Solution Innovation Case Study:
Protecting University of Kentucky People and Brand with Drone Detection for 3-Dimensional Access Control and All-Hazards Risk Mitigation

The Security Executive Council (SEC) Solution Innovation Partner (SIP) program evolved as a means for practitioners to choose a trustworthy risk mitigation provider with confidence when there are a myriad of options in the marketplace. Proven Solution Innovation Practice Case Studies help to evaluate performance claims and differentiate security solution providers for business outcomes including risk mitigation, return on investment, and security assurance.

This Solution Innovation Case Study offers a proven process approach for mitigating risk(s) that could result in injury or impairment of people, assets, critical processes, products and/or brand reputation. This proof point examines representative risk issues, mitigations and result outcomes as validated by the SEC and end-user.

The following case study offers a proven solution for mitigating risk(s) associated with unmanned aircraft systems (UAS) flying above or near a major U.S. university campus. The University of Kentucky (UK) implemented 911 Security's AirGuard drone detection solution to identify, track, and evaluate potential airspace threats in and around the university campus.

Risk Issues and Mitigation Opportunities:
1. Unauthorized drones may frequently endanger, distract, disrupt, or cause fear or concern for students, faculty, visitors, and campus facility, and stadium patrons without coordinated mitigation measures or pilot accountability.
2. Known and unknown drones and documented near misses pose risks, threats and vulnerabilities to the stakeholders including students, faculty, staff, and other visitors on campus, including unauthorized access and theft of proprietary information, safety risk to other aircrafts in the same airspace, other crimes, and/or civil liabilities.
3. Drone detection enables 3-D access control with intruder detection and mitigation.
4. Board-level risk stakeholders rely on Campus Police and Security to improve its culture of care including campus airspace safety; particularly for UK's Level 1 trauma center helipads and events.
5. Enhance UK brand defensibility with proven practice protect innovation pre- and post any drone related incident.

Solution Requirements:
- Legal solution due to FAA regulations and federal laws surrounding counter drone technology.
- The ability to detect and track the drone(s) and pilot(s) with real-time alerts.
- The ability to setup a geo-fence around the campus and other areas of interest.
- The ability to receive mobile, real-time alerts to a set group of recipients to deliver situational incident intelligence to allow more accurate and efficient response by campus safety, security, and law enforcement.

Delivered:

- ✓ AirGuard offered a legal solution to detect drones and support mitigation processes.
- ✓ AirGuard consistently detects drones and its pilots in the urban, campus environment.
- ✓ 60 drones detected within the agreed upon area over the facility in first trial month.
- ✓ AirGuard allowed UK campus police to set up geo-fence perimeter around the campus.
- ✓ The ability to stop unauthorized drones in real-time with coordinated real-time alerts and responses to officials, law enforcement and campus security.
- ✓ More accurate and efficient response and use of resources by campus security and law enforcement.
- ✓ Mobile, easy-to-set-up equipment solution enabling unauthorized drone detection at critical, off-campus events.

Outcome and Benefits of Service Including ROI:

End user testimonial – 911 Security's Drone Detection Platform is the "*most cost-effective and best solution on the market right now. It is one of the two best technology purchases that I've made in my 25+ year security practitioner career.*"

- ❖ Health, safety, and security enforcement confidence has improved from 3 out of 10 to 8 out of 10.
- ❖ Real-time alerts specify how many drones entered the user's airspace as well as the geolocation of their pilot(s).
- ❖ University safety, security and law enforcement response efforts now streamlined, saving resources, and time.
- ❖ The 911 Security drone detection system helps the campus enforce its drone policies and ensure campus safety by allowing campus police to whitelist authorized, or known, drone flights each day.
- ❖ Historical incident recording gives the campus law enforcement evidentiary support to resolve cases of unauthorized drone use and other UAS misconduct on campus.
- ❖ In 2020, average of 1,008 drones were detected each month within the agreed upon geolocation area. Up from 60 per month during the solution trial pilot.
- ❖ 12,096 drones were detected from October 2019 to October 2020.
- ❖ On-campus drone risk awareness, policy signage and flight approval process now supported by AirGuard enforcement act as effective deterrents for high-risk activity and improves compliance accountability.
- ❖ The 911 Security drone detection system helps the campus enforce its drone policies and helps ensure stakeholder health, safety and security while documenting incidents and undesirable conduct when needed.

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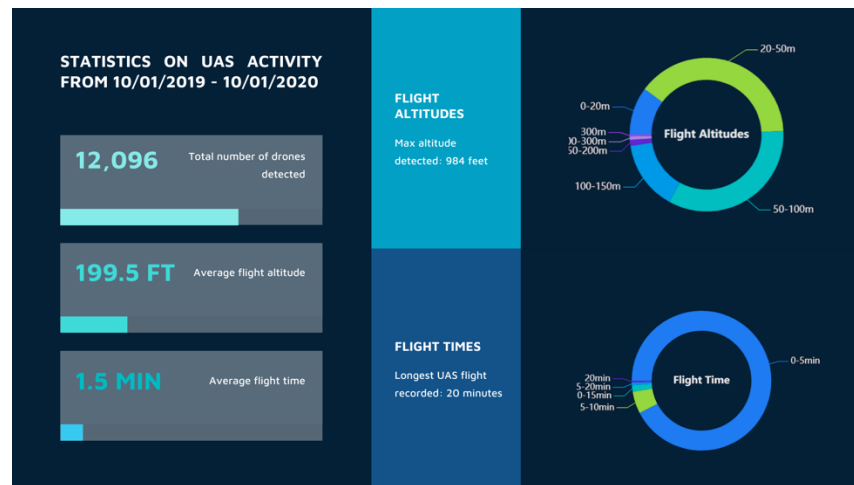

Figure 1: Snapshot of UAS flight statistics October 1, 2019 - October 1, 2020

SIP Case Study Authentication Process
This process was overseen by a Council Faculty member with 20+ years of experience in developing and leading people and asset protection programs as trusted security advisor for global, multinational organizations. End-user authenticated March 2021**.**

Note: *The Security Executive Council's Solution Innovation case study represent a snapshot in time to demonstrate a solution to a specific organization's issue. End-user diligence, trial and measurement are strongly recommended for any contemplated risk mitigation activity.*

A General Comparison of Competition

Client Service/Resource Attributes or Capabilities	911 Security	Company A	Company B	Company C	Company D
The ability to detect and track the drone and pilot in real-time	YES	No	No	No	No
The ability to setup a geo-fence around area of interest.	YES	No	No	No	No
Geo fence can be adjusted within minutes.	YES	No	No	No	No
Sending of mobile, real-time alerts to a set group of recipients.	YES	Yes	Yes	Yes	Yes
AirGuard detects approximately 95% of today's commercial drones within a 2 mile radius of a location.	YES	Yes	Yes	No	No
Half-day installation of fixed equipment.	YES	Yes	Yes	Yes	No

See other case studies and learn more about the SIP Program here:
https://www.securityexecutivecouncil.com/about/solution_innovations.html