurbishment of *Varyag* was complete, and that it was undergoing sea trials.

On 14 December 2011, DigitalGlobe, an American Satellite imaging company, announced that while scouring through pictures taken December 8, they had discovered the retrofitted Varyag undergoing trials, DigitalGlobe further stated that their images captured the ship in the Yellow Sea where it operated for 5 days.

In September 2012, it was announced that this carrier would be named *Liaoning*, after [Liaoning Province](https://en.wikipedia.org/wiki/Liaoning_Province) of China. On 23 September 2012, *Liaoning* was handed over to the People's Liberation Army Navy, but is not yet in active service.

In November 2012, the first landing was successfully conducted on *Liaoning* with [Shenyang J-15](https://en.wikipedia.org/wiki/Shenyang_J-15).

**Acquisition of designs**

In addition to the acquisition of retired [aircraft carriers](https://en.wikipedia.org/wiki/Aircraft_carriers) of foreign navies, the PLAN has been actively purchasing foreign aircraft carrier designs as well. One such example was its effort to purchase the blueprints for proposed conventional take off/landing ships from [*Empresa Nacional Bazan*](https://en.wikipedia.org/wiki/Navantia) of Spain; the 23,000 ton SAC-200 and the 25,000 ton SAC-220 designs. Negotiations started between 1995 – 1996 but did not result in any purchase. However, the Spanish firm was paid several million US dollars in consulting fees, indicating the probable transfer of some design concepts.

After the Spanish firm had submitted its findings, Russian warship designer Nevskoye Design Bureau completed an aircraft carrier design for China in the late 1990s to meet the Chinese requirement but neither Russia nor China disclosed the price. Neither did the two countries reveal any information on whether China was satisfied with the design or not. In any case, no aircraft carriers based on the design were built, as limited Chinese industrial capabilities in the late-1990s made it impractical for China to start any construction of aircraft carriers.

A complete set of blueprints of a foreign aircraft carrier design was obtained by China when it purchased the decommissioned Soviet aircraft carrier [*Kiev*](https://en.wikipedia.org/wiki/Soviet_aircraft_carrier_Kiev). Russia insisted on China buying the blueprints as well for a higher price, but neither country has revealed the exact dollar value. However, based on the official information released by the Chinese government on aircraft carriers, all of which dictates conventional design, the V/STOL design does not appear to fit the Chinese requirement.

The complete set of blueprints of a foreign aircraft carrier design obtained by China when it purchased the incomplete Soviet aircraft carrier [*Varyag*](https://en.wikipedia.org/wiki/Soviet_aircraft_carrier_Varyag) is the most recent purchase. Ukraine urged China to increase the original $18 million bid to include additional purchase of the complete set of blueprints of the design, and after negotiations, China agreed to pay another $2 million to purchase the complete set of blueprints. According to the memoir of Chinese embassy staff members who participated in the process, the blueprints reached China before the ship. This conventional design offers more capability.

**Early plans**

The first official plan of [PLAN](https://en.wikipedia.org/wiki/People%27s_Liberation_Army_Navy) aircraft carrier development dated back on March 31, 1987 when the [Commission of Science, Technology and Industry for National Defense](https://en.wikipedia.org/wiki/Commission_of_Science,_Technology_and_Industry_for_National_Defense) approved the plan on the aircraft carrier and the next generation [nuclear submarine](https://en.wikipedia.org/wiki/Nuclear_submarine) for PLAN submitted by the then commander-in-chief of PLAN, [Liu Huaqing](https://en.wikipedia.org/wiki/Liu_Huaqing). The original plan was to be progressed in stages, with basic research to be completed by the end of the [7th 5-year plan](https://en.wikipedia.org/wiki/Five-Year_Plans_of_China#The_Seventh_Five-Year_Plan.2C_1986-1990), and development of the platform and aircraft to be completed by the end of the [8th 5-year plan](https://en.wikipedia.org/wiki/Five-Year_Plans_of_China#The_Eighth_Five-Year_Plan.2C_1991-1995). By 2000, construction was to begin when ordered.

To prepare the commanders needed for the future aircraft carriers, the [Central Military Commission](https://en.wikipedia.org/wiki/Central_Military_Commission_(People%27s_Republic_of_China)) approved the program of training jet fighter pilots to be future captains in May 1987, and the Guangzhou Naval Academy ([Chinese](https://en.wikipedia.org/wiki/Simplified_Chinese_characters): 广州舰艇学院; [pinyin](https://en.wikipedia.org/wiki/Pinyin): *Guǎngzhōu jiàntǐng xuéyuàn*) was selected as the site.

However, [Liu Huaqing](https://en.wikipedia.org/wiki/Liu_Huaqing)’s plan proved to be too ambitious as the domestic Chinese industry at the time could not meet the goal demanded by the plan. As a result, the plan was drastically scaled back to basic research level and the date for an aircraft carrier entering PLAN service was postponed and eventually put on hold. In the meantime, pilot candidates for warship captain training was also altered, with candidates switched to ship-borne helicopter pilots, because it was considered that naval helicopter pilots with much more ship-borne aviation experience would be better prepared than the land-based jet fighter pilots who lack ship-borne aviation experience.

**Current status**

In mid-2007, Chinese domestic sources revealed that China had purchased a total of four sets of aircraft carrier landing systems from Russia and this was confirmed by Russian manufacturers. However, experts disagreed on the usage of these systems: while some have claimed that it is a clear evidence of the construction of an aircraft carrier, others claim these systems are used to train pilots for a future ship. In August, 2008, Mr. Huang Qiang (黄强), the speaker of the [Commission of Science, Technology and Industry for National Defense](https://en.wikipedia.org/wiki/Commission_of_Science,_Technology_and_Industry_for_National_Defense) announced to the public at a news conference that China had mastered all of the technologies for an aircraft carrier, and would build aircraft carriers in the future when the time was deemed right.

There are media reports of a possibility of China building nuclear-powered aircraft carriers, however the U.S. Department of Defense 2011 Chinese military assessment makes no mention of possible nuclear-powered aircraft carrier development. According to the [Nippon News Network](https://en.wikipedia.org/wiki/Nippon_News_Network) (NNN), research and development on the planned carriers is being carried out at a military research facility in [Wuhan](https://en.wikipedia.org/wiki/Wuhan). NNN states that the actual carriers will be constructed at [Jiangnan Shipyard](https://en.wikipedia.org/wiki/Jiangnan_Shipyard) in [Shanghai](https://en.wikipedia.org/wiki/Shanghai). *Kanwa Intelligence Review* reports that the second carrier to be constructed will likely be assigned to [Qingdao](https://en.wikipedia.org/wiki/Qingdao).

According to a February 2011 report in the  [*Daily Telegraph*](https://en.wikipedia.org/wiki/The_Daily_Telegraph), the Chinese military has constructed a concrete aircraft carrier flight deck to use for training carrier pilots and carrier operations personnel. The deck was constructed on top of a government building near Wuhan (Wuhan Technical College of Communication campus next to Huangjiahu).

On 7 June 2011, [People's Liberation Army](https://en.wikipedia.org/wiki/People%27s_Liberation_Army) Chief of the General Staff [Chen Bingde](https://en.wikipedia.org/wiki/Chen_Bingde) confirmed that China was constructing its own aircraft carrier. He stated he would provide no further details until it was complete.

On 30 July 2011, a senior researcher of the [Academy of Military Sciences](https://en.wikipedia.org/wiki/Academy_of_Military_Science_(People%27s_Republic_of_China)) said China needed at least three aircraft carriers. "If we consider our neighbors, India will have three aircraft carriers by 2014 and Japan will have three carriers by 2014, so I think the number (for China) should not be less than three so we can defend our rights and our maritime interests effectively." General Luo Yuan. In July 2011, a Chinese official announced that two aircraft carriers were being built at the Jiangnan Shipyard in Shanghai. On 21 May 2012, Taiwan's intelligence chief Tsai Teh-sheng told the Legislative Yuan that the PLA Navy plans to build two carriers, scheduled to start construction in 2013 and 2015 and launch in 2020 and 2022 respectively. On 24 April 2013, Chinese Rear Admiral Song Xue confirmed that China will build more carriers and these will be larger and will carry more fighter-planes than *Liaoning*. In December 2013, China's Central Military Commission told Duowei News it planned to commission two *Liaoning*-pattern aircraft carriers by 2020, designated as Type 001A. Contracts have been awarded to China Shipbuilding Industry Corporation to build the two carriers. The cost is projected to be US$9 billion. A waist catapult could be fitted to one or both vessels to facilitate airborne early warning aircraft operation and air control. Presently *Liaoning* combines unassisted ski-jump launched aircraft with helicopters for anti-submarine and air defense operations.

China has also developed a carrier-based fighter aircraft, the [Shenyang J-15](https://en.wikipedia.org/wiki/Shenyang_J-15). On 25 November 2012, it was announced that at least two [Shenyang J-15](https://en.wikipedia.org/wiki/Shenyang_J-15)'s had successfully landed on *Liaoning*. The pilot who achieved the first landing was named as Dai Mingmeng (戴明盟). According to Chinese media reports, the J-15 cannot take off *Liaoning* with a full weapons and fuel load exceeding 12 tons, being unable to get off the carrier’s ski jump ramp. The [Shenyang J-31](https://en.wikipedia.org/wiki/Shenyang_J-31) is a fifth generation fighter aircraft being developed by China that may in future be adopted for carrier use.

**Ships in class**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Pennant Number** | **Name** | **Type** | **Builder** | **Laid down** | **Launched** | **Commissioned** | **Fleet** | **Status** |
| 16 | [Liaoning](https://en.wikipedia.org/wiki/Chinese_aircraft_carrier_Liaoning) | [Admiral Kuznetsov-class](https://en.wikipedia.org/wiki/Kuznetsov-class_aircraft_carrier) | [Mykolaiv South](https://en.wikipedia.org/wiki/Black_Sea_Shipyard)/[Dalian Shipbuilding Industry](https://en.wikipedia.org/wiki/Dalian_Shipbuilding_Industry_Company) | December 1985 | December 1988 | September 2012 | South Sea Fleet | In active service |
| *tbd* | *tbd* | 001A | Dalian | March 2015 | *tbd* | *tbd* | *tbd* | Under construction |
| *tbd* | *tbd* | 002 | Jiangnan | *tbd* |  | *tbd* | *tbd* | Under construction |

**See also**

* [List of aircraft carriers in service](https://en.wikipedia.org/wiki/List_of_aircraft_carriers_in_service)
* [Jiangnan Shipyard](https://en.wikipedia.org/wiki/Jiangnan_Shipyard)
* [DF-21D](https://en.wikipedia.org/wiki/DF-21D) – Chinese [anti-ship ballistic missile](https://en.wikipedia.org/wiki/Anti-ship_ballistic_missile)

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