



Unmanned Aerial Systems Current Challenges and Future Opportunities for Governments Around the World **Focus: Asia-Pacific**

Snapshot: State of the Defence Market for UAS

UAS have become a key part of the armed forces across the world, as they are being extensively deployed in war zones, counter-terrorism operations, and for functions such as border patrol, maritime surveillance, and search & rescue as force multipliers. Furthermore, UAS can lead the way into high threat environments by reducing risks for manned aircraft while challenging next-generation air defence systems.

This paper offers an indication, by region, of some of the uses of UAS identified over the past few years. Across all three regions there are some common challenges, with changeable dynamics over time and location:

- **Globalization** requiring national governments and regional intergovernmental agencies to efficiently track movements, secure identity and automate decision-making.
- **Porous long borders** that require advanced technology such as surveillance drones, infra-red cameras, ground and subterranean sensors, border patrol vehicles, digital fencing and more.
- **Economic growth challenges** often leading to an increase in localized or regional crime, such as the smuggling of illicit goods, drugs, and people.
- **Terrorism and espionage** which requires the careful and timely coordination between government agencies, with external sources of information to develop a common operating picture of movements within and beyond borders.



Focus: Asia Pacific

With an increased focus by Asian countries on the need to conduct long-range, high endurance maritime patrolling due to economic exclusive zones (EEZs) and contiguous waters to secure, the market is considered by a number of analysts to be ready for expansion. Japan and South Korea both have sovereign capabilities in UAV utilisation.

Australia

The Australian Department of Defence is in the process of acquiring the MQ-4C Triton which is optimised for maritime ISR applications, and is likely to be operated as part of a MPA/UAV mix in concert with the P-8A Poseidon; additionally the MQ9B SkyGuardian has been ordered. Australia is one of the countries in the region that is making a large investment in unmanned systems. With a considerable EEZ and wider regional interests, unmanned systems are a cost-effective way to extend the country's ISR capabilities and maritime security presence.

Indonesia

PT Dirgantara Indonesia (Indonesian-aircraft Industries) produces various types of aircraft to fulfill the needs of civil airlines, military operators, and specific missions, including LOS UAS.

Malaysia

In August 2020, Malaysia announced its interest in "two maritime patrol aircraft and three medium-altitude, long-endurance (MALE) unmanned aerial systems." This came in the wake of a confrontation off the Malaysian coast and a three-way standoff over oil exploration in the South China Sea, as well as ongoing maritime issues such as piracy and smuggling.

New Zealand

The different agencies of the New Zealand defence forces work collaboratively to address their responses, including the monitoring of the contiguous waters around the many islands.

Philippines

The Philippines Air Force has acquired 3 Hermes 450 UAS and 9 Hermes 900 UAVs from IAI, as well as Skylark UAVs from Israel's Elbit Systems, and is currently standing up squadrons to bring these systems into operation.

Taiwan

In November 2020, the US Defense Security Cooperation Agency (DSCA) announced the sale of four 'weapons ready' MQ-9B SeaGuardian MALE UAVs to Taiwan. The UAVs will "improve Taiwan's capability to meet current and future threats by providing timely ISR, target acquisition, and counter-land, counter-sea and anti-submarine capabilities for its security and defence," the DSCA stated. "The capability is a deterrent to regional threats and will strengthen Taiwan's self-defence."

Thailand

In July 2021 it was reported that Thailand's Defence Technology Institute (DTI) had signed an MoU with the Royal Thai Army to develop a MALE UAV for the service's Army Aviation Centre. The project will develop and test UAV prototypes, with production outsourced to private manufacturers when completed. The new UAV is expected to be used by army artillery regiments as airborne battlefield surveillance and targeting assets.

Vietnam

The country has been attempting to build UAV-based ISR capabilities for over a decade. In 2020, the state-owned telecommunications and defence conglomerate Viettel Group, had a mock-up of a larger class of UAV, conceivably a MALE system.

Given that Vietnam is a claimant state in the disputes over the Paracel and Spratly islands, two of the contested geographic formations in the South China Sea, its interest in ISR UAVs is obvious, as part of a wider emphasis on improving such capabilities. The disputed areas would serve Vietnam's economic interests through access to fishing and oil & gas resources. They would also offer strategic depth against its powerful neighbour, China.

Irrespective of the fate of the Viettel MALE mock-up, UAVs will play an increasing role in Vietnam's ISR inventory, as the country continues to develop its regional near-real-time situational awareness. It remains to be seen whether Vietnam will ultimately acquire medium- and long-endurance systems from foreign manufacturers or strive to further develop a national capability.

Military, Civil and Joint Military/Civil Applications in Asia-Pacific

With increasing pressure between different nations across the region, a larger number of sovereign states are moving towards UAS capability for ISR and maritime patrols. This is a key area where BLOS and satcom connectivity offer greater returns through multiple application opportunities, now and into the future.

However, the means of acquiring and maintaining adequate fleets of such manned aircraft remain beyond what some Asia Pacific countries – including maritime states with large EEZs and contiguous waters to secure – can field by their respective air and naval forces and maritime security agencies.

As a result, there is a growing requirement for affordable alternatives to conventional ISR and maritime patrol aircraft (MPA) which could be addressed with satcom ready BLOS medium- and high-altitude, long endurance (MALE and HALE) platforms with their long range and loiter capabilities as well as their ability to carry multiple sensor payloads simultaneously.

Funding

The wide range of economic maturity across the region is one key issue regarding funding availability for new technologies, despite the benefits they might bring to the development and growth of those nations. These include civil and joint military/civil projects, nurturing economic stability, security, advancement, and research and development.

An additional – and connected – issue is the earlier-mentioned challenge of perception of funding versus potential benefits, and the opportunities to leverage the technologies needed to deliver benefits beyond purely military outcomes.

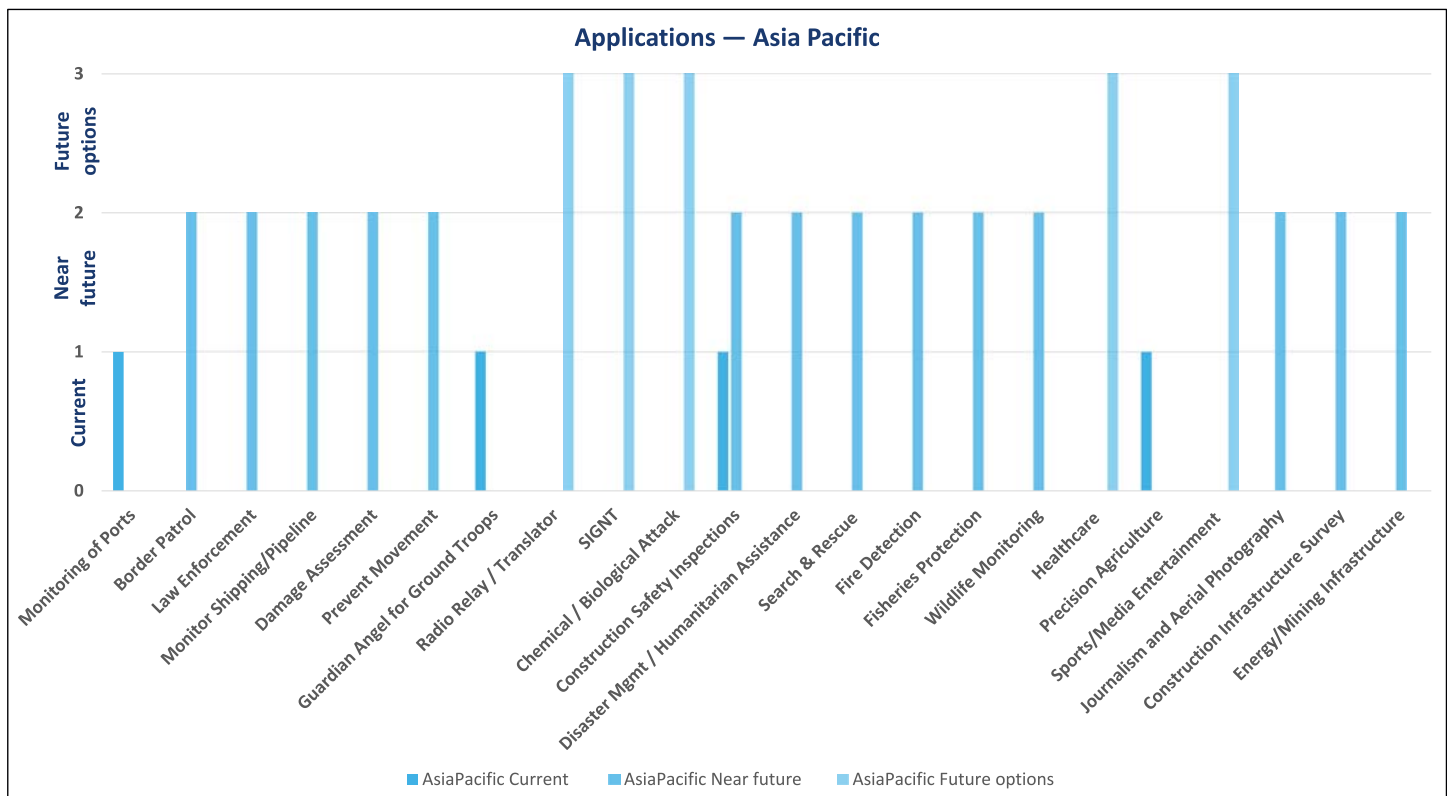


Fig 1: Applications – Asia-Pacific



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