

# USE CASE

## SPORT EVENT SURVEILLANCE

### 2018 Ryder Cup – Golf Championship with Orion tethered UAS



## Context

“This is not golf, this is Ryder Cup”. Every two years, the Ryder Cup brings together 24 of the world’s top golfers from the United States and Europe. The competition is internationally renowned for its exciting level of golf, as well as for its large media impact with over one billion television spectators in 200 countries. In 2018, the 42nd edition held in Paris at Le Golf National next to Versailles, delighted 300 000 live spectators over six days with extraordinary performances, incredible players and prestigious attendees.

Tasked with securing 193 hectares, 50 000 visitors per day, and international personalities, the Paris Police Department and French National Police were in charge of coordinating the security arrangements and selected Elistair’s Orion tethered drone to cover the area. The deployment of the drone was carried out by the security branch of Delta Drone, a French drone service company, with on site support from Elistair.

*Alternatives to the tethered drone (50m crane or mast) are more complex to deploy, much more expensive, and much less flexible.*

*Didier Ferrara, Delta-Drone Head of Intelligent Security System Department*

### 1 ORION UAS

The nature of Elistair’s Orion drone was essential to obtain UAV flight authorization for an event of this magnitude. The tethered drone provides an increased level of safety as it is physically anchored and unable to fly away and become a hazard.



### 300k Attendees

The Ryder Cup attracted over 50 000 attendees per day, with international personalities such as John McEnroe, Michael Phelps and Tiger Woods. A global view of the site was essential to monitor the crowd.



### 800 Security Staff

The French authorities had to manage no less than 800 police officers, security forces, firemen, and dog teams to ensure the security of the event. The drone was a crucial asset to coordinate the teams.



### 193 ha

The Orion UAS was responsible for permanently and safely monitoring an area of 193 hectares with minimal logistical footprint. It was also important that this was carried out with minimal impact on the running of the tournament



### 6 Days

From 25th to 30th September 2018, the system was deployed for 6 days and flew continuously during daylight hours, 8 to 11 hours per day, watching over the perimeter, points of entry and area of play.



### Live Surveillance

The 57 hours of live imagery captured by the UAV’s day/night camera was broadcasted to the main control room. This providing situational awareness to commanders for quick decision making.



# ISSUES & NEEDS

Surveillance of 300 000 persons on 193 ha

With 50K attendees per day over 6 days, the French National Police needed a flexible solution to secure the site and manage the crowd flows throughout the entire week, with the ability to zoom in on specific elements and be able to follow a target at all time.

**Objective:** Obtaining a detailed aerial and continuous view of the entire area during one week with a minimum logistic footprint, and having instant access to the camera control and the day/night images for rapid decision making.

**Airspace restrictions:** Due to the magnitude of the event, and its immediate proximity to the aerodrome, a temporary no-fly zone (TAZ) had been established, regarding all types of aircrafts, model airplanes, paragliding or any untethered UAVs.

**Weather conditions:** During the event, wind speeds of up to 45 km/h were recorded. It was essential to provide stable imagery during these challenging environmental conditions.



**Site dimensions, crowd concentration and event duration were as many challenges to overcome for Paris police.**



*The National Police control room was able to give us orders as to the areas that the drone was to film, for example we were able to provide overhead surveillance for an operation around a suspicious package.*  
*Didier Ferrara, Delta-Drone Head of Intelligent Security System Department*

## SOLUTION

Equipped with an Orion semi automated tethered drone, Delta Drone provided persistent and safe flight missions during the competition. The live imagery from its day/night camera was broadcasted to the main control room, providing situational awareness to commanders. The control room had on demand access to aerial views of the whole perimeter for quick decision making, to prevent intrusions, detect incidents as well as monitor crowd movements.

**Secured tethered flight:** Tethered to the station through a Kevlar reinforced micro-tether, the drone maintained a safe flight profile at average heights of 55m. Thanks to this, the French Civil Aviation granted Delta Drone and the French Police with the unique UAV flight authorization of the whole event.

**Unlimited flight autonomy:** Constantly powered from the tether station, the drone accumulated up to 11 flight hours of continuous flight per day.

## MISSION PROCESS

**Set up:** surface matting, site security, installation of the tent, tables and connectors, deployment of the drone and connection to the control room. Total time set up time was less than 30 minutes.

**Video feed:** A multi-output switch connected to the Safe-T was used to connect the Orion ground station (computer) and the police computer. They were able to retrieve the video stream via the camera's IP address using an RJ45 cable. Finally, the police computer transferred the live images to the national police server over the Internet.

**Results:** Thanks to the Orion, Delta Drone and the French authorities obtained persistent live aerial images for surveillance of the third largest sport event in the world. Following the Ryder Cup, the national police were very satisfied and therefore asked Delta Drone with the Orion drone again for the Peace Forum. This involved providing security for over 70 heads of state including the French President