

ROHDE & SCHWARZ

Make ideas real



LARGE-SCALE EVENT PROTECTION WITH ARDRONIS

Protecting the public: the ARDRONIS counter drone solution from Rohde & Schwarz prevents drone related security threats at major events.

AT A GLANCE

- ▶ ARDRONIS has been successfully deployed at large-scale events to detect and locate rogue drones and their pilots
- ▶ Real-time detection capabilities accurately find and track drones, even in congested RF environments
- ▶ Authorities were able to launch rapid responses to potential threats, ensuring the safety and security of attendees, event staff and assets
- ▶ ARDRONIS is a proven, reliable and effective tool for protecting the public at large-scale events from emerging threats



Situation and requirements

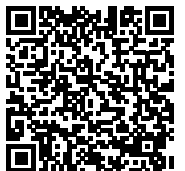
Ensuring the safety of people, property and infrastructure at events such as exhibitions, festivals and sports events poses a range of security challenges, not the least of which is preventing unauthorized drone use. Rogue drones can not only pose a serious threat to event attendees but also present a hazard to staff, structures and other assets at the event.

With this threat picture in mind, government authorities have turned to Rohde & Schwarz time and again to provide a comprehensive counter drone solution that ensures a safe and secure environment for numerous high-profile events. Major sports events, for instance, can attract tens of thousands of fans, each with personal devices and other consumer electronics. Add to these the equipment used by news outlets and broadcasters, TV crews and even security services and staff and the result is a massively congested RF environment. Picking out a drone signal among all these emissions requires leading-edge technology designed specifically for this daunting task.

Rohde & Schwarz solution

The ARDRONIS counter drone solution from Rohde & Schwarz is a highly advanced and sophisticated system that utilizes cutting-edge technology to accurately detect and track drones and their pilots, even under the most challenging conditions.

ARDRONIS is designed to operate in complex RF environments with multiple signals and sources of interference. The system's advanced sensors and detection capabilities allow it to penetrate electromagnetic clutter and noise, providing a clear and accurate picture of the location and trajectory of RF controlled drones.



For more information, visit

In addition to detecting and tracking drones, the advanced ARDRONIS sensor package can also identify the location of the pilot. With this information, authorities can take action to prevent the drone from causing harm; they can disrupt its communications link and physically intervene to prevent the drone from flying.

The ARDRONIS system is not only highly effective but also highly scalable. Authorities can tailor the system to the size and scale of the event and the level of security or complexity required. The solution is easily integrated with existing physical and communications security systems as an enhancement to command and control centers, surveillance and monitoring systems as well as communications networks.

The ARDRONIS base stations can be adapted to the deployment location as needed by emplacing outdoor detection systems and setting up location systems at particularly critical locations. This ensures that no threat escapes the notice of authorities and that those responsible for securing the venue or location can respond rapidly and decisively to potential threats, reducing the risk of accidents and security breaches. The system's advanced algorithms also enable it to learn and adapt to new threats and scenarios, ensuring that it remains effective and efficient over time and enabling risk assessments that reflect the current situation picture.

Benefits

ARDRONIS has already established a proven track record of providing numerous and significant benefits when deployed at large-scale events. The system enabled authorities to detect and locate rogue drones and their pilots, ensuring the safety of the public as well as the security of attendees, staff and property. It succeeded in providing real-time drone

www.rohde-schwarz.com | www.rohde-schwarz.com/support | www.training.rohde-schwarz.com

R&S® is a registered trademark of Rohde & Schwarz | Trade names are trademarks of the owners
Large-scale event protection with ARDRONIS
PD 3673.1760.32 | Version 01.00 | December 2024 (jr)
Data without tolerance limits is not binding | Subject to change
© 2024 Rohde & Schwarz | 81671 Munich, Germany

detection and tracking, giving authorities early warning of any drone-related threats and maximum lead time to prepare a decisive response and neutralize the threat.

By detecting and locating rogue drones in real time, ARDRONIS gave authorities the ability to mitigate aerial threats and the tools to respond with robust countermeasures when threats were detected. This capability demonstrably reduced the risk of accidents and security breaches.

Results and achievements

The ARDRONIS counter drone solution has been deployed by government authorities to monitor and secure numerous large-scale events. It proved a resounding success in countering the threat posed by rogue and unauthorized drones.

The ability of the system to detect and locate rogue drones and their pilots in real time proved critical in helping security personnel and authorities to craft an appropriate response. The advanced algorithms the system uses enable it to accurately track drones and identify the location of pilots, allowing authorities to take swift action to prevent any potential harm.

To date, the results of ARDRONIS deployments have received accolades. Users of the system were particularly impressed with its ability to detect and track multiple drones simultaneously in real time, even in the most challenging environments. The real-time information and insights the system provided ensured that authorities had a comprehensive situation picture to make informed decisions and take effective action to ensure the overall safety and security for a number of very high-profile events.

This highly successful deployment of the ARDRONIS solution at large-scale events once again demonstrates the Rohde & Schwarz commitment to providing innovative solutions as a reliable partner for the protection of people, property and infrastructure from current and emerging threats.

ARDRONIS Detect

- ▶ Fully automatic high-speed detection, classification and identification of drones
- ▶ Early warning while drone is still grounded
- ▶ Compact design enables flexible deployment and quick system setup
- ▶ Successful operation with minimal training



Displayed system based on:

- ▶ R&S®UMS400 wideband monitoring receiver
- ▶ R&S®HE600 omnidirectional wideband antenna