

# USE CASE

## PUBLIC EVENT SURVEILLANCE

### Trinidad Carnival, 2019 Edition



## Context

Introduced by French settlers in 1783, Trinidad Carnival is dubbed "The greatest festival on Earth". In 2019, it attracted over 35 000 visitors with most, if not all concentrated in and around the Capital city of Port-of-Spain.

To counteract an increase in crime rates against locals and visitors, the Ministry of National Security mandated the Trinidad and Tobago Police Service to take new efficient measures concerning the security of the event which in turn, contacted Rectrix Ltd. to assist with their drone solutions.

The use of new technological tools to support policing strategies in maintaining safety and security during the festivities was a first for Trinidad. The presence of 85 emergency patrols operating on the ground on a 24h basis needed something more to provide a safety blanket over the festivities.

The drones are going to provide a lockdown and monitor everything that is taking place in real time.  
 Gary Griffith, Port-of-Spain Police Commissioner

### 1 LIGH-T Tether

Coupled with a DJI M100 drone, Elistair Ligh-T tether station was essential to obtain UAV flight authorization.



### 35k Attendees

Dubbed the "Greatest festival on Earth", Trinidad Carnival gathered 35 000 person in Port-of-Spain for a little over two days.



### Live video feed

By receiving the data in real time, the National Operations Center was able to direct its assets and personnel when and where needed.



### 10mn set up

Once onsite, it only took 10mn for Rectrix's team to connect the drone and the tether station, and be airborne.



### 60 m

Launched from a base in the middle of the Savannah, the M100 covered the area equidistantly, hovering at 60m above ground.



### 110 Ha covered

Targeted area was the Queen's Park Savannah and its vicinities for an efficient monitoring of the crowd and the traffic.



# ISSUES & NEEDS

## Crowd and traffic monitoring

Queen’s Park Savannah is listed in the Guinness Book of Records as the world’s largest roundabout. As revelers’ safety was paramount to the government, Trinidad & Tobago Police Service needed to come up with new ways of preventing incidents that could harm civilians and cause bad publicity.

**Uninterrupted flight:** To be able to anticipate incidents and intervene as quickly as possible, police forces needed to have a continuous overview of the crowd gathered in the park and around.

**Crowd monitoring:** Because crowds are so thick, surveillance from a ground level is ineffective as street level CCTV is blocked by music trucks and large costumes.

**Traffic management:** Unlawful parking in the vicinity of the park could contribute to traffic jams which as a result, will restrict police cars’ ability to respond to calls.



Ineffectiveness of surveillance from ground level prompted Trinidadian authorities to ramp up surveillance from the air.



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A combination of technology and personnel has so far worked for the Carnival season, making it one of the safest ever.

Gary Griffith, Port-of-Spain Police Commissioner

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## SOLUTION

Launched at a safe distance from the revelers, and tethered to Elistair’s Ligh-T, the DJI M100 was deployed to provide non-stop coverage and live footage to all command centers.

**Secured tethered flight:** On top of providing unlimited power to the drone and fast and safe transmission of data, the Ligh-T kevlar reinforced tether was a guaranty of safety for the civilians nearby. Rectrix got a special authorization to fly from the Trinidad and Tobago Civil Aviation Authority thanks to the tether station specs.

**Uninterrupted communication:** With the unlimited power supply provided by the tether station, transmission of uninterrupted live video feed to the National Operations Center was possible. The DJI Zenmuse Z30 mounted on the drone allowed for a long distance, overview of the surrounding areas.

## MISSION PROCESS

Rectrix’s team settled a base in the middle of the Savannah, 450m away from the main stage, judging point for all bands.

**Set up:** Once onsite, the tethered drone solution was airborne within 10mn. It required way less logistics than any other mean of surveillance like helicopters.

**Data transmission & live video feed:** Maintaining a height of 60m, the drone immediately transmitted data and live video feed through broadband Wi-Fi, via a relay antenna. Footage from the Zenmuse Z30 Optical Zoom Camera was clear of obstructions such as tower and trees.

**Results:** The drone flew for 12 hours. According to the statistics, the Trinidad Carnival, 2019 edition, was the safest in the past 5 years.