



**NANOHAWK UAV – GENERATION 5**

**ADVANCED INTELLIGENCE SOLUTION FOR THE BATTLEFIELD**

**URBAN WARFARE, COUNTER TERROR, LAW ENFORCEMENT**

**AERACCESS Group**



## THE SITUATION

Indoor intervention during hostage situation is a major challenge for Police and SWAT teams all throughout the world, as there are limited tactical units trained and qualified to deal with such situations. Countries like the USA, UK and France have formed elite special forces like SWAT, GIGN, RAID, SAS or other, that are trained specifically for these interventions.

Recently hostage situations in France have shown how the tactical team were limited during intervention, due to obstacles on ground, due to complex buildings or due to the presence of civilian casualties. The use of Unmanned Ground Robots (UGS) have brought a limited advantage but couldn't access buildings during hostage situations in Paris and Special Forces had to send trained dogs for reconnaissance.

Using K9 dogs is a one of the most efficient solutions for Intervention Teams facing such situation. In the recent event of the BATACLAN theatre terrorist attack in Paris, the French RAID intervention was not without consequences for the Unit resources. SWAT Team sent a dog, named Diesel, for reconnaissance, but the dog was killed with 17 bullets leaving the Team without visuals of what was happening inside.

**SWAT Team had no other alternative than to send a second dog for reconnaissance.**

## THE SOLUTION

So sending a second dog was the best option the SWAT Team had, to avoid sending human intervention. Fortunately, the second dog was not hurt during intervention. In terms of resources, 10 dogs need to be trained in order to have one operational dog. This requires time and money. The cost for training a dog until the moment the dog is ready for intervention is approximately 150,000 – 200,000€. Not mentioning the psychological impact of the loss of a dog as the dog is an integral member of the team. So losing a dog during intervention is a major loss.

This situation has brought the elite Special Forces of the world to look for other solutions and equipment when facing hostage situation.

AERACCESS has jointly developed with the French Special Forces a tactical indoor UAV in order to deliver real-time intelligence and higher safety during operations. This solution meets all the specifications of SWAT team for urban warfare and missions inside buildings.

***Using a UAV inside a building is a very complex task. The system is GPS denied, and facing numerous obstacles.***

Facing the absence of on-the-shelf solution, the French Armament Directorate has favoured the development of a UNIQUE solution, based on actual specifications from the SPECIAL FORCES, resulting into the launch on the market of the SPARROWHAWK and the NANOHAWK.

These INDOOR UAVs are using artificial intelligence to help the UAV fly autonomously inside buildings, fly through narrow corridors and congested spaces, through open doors and

open/broken windows. Its advanced communication system allows the UAV to fly up to 3 or 4 storeys up or down the operator to investigate/clear the building.

The UAV is embedded with sensors to analyse, detect, and sense obstacles and provide autonomous stabilization accordingly. Another major support to the mission is that the operator controls the UAV using only one hand, the other hand remaining available for the main mission, ready to use his weapon to engage a threat.

Compact and light weight, the NANOHAWK has two EOIR sensor camera blocks at the front and at the rear. The NANOHAWK has multiple flight modes according to its environment.

All the equipment is perfectly fitted on the operator's body vest, including main monitor and wrist monitor (option).

The video images from the NANOHAWK can be viewed on several monitors including the intelligence operator, the Team leader or in the Command Center.

The NANOHAWK is already in service with several Special Forces, and has proven its efficiency improving safety of SWAT teams during intervention. Considered as an expendable device, the drone can fly easily inside buildings and has the capability to clear room after room to achieve the mission in clearing all required spaces. It can also land at a strategic location to become an unattended sensor dedicated to Intelligence..

On top of performing similar missions, the SPARROWHAWK has the capability to carry and drop small payloads (teargas, flashbangs, or even small explosives). This is a very unique capability as operators need sometime to have the possibility to counter attack during operation. As an expendable device, the SPARROWHAWK carrying an explosive payload is thus an ideal tool in critical situations.



NanoHawk user set (full equipment) - NanoHawk Generation 1



NanoHawk Generation 2



NanoHawk Generation 3 Comparison with Generation 1



NanoHawk Generation 3 associated with K9 trained dog



NanoHawk Generation 4



NanoHawk Generation 5 (left) - Comparison with Generation 4 (right)



NanoHawk Generation 5 in transport case

## **LINKS TO VIDEO**

<https://www.youtube.com/watch?v=Pvg2M-9jOro>

Indoor Mission - NanoHawk

<https://www.youtube.com/watch?v=njhTcm4VAFk>

Anti-terrorist Mssion on-board a ferry/ship - NanoHawk