

Xr-T9

FIXED-WING UAV

Unmanned Aerial Vehicles (UAVs) are versatile platforms that are used for many different military and civilian tasks where it would be impossible or too dangerous for manned aircraft. UAVs can fly autonomously or can be controlled remotely. They have many real and potential applications, including remote sensing, search and rescue, combat operations, scientific research, communications support, and environmental monitoring.

Key advantages of UAVs are that they are less expensive than manned aircraft, are cheaper to maintain and operate requiring fewer support personnel, and require less to mobilise and launch. UAVs also have a relatively low environmental impact, a high priority for most industries at present.

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The main strength of AU's fixed-wing Xr-T9 is its ability to remain in the air for extended periods of time, often beyond the maximum time a pilot is allowed to fly. Equipped with fuel cell and solar panels the Xr-T9 can remain airborne for up to 72 hours with a maximum range of up to 5,040 km.



MILITARY APPLICATIONS

Recent conflicts have demonstrated the effective utility of UAVs, and are fast becoming an integral part of military operations worldwide. They boost the efficiency of military forces by performing a range of routine, arduous and dangerous missions that help keep personnel out of the line of fire.

UAVs are routinely deployed as remote sensing platforms performing intelligence, surveillance and reconnaissance (ISR) missions. They may also be used as radio relays for beyond line of sight (BLoS) and over the air crypto re-keying. A number of sensors can be fitted including: electromagnetic sensors (visual and infrared cameras) radar, biological, and chemical sensors – for the detection of airborne biological and chemical agents.

CIVILIAN APPLICATIONS

The Xr-T9 has a number of advantages that could be exploited in Industry, the emergency services and within scientific research. The mining industry for instance could make use of the Xr-T9's high endurance for mapping large swathes terrain and for detecting potential mineral deposits. Indeed the Xr-T9 is ideal for all manner of geological survey and mapping where the purpose is to gain a 'bigger picture'.

Another advantage to having automated 'eyes in the sky' is the potential for rapid response to emergencies as demonstrated by their successful use in forest fire monitoring in the US. UAVs have also been proposed as platforms to monitor extreme weather phenomena such as hurricanes and to assess hard to reach disaster zones.

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SPECIFICATIONS

Dimensions	Wingspan: 7.2 metres (nom) up to 9 metres (max) Length: 3.2 metres
Flight time	4 hours* with li-po batteries only, but can be increased with additional batteries 12 hours* with optional solar panels** 72 hours* with optional fuel-cell and solar panels**
Altitude	14,000 ft. (4,267 m)
Speed	70 km/h cruise
Range equal to speed x flight time	std. Li-po batteries: 280 km with solar panels: 840 km with fuel-cell and solar panels: 5040 km
Payload	10 kg as standard, but up to 35 kg with optional frame/wings
Sensor	Radio Relay, Link-16, camera, laser, weapons
Telemetry	KDA SR-600/WM-600 or L-3 Mini CDL ISV (optional)
Accreditation	Made to utilise the new STANAG 4660, and with respect to STANAG 4586 Sub systems tested over several years

* Duration is approximate. ** Power generated dependent on weather and location.



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