

## China's Drone Mania

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In recent years China has made significant progress in the development and fielding of military drones. In late September 2021 China hosted the Zhuhai air show after an interruption of 3 years due to the COVID pandemic. Chinese state media gave extensive coverage to the country's drone industry.

China's drone industry used to rely on Western technology, acquired in the international market, and is now becoming one of the most advanced in the world, perhaps the most advanced. Chinese media coverage of the Zhuhai air show clearly shows that China is growing more confident in its ability to produce first class drones capable of matching and even surpassing those built in the West.

**From the UAE to Peru, Chinese drones, both for civilian use and military purposes, now dominate the world market.** Chinese drones are high quality and several times cheaper than those produced in the West. Despite concerns from the US federal government, state law enforcement agencies such as the NYPD use Chinese drones for surveillance. **Chinese drones are reliable and affordable, costing 8 to 10 times less than drones produced in the United States.**

The people's liberation army (PLA) has in recent years been embracing the use of drones in a systemic and methodical way. While the United States regularly used drones in Afghanistan and Pakistan, these operations were against specific targets and individuals. The PLA, the air force and in particular the navy, see drones as being as important as any other main combat system such as fighter jets and submarines. Unlike other militaries, **the PLA does not see drones as mere auxiliaries, but rather as an important fighting system to compensate for some of its weaknesses.**

While China has in recent years deployed modern combat platforms such as the J 20 stealth fighter (150), nuclear attack submarines (6) and aircraft carriers (2),

they remain in relatively small numbers and, many observers believe, inferior to their US counterparts. To compensate for these disadvantages, the PLA has adopted an asymmetric strategy. China has deployed thousands of missiles off the coast of Taiwan that can strike US aircraft carrier battle groups and bases as far as Guam. Missile strikes in combination with modern fighter jets, submarines and surface ships operating closer to China's coast would be deadly for American forces. Drones complement this strategy.

Chinese sources reported that a two seat version of the J 20 was under development. The extra pilot was to allow the aircraft to perform more tasks, including operating several air drones. The drones could be used for reconnaissance and attack missions, thereby providing a protective screen for the J 20 and improving its odds against superior American fighters. The most ambitious project of the Chinese air force (PLAF) is the "flying aircraft carrier" a mother ship air drone that would carry several drones to be used in swarm attacks against enemy aircraft and air defense systems. At the air show was also on display the GJ 11 stealth air drone design for reconnaissance and attack missions in heavily defended air space. **The GJ 11 is one of the most advanced drones of its kind.**

Perhaps in an illustration of the value China places in drones, the Chinese air force is not just relying on state of the art drones. Old fighter jets such as the J 7 – a Soviet era design from the 1970s – are now being converted into drones. Some analysts have speculated that these converted drones have been used in incursions

into Taiwan's Air Identification Zone. However, these aircraft are no match for Taiwan's modern fighters like the F 16V. Used in large numbers and mixed with modern fighters and drones, they can confuse an opponent's air defenses.

**To counter US advantages in aircraft carriers, nuclear attack submarines and modern fighters, the PLAN is also investing heavily in drones.** In July, Hong Kong media reported that China was testing a "cross medium UAV" largely a drone that can operate under water and in the air. While such technology is not unique, the ones being developed by China are far more sophisticated than American drones of the same type.

**China's Yunzhou Tech is developing a drone ship that carries 6 smaller water drones to be used to attack enemy surface ships.** The 6 armed drones are to work in a coordinated manner to surround and attack an enemy vessel. **The growing sophistication of Chinese technology makes it very likely that this type of ship drone will become more powerful and carry increasing numbers of smaller attack drones.** Indeed, Chinese scientists aim to develop systems that can launch increasingly large swarms of drones to attack major US targets such as aircraft carriers. In combination with hypersonic missiles, drones will allow China to target the US fleet without endangering its own ships and fighter jets.

**Being able to operate at increasingly long distance is a top priority for the Chinese drone industry and the PLA.** The vastness of the IndoPacific region requires platforms with the capacity to operate at greater ranges. In September 2021 at the Zhuhai air show China unveiled the CH-6 drone, supposedly capable of flying for almost 24 hours at 700 kilometers an hour.

Chinese scientists are confident that follow-on models could fly for as long as 120 hours. In October 2021, the International Aeronautical Federation certified a new world record for the longest flying time for a fixed wing drone, the so-called Feng Ru 3 developed by a team from Beihang University.

China's drones are becoming more advanced and operating at greater distances. In March 2020, media reports citing Chinese government sources reported that China deployed 12 underwater drones throughout the Indian Ocean. The underwater vehicles known as 'Sea Wing' are reported to be able to operate for several months and gather naval intelligence. In December 2020, an Indonesian fisherman found a Chinese underwater drone off the coast of South Sulawesi, close to northern Australian.

**Chinese scientists have also developed a shark shaped drone design to track and attack submarines. China has been testing anti-submarine drones since 2009 in the Taiwan straits.** Chinese scientists claim that during the trials the drone was able to detect a dummy submarine and hit it with a torpedo. Professor Liang Guolong, the head of the research team, believes that with advances in AI technology, submarine drones will be able to hunt in packs. Continuing to be inspired by mother nature, Chinese scientists have also developed a manta ray shaped under water drone for reconnaissance.

**In September 2021, several media reports claimed that China successfully landed a hypersonic drone. If such reports are accurate, China is the first nation on earth to achieve such prowess.** Hypersonic missiles and drones will have a profound impact on future warfare. In 2021 Chinese drone manufacturer Shenzhen Damoda Intelligent Control Technology claimed to have beaten the world record in simultaneous launching of air drones. The company claimed to have launched 3051 aerial vehicles simultaneously.

In January Chinese scientists claimed that they were developing a system capable of teaching air drones how to engage in dogfights with human piloted fighter jets. When operational, the system would pave the way for air drones to engage in direct combat with US fighters such as the F 22 and F 35.

In a conflict with the US navy over Taiwan the PLAN has no intention to fight the Americans in an open conventional naval battle. **While the US military may have an advantage in areas such as aircraft carriers, stealth fighters, nuclear attack submarines and satellites, China may already have a lead in hypersonic missiles, hypersonic and stealth attack drones, cruise and ballistic missiles and cyber warfare.** The PLA strongly believes that drones are the future of modern warfare and has enthusiastically embraced them. The United States is well advised to invest more in drone technology and the means to counter it. Competition with China for technological dominance will be long and hard. ■

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