



State of Israel  
Ministry of Transport and Road Safety  
Aviation Accidents and Incidents Investigation

## **Safety Investigation Information Report**

**Serious Incident File No. 81-18**

**- MIDAIR COLLISION -**

<b>Date</b>	<b>14.8.2018</b>
<b>Between</b>	
<b>Helicopter</b>	<b>R44 (Robinson)</b>
<b>Registration</b>	<b>4X-BCR</b>
<b>To</b>	
<b>Drone</b>	<b>Phantom 4</b>
<b>Location</b>	<b>Petah Tiqwa</b>

**For Safety Purposes Only**



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#### **Factual Information**

On Tuesday, Aug 14, 2018, about 11:00 Local time Helicopter operated by an Ag company, R44 Robinson, while spraying an orange field in the center of Israel, near the city of Petah-Tiqwa, collided with a Phantom 4 small Drone.

The helicopter pilot started his working day at 06:30AM local time. At around 07:05 he took off for a couple of spraying missions, and after two shifts/cycles for refueling and loading the chemical materials, he took off again for his third and last mission of the day, towards an orange field nearby. He started spraying for 20 minutes.

At the same time, a UAS pilot (licensed) who worked for a local building company started his day, for mapping an area under construction, which was adjacent to the orange field where the helicopter sprayed.

Around 11:00 AM local time, while the Drone approached one of its site end corners, the Drone operator noticed a helicopter maneuvering low and close to the ground (about 30 meters). Immediately he switched to Manual Control Mode and lowered the Drone towards the ground.

At the same time, the helicopter pilot noticed "a white body at approximately 10 meters on his left side", followed by a "bang" feeling that the pilot heard from his lower left side of the helicopter.

Since the helicopter pilot did not feel any degradation in flying the helicopter (no shakes, nor power loss or control problem) he located a nearby landing area and landed normally and safely. At the same time, the Drone operator lost communication with the UAS and thought that it crashed either due to the helicopter slipstream or due to heavy landing after the initiation of the rapid / quick descent order.

After exiting the helicopter, the pilot assessed visually the helicopter and found the UAS jammed and broken into the lattice spray system.

After the technical personnel arrival to the scene, they viewed and check the helicopter and the spraying system and found them airworthy. The helicopter resumed its work and landed safely at his home base.



**The helicopter involved**



**The Drone after collision**



**The drone impact location**

## **Summary**

The Drone era for the past few years, have challenged the aviation safety professionals to integrate it with the "conventional" aviation activities in the endeavor to reach an acceptable level of safety.

This safety occurrence arose our awareness to the fact that both operators were working in accordance to the aviation law and by the published regulations. They were properly licensed and adhered to the working altitudes approved and authorized. This situation, were two air vehicles of that kind are working through the same altitudes in adjacent areas need to be reviewed and modified.

Sincerely

Adv. Raz Yitzhak (Razchik)  
Chief Investigator

Date: 16.8.2018 Reference: 18646618