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Drones – Everything you need to know

Tom Chamberlain

Tony Avery

10 September 2019

Expertise
Sponsorship
Thought leadership
Progress
Community
Sessional Meetings
Education
Working parties
Volunteering
Research
Shaping the future
Networking
Professional support
Enterprise and risk
Learned society
Opportunity
International profile
Journals
Supporting



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\$127Bn

\$1Bn





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\$127Bn is the value of current
business services and labour that are likely to
be replaced in the very near future by drone
powered solutions (PWC)

\$1Bn is the projected value of the
insurance market by 2025 if the growth in drones
and industry continues





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AIRPORTS AND AIR TRAFFIC

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THE FUTURE





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TECHNOLOGY AND USES



Technology

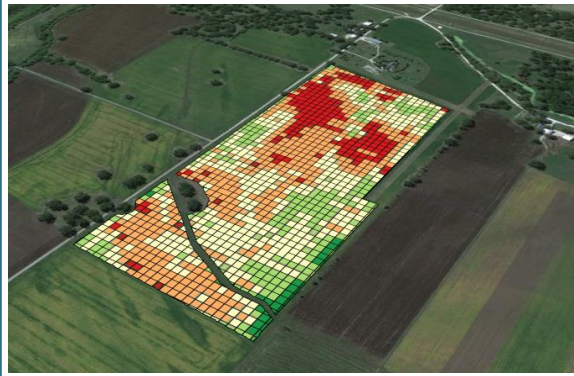
- UAS
- UAV
- Drone
- RPAS
- FPV



- Return-to-home
- Automation
- Geofencing
- Sense / Avoid
- AirSense



Infrastructure and Agriculture

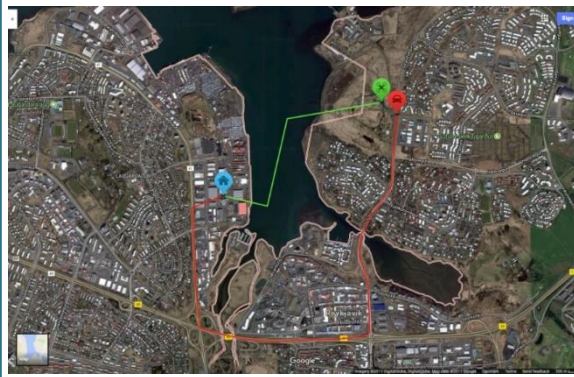
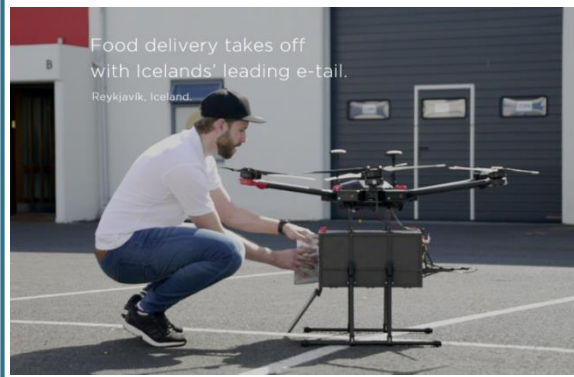


\$77.6Bn



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Transport and Security



\$23.5Bn



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Media and Telecoms



\$15.1Bn



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Mining, Insurance and more...



\$11.1Bn

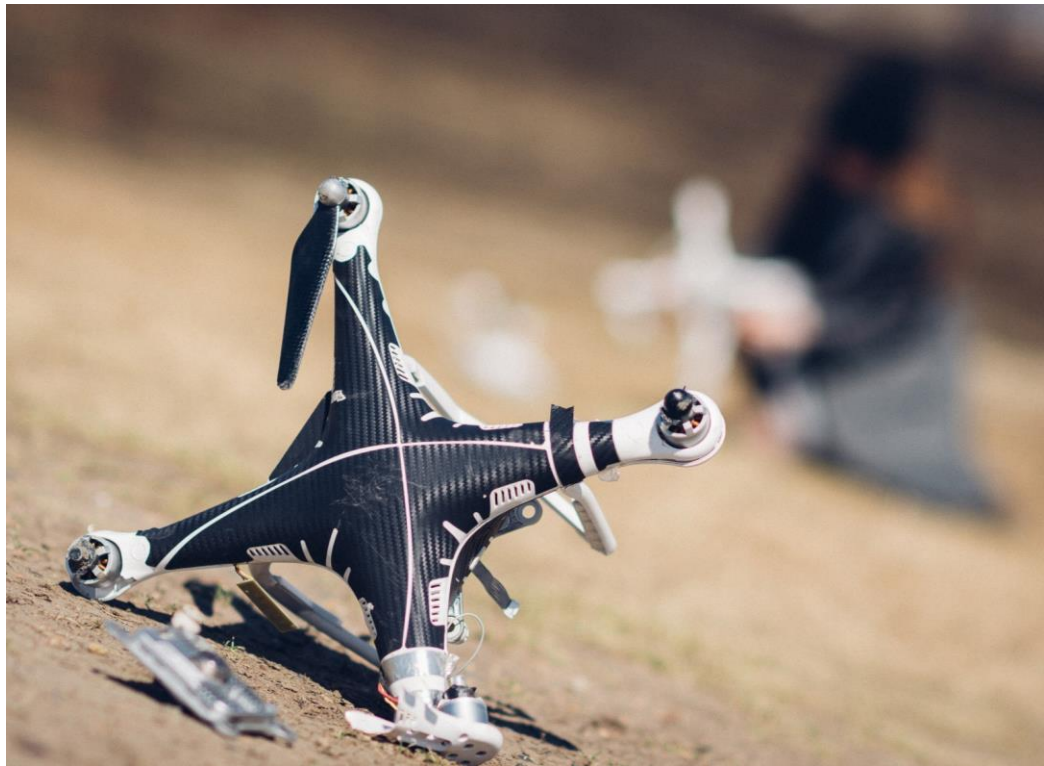


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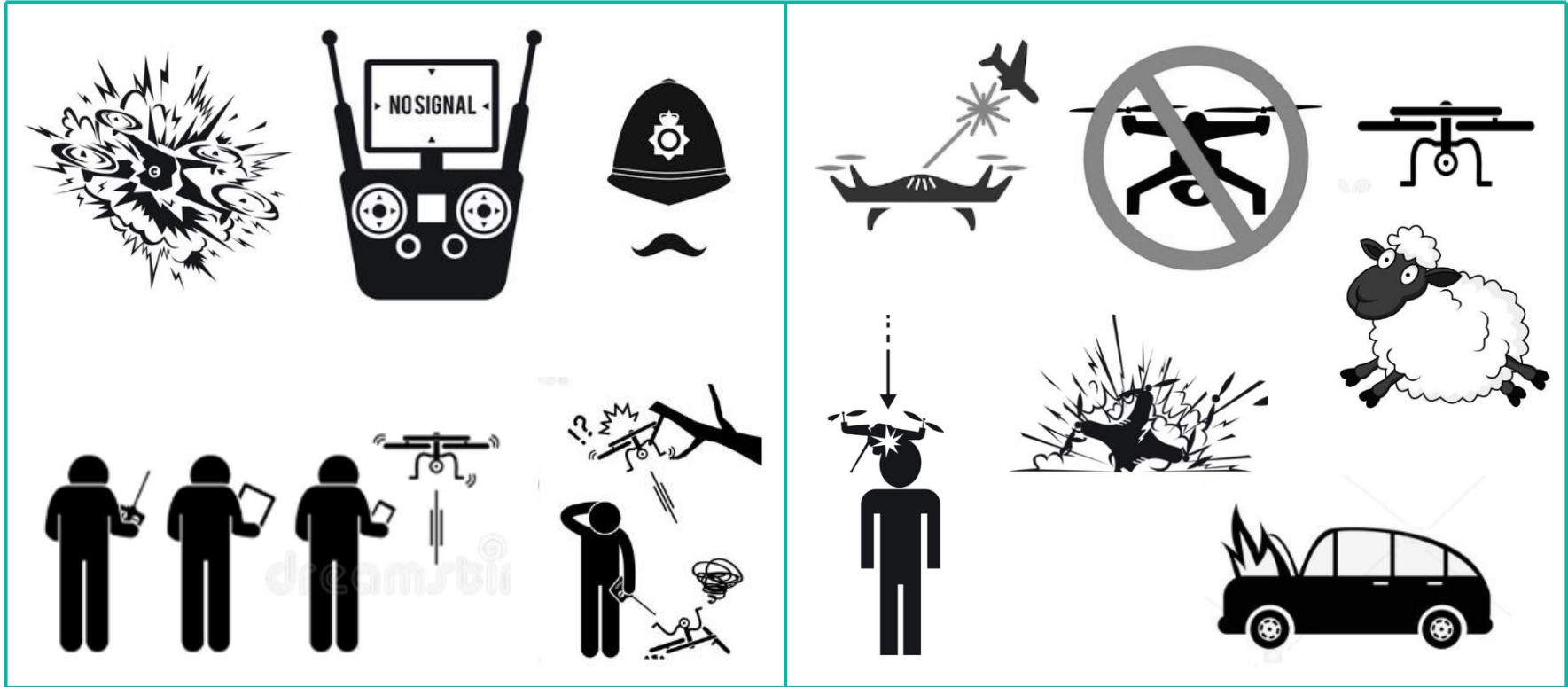


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RISKS AND INSURANCE



Understanding the risks



Commercial vs Recreational

Commercial Operators



- Liability only
- Hull and Liability
- Optional covers
- PfCO, Drone Code

Trained

Hobbyists



- Liability only
- Lower limits
- Limited extra covers
- Drone Code

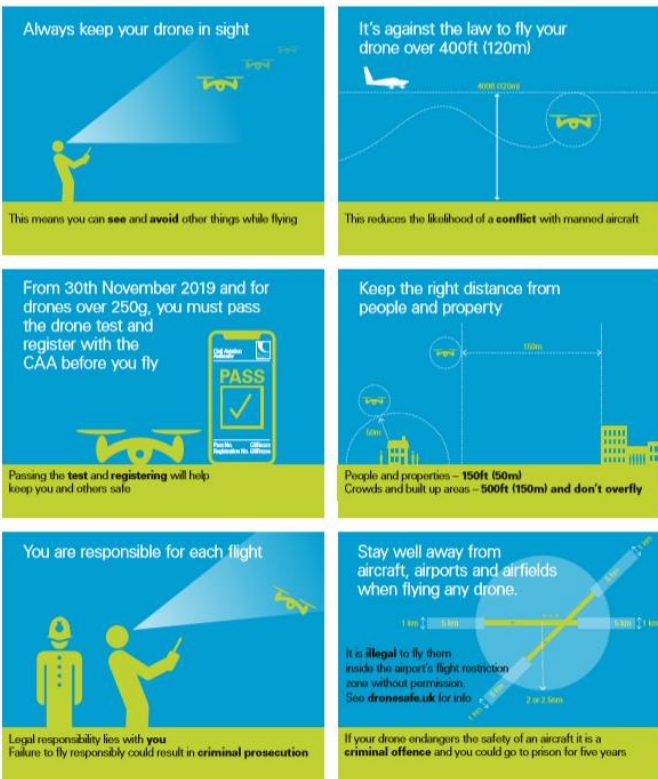
Untrained



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The Drone Code

BE **DRONE** SAFE



Legal responsibility lies with the pilot

- **D**on't fly near airports or airfields
- **R**emember to stay below 400ft
- **O**bserve your drone at all times
- (stay 150ft from people and property)
- **N**ever fly near aircraft
- **E**njoy responsibly



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The Law

BE DRONE SAFE

Always keep your drone in sight

It's against the law to fly your drone over 400ft (120m)

- Up to £2500 fine
- Up to 5 years in prison

drones over 250g, you must pass the drone test and register with the CAA before you fly

people and property

- Up to £1000 fine

Passing the test and registering will help keep you and others safe

People and properties – 150ft (50m)
Crowds and built up areas – 500ft (150m) and don't overfly

- FPN of £100 for minor drone-related offences

Legal responsibility lies with you
Failure to fly responsibly could result in criminal prosecution

If your drone endangers the safety of an aircraft it is a criminal offence and you could go to prison for five years

Legal responsibility lies with the pilot

- 400ft max height – 31/07/2018
- 1km from Airports - 31/07/2018
- 5km extensions along runways - 13/03/2019
- Register drones >250g – 30/11/2019
- Online Safety Test – 30/11/2019
- EC785 / 2004



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Regulation

UAS Operators must comply with EU regulation (EC) 785 / 2004

- Establishes minimum third party insurance requirements
- Applies to all aircraft
- Minimum is related to size/weight of the aircraft
- £0.75m is minimum
- Given risks, most people buy more cover



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Pricing Drone Insurance

Risk assessment is difficult due to the lack of claims data in the industry

- Value of the drone
- Value of the equipment
- Limit of liability
- Excess level
- Pilot experience
- Type of use
- Area of operation



Managing the Risk

Traditional - Annual

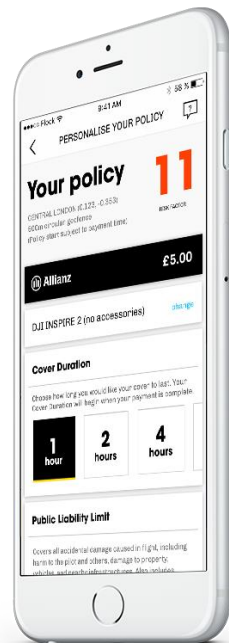


Key selling points

- Comprehensive cover
- Flexible coverage
- All year round cover
- All risks
- Certainty of cover



New – Pay as you fly



Key selling points

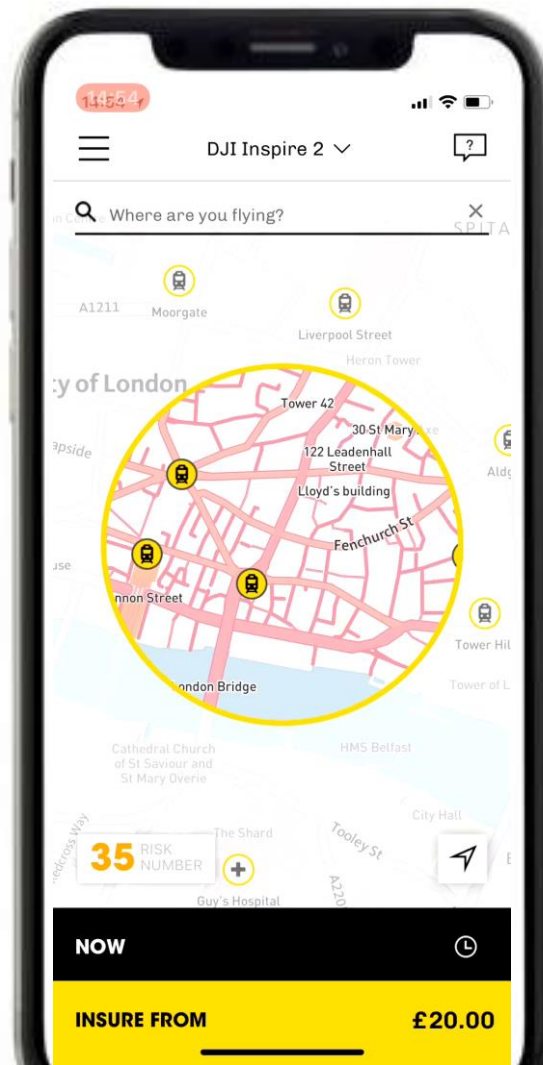
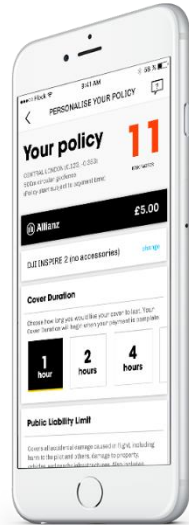
- Essential cover
- Flexible coverage
- Short term policies
- In flight cover only
- Policy per flight



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Flock Cover

- The first real time insurance product
 - On the spot pricing
 - Flexible Cover
 - Insurance purchase in three taps
 - Big data pricing
 - Weather data
 - Building heights
 - Population density
 - Roads



Pay-As-You-Fly

Predictive Analysis

Real Time Insurance

Big Data Analysis



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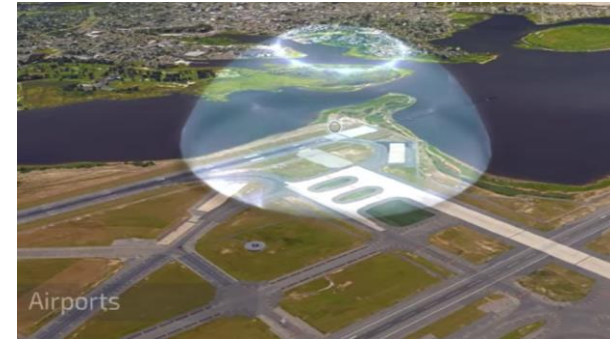
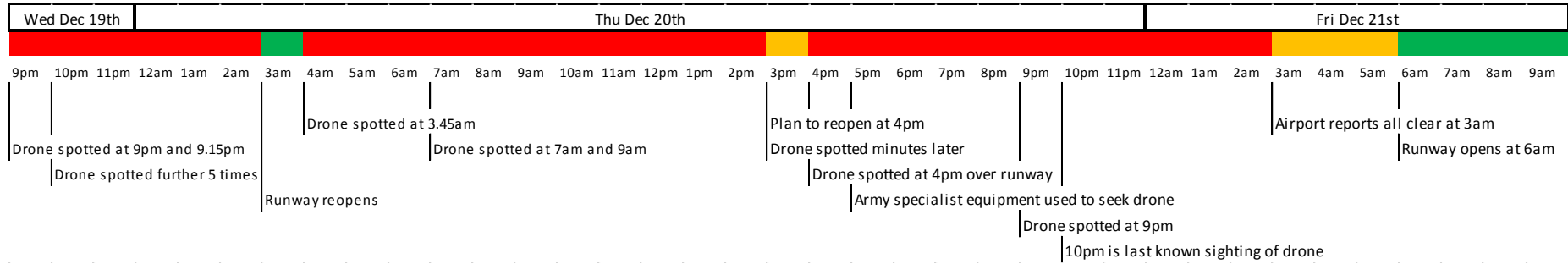
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AIRPORTS AND AIR TRAFFIC



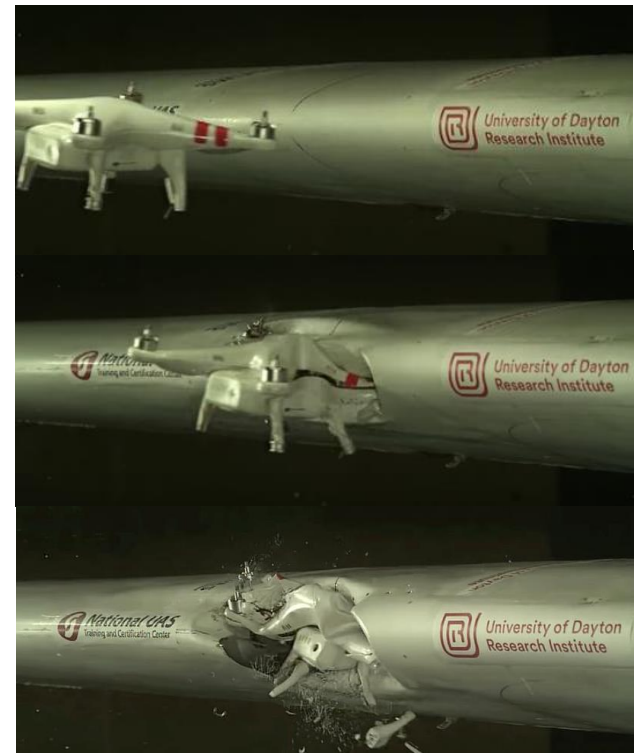
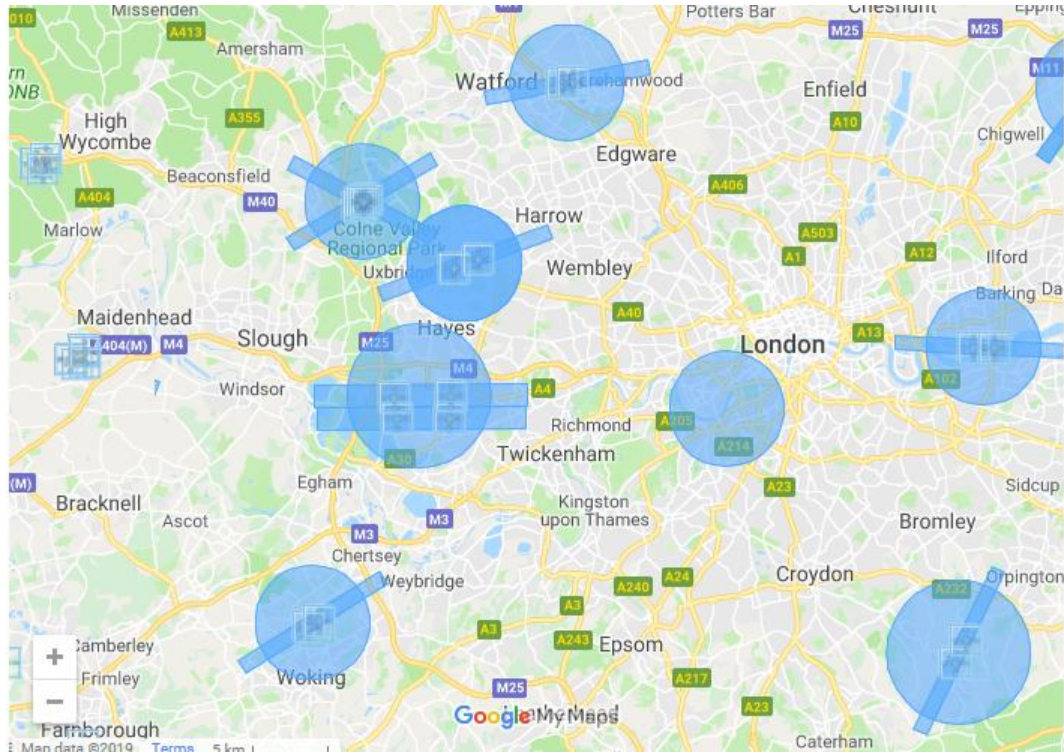
Airports

Gatwick - December 2019



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Airports – what now?



Air Traffic – near misses?

Virgin Atlantic jet carrying more than 260 people in **NEAR-MISS** with 2 drones near Heathrow

14 February 2019



Aero Mexico Boeing 737 passenger jet damaged in **mid air drone collision**

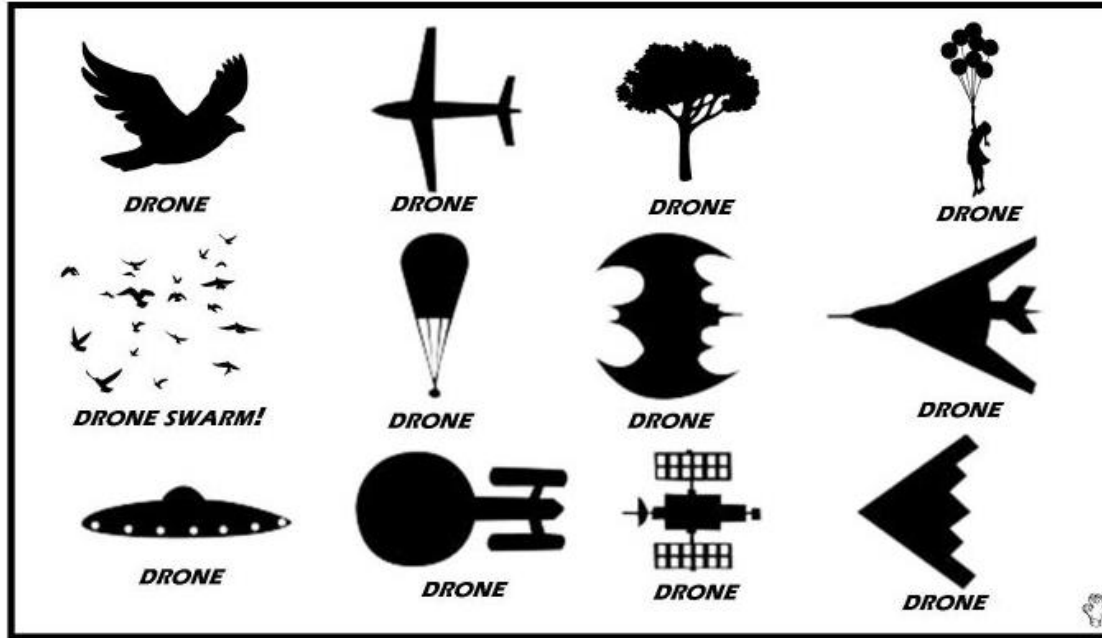
13 December 2018



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Is it a bird, is it a plane? – Yes probably!

AIRCRAFT IDENTIFICATION GUIDE FOR AIRLINE PILOTS





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Claims (or near misses)



Near misses – Marcel Hirscher – 7 World Cup Titles



Near misses – Helicopter - RDS



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THE FUTURE



The Future of Drones



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The Future of Drones



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Questions

Comments

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