

IAI's latest member of Heron UAS family: Heron MK II



One of IAI's highlights at Defexpo 2022 was the state of the art, latest technology Heron MK II UAS, a member of the Heron family of Unmanned Aerial Systems (UAS) which has been serving armed forces in Asia and worldwide for decades.

The Heron MKII UAS is interoperable and compatible with legacy Heron family systems. This is an important force multiplier for all existing and future Heron family customers. With a new airframe and wings tuned to maximise performance, Heron MK II sets new mission capabilities, efficiencies and autonomy standards.

With a comprehensive payload suit, Heron MK II supports multiple payloads operating over a broad spectrum. Different payloads onboard enable the collection of reconnaissance, surveillance, and intelligence in real-time, covering large areas of interest. Using dedicated sensors, the system can perform standoff reconnaissance (with the M19 payload) over a long distance (up to 100 km) or persistent surveillance over a wide area (Wasp payload). Heron MK II can also carry maritime surveillance radar, synthetic aperture radar (SAR), electronic surveillance measures (ESM), and communications intelligence (COMINT). By operating up to six sensor payloads simultaneously, Heron MK II provides a complete, multi-modal intelligence gathering capability on a single platform.

Heron Mk II also incorporates an integral wideband satellite communications link and a fully digital line-of-sight datalink, serving multiple payloads simultaneously and allowing the platform unrestricted operational envelope over long distances, sea, land and mountainous terrain. Switching between the different datalinks can optimise the mission to become covert, secure and resilient.

In addition to streaming live sensor data to the ground segment, Heron Mk II also has servers onboard, providing users access to large amounts of raw or processed sensor data collected throughout the mission and stored onboard.

Since its introduction in 1994, the Heron family has been operational in Asia and over 20 other customers worldwide, accumulating well over 2,200,000 flight hours. The dimensions of the Heron Mk II has been increased to a 9.7-meter-long fuselage and a wingspan of almost 17 meters, providing a larger space for internal and external payloads, including underwing stores such as lifeboats, without degrading performance.

Start of the art, cutting edge avionics enable flight and mission autonomy, supporting flexible payload integration with a wide range of Heron family payloads and customer furnished systems and applications. The system conforms to open architecture, with separate flight control

and mission management systems. This enables the manufacturer and users to maintain optimal upgrading cycles and avionics systems flexibility throughout the UAS life cycle.

The new powerplant is optimised for the mission profile defined by the new platform. The aviation certified engine delivers 160 hp, significantly over the 115 hp provided on the legacy Heron. This engine was designed and tuned specifically for IAI's requirements, contributing to a high climb rate and efficient operation at low and high altitudes. With this engine, Heron Mk II can operate efficiently and reliably at altitudes up to 35,000 ft. The powerful engine also provides sustained power for a maximum airspeed of 145 knots and a faster ascent, improving the drone's rate of climb by more than 50 percent over legacy systems. The maximum takeoff weight (MTOW) has increased to 1,430 kg including a useful payload of 470 kg which represents an impressive increase from the legacy Heron's 1,270 kg MTOW. The Heron Mk II can deliver a mission endurance of over 30 hours on station.

Another forte is its ability to endure adverse weather, with deicing systems enabling Heron Mk II to cross stormy weather it may encounter on its flight, over mountains and sea. Special attention is given to protecting the communications, navigation and flight systems from jamming