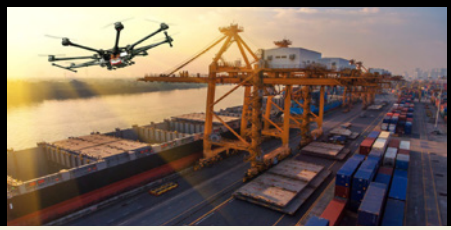
Digital Global Systems

Real-Time Situational Awareness for Critical Infrastructure Protection



Over the past few years, the critical infrastructure protection market has witnessed an exigent demand for both physical perimeter security and cybersecurity. Fernando Murias, Chairman and CEO of Digital Global Systems explains, "A company can invest heavily in cybersecurity, with the best intrusion prevention systems, but a bad actor can sit two blocks outside the perimeter fence with a jammer in their car trunk and bring down the wireless infrastructure, completely bypassing the cybersecurity measures." That's precisely what Maryland-based Digital Global Systems (DGS) is focused to address. A specialist in the delivery of advanced radio frequency (RF) spectrum analysis and monitoring, DGS has architected a state-of-the-art machine learning and data analytics-enabled platform, DGS CLEARSKY™, to cater to myriad industries including defense, utilities, and telecom. "Unlike most solutions focused on identifying Wi-Fi drones, CLEARSKY™ monitors the broader communication spectrum identifying all signals that don't belong in a particular environment. Our mission is to increase situational awareness by providing actionable data in real-time."

> **"Unlike most solutions focused on identifying Wi-Fi drones, CLEARSKY™ monitors the broader communication spectrum identifying all signals that don't belong in a particular environment. Our mission is to increase situational awareness by providing actionable data in real-time"**

DGS CLEARSKY™ creates a baseline of the "normal" RF environment using patented machine learning algorithms. Any anomalous signals detected automatically generate an alarm so they may be analyzed in more detail to determine a potential threat. DGS' CLEARSKY™ solution processes signals at the point of intercept thus providing actionable data much faster than other solutions in the market. CLEARSKY™ is capable of detecting a drone signal from as far as two kilometers and can identify the control protocol immediately while revealing additional details such as the drone manufacturer, operating frequency, and other relevant information that helps security teams get a better understanding of the threat.

Depending on the deployment model of the system, the firm can either provide direction finding or more exact geolocation of the alarms generated. In the case of a drone, CLEARSKY™ can identify location of the drone, track its historical flight path and predict its direction. In addition, CLEARSKY™ can also identify and locate the controller, which is often the best way to mitigate a recurring threat.

What's more, DGS CLEARSKY™ can be integrated with legacy camera systems that can help preserve the video feeds for prosecutorial purposes. Responding to competition, the firm offers its solution at a competitive price, covering anomalous signal detection from 50MHz to 6GHz, automatic classification and alerting of signals, interference management, and spectrum deconfliction. The firm offers both mobile and fixed solutions to provide critical protection to both fixed assets—like a building—and movable property such as a police command vehicle, to establish a protected environment.

For instance, a utility company in Europe with several hundred critical sites in rural locations installed pan–tilt–zoom cameras at all sites that are monitored centrally. However, there was no guarantee that the camera would be pointed in the right area at the right time. The client needed an automatic alert feature that would detect an anomalous RF signal within a certain distance from the facility, and for a defined time period. These requirements ensured that people driving on the highway near a facility, or walking by on the sidewalk, don't create an alert. DGS was able to create customized alerts to minimize false positives. Subsequently, the firm integrated the solution with their client's existing camera system in order to have the cameras focus on the point of interest.

"We are currently leveraging technology partnerships we have formed with large manufacturers and integrators to further augment our RF solutions with a broader capability and multiple sources of verification to deliver comprehensive threat information quickly," states Murias. CR