Vorpal

Founded in 2016, Vorpal Ltd. is a privately-held company focusing on cutting-edge signal analysis & processing products and solutions, with unique in-house proprietary knowledge and algorithms. Aided by in-depth experience in military-grade Signal Intelligence (SIGINT), Vorpal successfully designs and deploys advanced, highly accurate geolocation solutions.

VigilAir, Vorpal's flagship product, is a drone monitoring solution which provides ultra-sensitive detection coupled with extremely accurate geolocation and tracking of drones *and* their operators. VigilAir is a passive RF-Based solution consisting of widely deployed sensors distributed miles apart, managed and controlled by a software application, which detects, geolocates and tracks commercial drones in rural as well as dense urban environments. VigilAir's unique clarity and accuracy enables focused, targeted and optimal response to rogue drone threats, and can provide UTM frameworks with unique capabilities to optimally respond to rogue and non-cooperative drones.

Headquartered in Tel-Aviv, Israel, Vorpal operates globally in the Aviation, Military and HLS, Critical Infrastructures and UTM markets.

Vorpal Capabilities

Vorpal's VigilAir is a drone monitoring solution which provides highly sensitive detection and extremely accurate geolocation and tracking of both commercial drones *and* their operators. VigilAir follows the drones' video and telemetry radio frequency (RF) transmissions as well as the command & control link broadcast by the operator's ground control station (GCS), provides alerts upon their detection and immediately commences to continuously geolocate and track them. VigilAir is a passive, receive-only solution which does not access any transmitted content (no decoding or demodulation is performed), making it compliant with relevant communication, cyber and privacy regulations. VigilAir has been successfully deployed and operated in dense urban environments, where the RF spectral properties, as well as buildings, pose a multitude of difficult challenges. VigilAir provides very wide area coverage and has been optimized to require minimal compute resources, resulting in very low TCO per square mile monitored.

VigilAir has been successfully deployed and operated by the Israel Ministry of Defence as well as by the Israel Police, providing drone situational awareness at large-scale events such as the 2019 Eurovision song contest and permanently deployed to protect high-profile national sites as the Temple Mount in old Jerusalem. VigilAir has also been successfully tested by the NYPD, and has been certified by the UK's Center for the Protection of National Infrastructure (CPNI) for inclusion into their Catalogue of Security Equipment (CSE). Vorpal is also teaming with large Telecom operators such as AT&T and Deutsche Telekom to perform large scale VigilAir deployments leveraging the Telcos wide area network of mobile network cell-sites.

VigilAir's unique properties make it an ideal core element in UTM frameworks, providing comprehensive drone situational awareness, which also includes non-cooperative drones, over large areas in any required environment.

VigilAir Advantages

Main VigilAir advantages over the competitors include:

1. VigilAir is passive (non-transmitting) technology which is key in radio sensitive environment such as cities or airports
2. Fully civilian technology, complying with all relevant civilian regulations. Can therefore be deployed anywhere and be used by any organization.
3. The only solution fully operational in urban and dense urban environments
4. Effectively zero false alarms (even in urban and dense urban environments)
5. Wide area coverage (several kilometers even in urban and dense urban environments)
6. Highly accurate positioning (usually below 10m of accuracy), with independent positioning (GPS fallback)
7. Fully operational even when deployed on existing cellular infrastructure
8. Serves as key enabler for Beyond Visual Line of Sight (BVLOS) operations for commercial drones/UTM with unique functionality to detect both cooperative and non-cooperative drones.