Winning streak: China hits stride in armed MALE UAV exports

China has emerged as a leading supplier of armed UAVs to countries that are unable to acquire Western-made systems due to cost or political inhibitions. Major Chinese UAV suppliers, therefore, are now offering solutions that are fully integrated UAV reconnaissance and strike packages. Kelvin Wong reports

The export of weaponised, multirole, medium-altitude long-endurance (MALE) unmanned aerial vehicles (UAVs) has been a consistent and prominent feature in China’s efforts to increase its footprint in the global defence market. At least 14 countries – including advanced and developing economies in Africa, Asia Pacific, and the Middle East – have ordered or taken delivery of a range of armed MALE UAV platforms in the past decade alone, with the list expected to grow in tandem with Beijing’s economic and military influence.

Cloud Shadow is AVIC’s only mature turbojet-powered MALE UAV export offering. (Jane’s/Kelvin Wong)
The surge of export activity within this industry segment is being led by subsidiaries of state-owned defence primes such as the Aviation Industry Corporation of China (AVIC) and China Aerospace Science and Technology Corporation (CASC), which have developed successful MALE-class strike reconnaissance (chá dǎ yītǐ) UAVs such as the Rainbow (Cǎihóng, or CH) 4 and 5 and Wing Loong/Pterodactyl (Yì lóng) I and II UAVs that have entered service with the armed forces of Algeria, Egypt, Indonesia, Iraq, Saudi Arabia, and the United Arab Emirates (UAE).

The proliferation of Chinese-made armed MALE UAVs in these countries has also attracted the attention of the US Department of Defense (DoD), which noted in its 2019 annual report on China’s military and security developments that these UAVs have emerged as one of the key engines of growth for the country’s defence exports. This has enabled Chinese UAV manufacturers to seize a significant share in one of the defence industry’s frontier market segments.

“[AVIC], an exporter of armed UAVs and fixed-wing aircraft, claimed in a rare public statement that it secured record profits in 2017, illustrating China’s rising profile among the world’s most prolific arms suppliers,” the DoD stated.

“China’s ability to remain among the world’s top five global arms suppliers largely hinges on continued strong sales to key Middle East and Indo-Pacific customers, as well as sustained demand for its armed UAVs and precision-strike weapons.

“[It’s] market for armed UAVs continues to grow; China now sells [CH] series UAVs to at least Burma, Iraq, Pakistan, Saudi Arabia, and the [UAE],” DoD added. “China faces little competition for these sales; most armed UAV exporters have signed the Missile Technology Control Regime [MTCR] and/or the Wassenaar Arrangement on Export Controls.”

The demand for such affordable armed MALE UAVs is also set to grow within the next decade. According to Jane’s Market Forecast, the potential global market for multirole and combat MALE-class UAVs outside of these regions could be worth up to USD9.2 billion in total through 2029 at a CAGR of 17.7%.

While Chinese state-owned or private enterprises developing these platforms produce new UAV designs and prototypes on a seemingly regular basis, it is clear that not all of these will successfully enter the market. Jane’s has observed that about six types have been successfully exported or at least entered advanced prototyping and flight trials, as well as being consistently showcased at major domestic and international defence exhibitions.

**AVIC Cloud Shadow**

Chengdu Aircraft Design and Research Institute (CADI) subsidiary – also known as the 611 Research and Design Institute – first unveiled the Cloud Shadow (Yún yǐng), a turbojet-powered MALE/high-altitude long-endurance (HALE) UAV, at the biennial Airshow China exhibition held in the southern city of Zhuhai in November 2016.
The export-oriented Cloud Shadow is available in two configurations. The first is the baseline armed reconnaissance model, which has a maximum speed of 550 km/h, a payload capacity of 400 kg, and is equipped with six underwing hardpoints for external stores including a wide range of unguided and precision munitions. The second version is a dedicated intelligence, surveillance, and reconnaissance (ISR) platform that features a higher maximum speed of 620 km/h but can only carry a 200 kg payload comprising communication and radar surveillance equipment, or high-definition (HD) photo-reconnaissance systems.

The armed reconnaissance and ISR variants can be fitted with a synthetic aperture radar (SAR) for improved terrain and ground-moving target tracking performance, although only the latter carries a belly mounted electro-optical/infrared (EO/IR) sensor turret for target designation and post-strike battle-damage assessment (BDA).

[Continued in full version…]

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