

SMART HAWK



SMART HAWK

Advanced Surveillance / Sensor / Cargo UAV

- Intelligent System
- Fixed Wing + Canard
- Multiple Propulsion Methods
- VTOL Option
- High Endurance

CANNONDYNAMICS.CO.UK



SMART HAWK RANGE

Advanced Surveillance / Sensor / Cargo UAV

What is the CANNON SMART HAWK?

SMART HAWK is a smart-thinking, intelligent, multi role, flying system, designed for challenging missions, designed to meet the challenges of military missions and civil operations around the world.

SMART HAWK provides excellent flight characteristics and is highly responsive. The canard provides additional control surfaces at the front of the aircraft, contributing to improved manoeuvrability.

This is especially beneficial when combined with a swept wing, allowing for effective control at various angles of attack.

The canard design contributes to better control during approach and landing, allowing for slower landing speeds, which can be advantageous in situations where short take-off and landing distances are required.



SMART HAWK 20



SMART HAWK 27

KEY FEATURES

Features and Benefits

- Portable, easily handled equipment, transported and protected in convenient carrying cases
- Large capacity fuselage, long missions or large payloads as required
- Very low magnetic signature for magnetic surveys / mapping or stealthy surveillance
- Dual redundant control surfaces for extreme reliability
- Electric, single or coaxial, or EFI IC Petrol Twin cylinder pusher engines
- The VTOL Co-Ax version Combined with a hybrid power system this versatile UAV becomes a 'Quad' drone platform. Launcher versions also available along with STOL and STOVL.
- Long flights bringing large UAV performance to commercial users, BVLOS and Aircraft DAA capabilities to suit the client's mission objectives.

2 Types
Base Models

2.0m - 2.7m
Wingspan

Up to 12hrs
Flight Duration

155kmh (96mph)
Max Flight Speed

900km
Max Range

Up to 7kg
Payload capacity

16kg - 25kg
Max MTOW

*Approximate values, dependent on operating environments and parameters



SMART HAWK 20

Advanced Surveillance / Sensor / Cargo UAV



3hrs +

Flight Duration

3hrs +

Flight Duration (payload)

5kg

Payload capacity



225km +

Range

2.0m

Wingspan

SMART HAWK 20

The SMART HAWK 20 is a versatile Fixed Wing with Canard UAV with long endurance and flight times.

SMART HAWK is powerful and efficient with great flight characteristics and long endurance.

Versatile and able to carry a range of payloads, SMART HAWK is adaptable to a range of missions.

SMART HAWK 27

Advanced Surveillance / Sensor / Cargo UAV



12hrs +

Flight Duration

SMART HAWK 27

The SMART HAWK 27 is a versatile Fixed Wing with Canard UAV with long endurance and flight times.

SMART HAWK 27 shares many of the great features of its smaller sibling but boasts a greater wingspan, maximum take-off weight and payload capacity.

8hrs +

Flight Duration (payload)

7kg +

Payload capacity



900km +

Range

2.7m

Wingspan

MODULAR PROPULSION

Advanced Surveillance / Sensor / Cargo UAV

Electric

Electric pusher motor module (200kV)

With plenty of space onboard for batteries, an electric pusher provides reliable propulsion

With battery weight remaining constant the aircraft remains stable and manoeuvrable throughout the mission



Internal Combustion Engines

Single cylinder EFI ICE 35cc engine module available

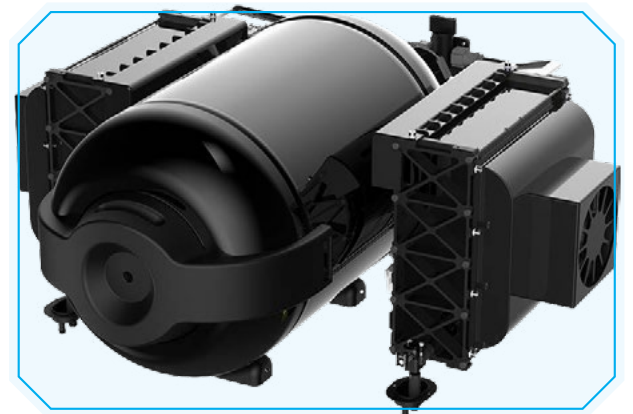
For extended duration missions, fuel efficient petrol engines allow for a long flight-time



Alternative Fuels

Electric motor options have the opportunity to be fueled by alternative energy sources than just batteries

Hydrogen fuel cells, solar power and other alternatives can be used to supplement or in some cases replace batteries



VTOL Options

Vertical take-off and landing modules add the ability to launch and land without a runway

Electric VTOL can be added to any forward propulsion method



MODULAR PAYLOADS

Advanced Surveillance / Sensor / Cargo UAV

Definable Payload

As a modular platform, payloads are definable.

The platform payload is broken into modules and the remaining payload can be used for mission specific equipment and cargo.

The platform is dynamic and configurable to suit your needs.

* Definable payload is not free cargo capacity as engine and fuel choices determine remaining free payload

Typical Approximate Mass of Definable Options

Propulsion	Mass
Electric	1kg
35cc ICE	3-4kg ⁺

Battery	Mass
10000mAh	1.4kg
20000mAh	2.8kg
36000mAh	5.1kg
72000mAh	10.2kg

Gimbal Camera	Mass
Small	0.5kg
Med	1kg
Large	2kg

VTOL	Mass
For 2m wings	3.5kg
For 2.7m wings	3.5kg

Petrol for ICE	Mass
1.5L	1kg
4L	3kg
6L	4.5kg
8L	6kg

⁺ Approximate propulsion weight dependent on starter, exhaust choice etc.

Model	MTOW	Base Weight (Frame + Wings + Electronics + Propulsion)	Useful Load (Battery / Fuel + Payload)
Smart Hawk 20 Electric	16kg	8.5kg	7.5kg
Smart Hawk 27 Electric	30kg	10kg	20kg
Smart Hawk 27 ICE 35cc	30kg	13kg	17kg

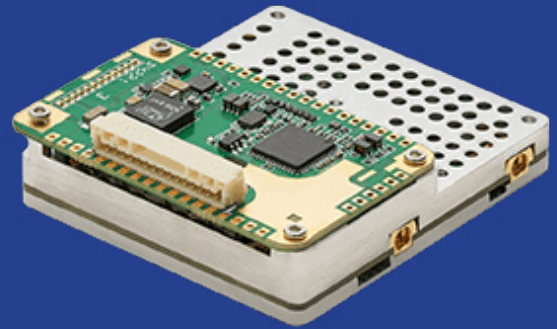
TYPICAL MISSION PACKAGES

Radio / Communications

Radio

High quality radio communications ensure a responsive and stable flight

Secure and reliable radio communications



A wide range of multi-band and single-band radios

Low Latency

Low latency, designed for reliable, long-range applications with real-time, immediate information from nodes.

Resilient Network

Built-in spectrum scanner that monitors in-band interference and provides automatic band and channel switching capabilities.

Fine-tuned filtration and frequency-band shifting techniques are designed to minimize noise and block out-of-band signals.

With an advanced interference-avoidance feature-set, can even automatically switch to cleaner channels and bands of operation.

Multi-Cast Video

In a point to multipoint configuration, provides the ability to stream high quality video to multiple receiving nodes, from drones to numerous stakeholders on the ground.



TYPICAL MISSION PACKAGES

Cameras and Optics

Cannon SmartEye

UAVs can be fitted with a range of Cannon SmartEye cameras featuring single or multiple sensors, low-light vision, IR and thermal vision, tracking and more.



AI Onboard Tracking

Identifies objects of interest using onboard AI tracking abilities

Powerful Zoom

10x to 80x Optical Zoom
Up to 32x Digital Zoom

Low-Light Operation

In low light conditions the EO camera goes into night mode with vision better than the human eye

Infra-Red / Thermal

Selected models feature full infra-red and thermal vision capabilities

TYPICAL MISSION PACKAGES

Autopilot

Autopilot

With this mission package the UAV can operate in autopilot mode

Pre-programmed flight paths or responsive flight instructions

Multiple autopilot systems are available

Options vary between full 'remote pilot in control' through fully autonomous autopilot options. A choice of various Autopilots and Flight Controllers are offered to suit customers' needs; from low-cost commercial to full military specification GNSS, denied mission capable systems.

Typical Features

Three Inertial Measurement Units (IMU) within the UAV autopilot system.

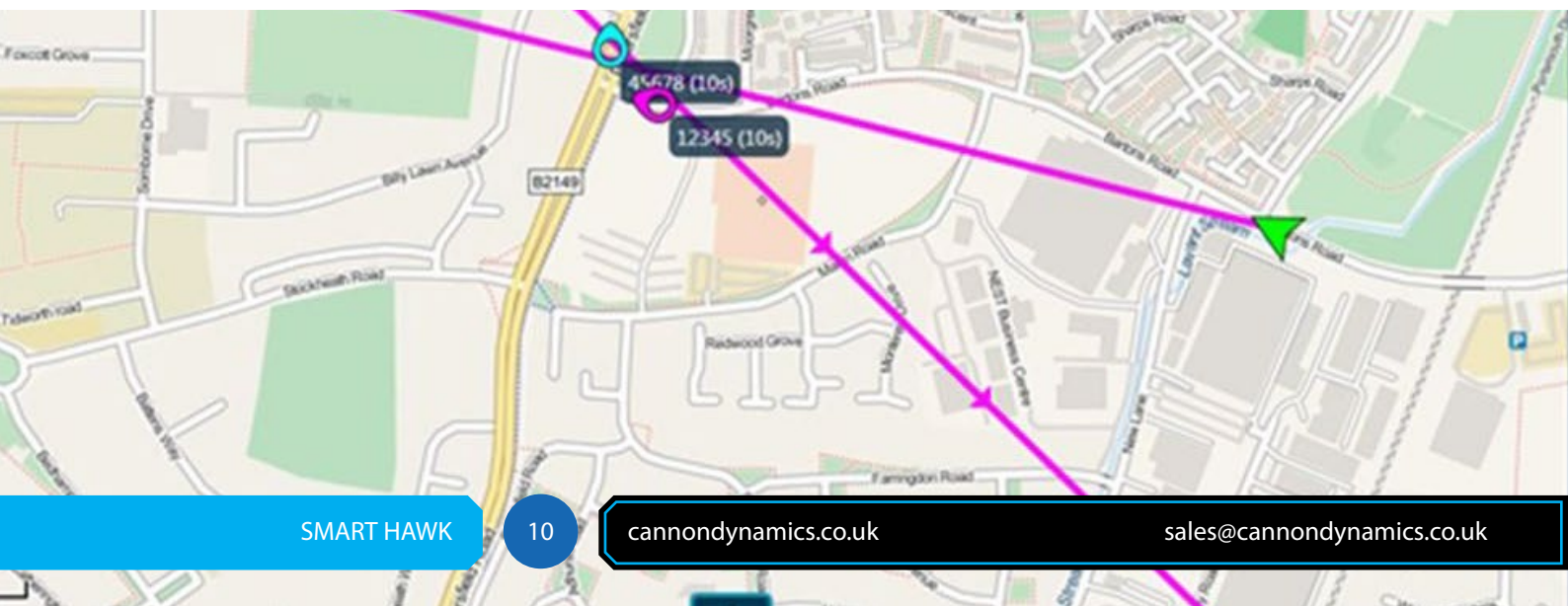
IMUs comprise a suite of sensors used in the Inertial Navigation System (INS).

Measuring orientation, velocity, and gravitational forces to aid navigation and control using the raw IMU measurements and sensors for extra redundancy.

The entire Flight Management Unit (FMU) and Inertial Management Unit (IMU) are housed in a small form factor housing.

Possibility to integrate alternate and multiple Global Navigation Satellite Systems (GNSS) from GPS (USA) and Galileo (EU) are available.

Clients preferring GLONASS (Russia) or BeiDou (China) can be accommodated.



TYPICAL MISSION PACKAGES

Ground Control Stations

Ground Control Station

For control of your UAVs

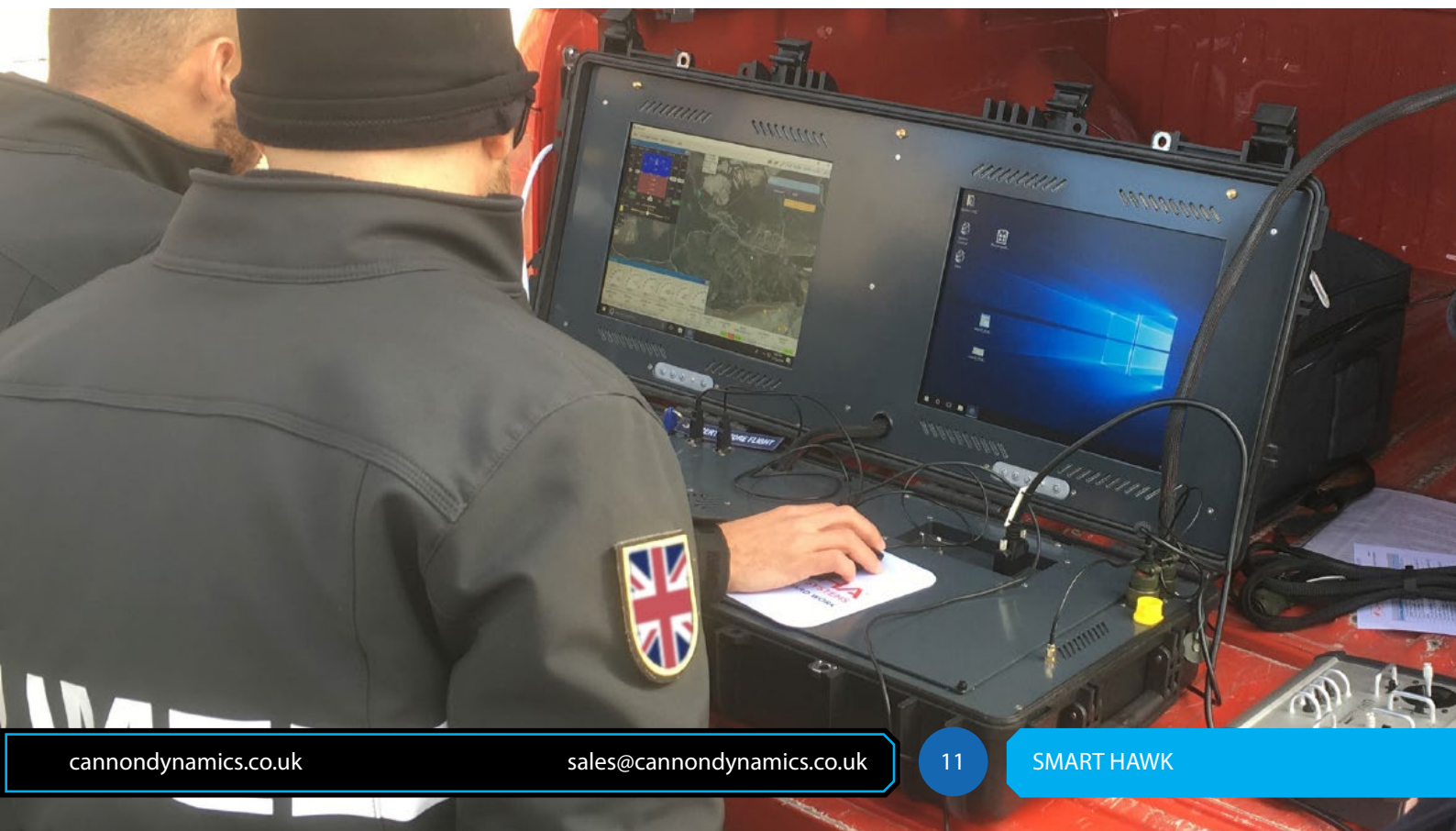
Multiple models available

From a simple laptop or android handset to a full 40-foot container based mobile command and control center - Cannon Dynamics can provide a system that suits your needs

The Cannon Technologies Group has been making Command and Control rooms for 40 years and has a wealth of experience in providing cutting edge data platforms in the most extreme of environments.

A Basic Configuration includes the components necessary for mission planning, control battery replacement and charging facilities, field level configuration changes, level maintenance and repair solutions including the necessary tools and spares.

Further configurations include anything from generators to operator basic accommodation to airconditioning if required and is completely scalable to the desired deployments.





Cannon Dynamics Ltd
Queensway
New Milton
Hampshire
BH25 5NU
UK

sales@cannondynamics.co.uk

CANNONDYNAMICS.CO.UK

