**Drones are now a Security Risk**

You may have seen a few in your neighborhood, especially in open areas like large parks.

They are also droning around airports, crossing our borders smuggling drugs and contraband, overflying our nuclear sites, and flying near and int0 our airport airspace. Drones, per se, are not a problem, but some people who fly them are a problem. They are a threat to safety and lives, loitering near or actually over and into air traffic lanes. They are a national security threat when they fly around our nuclear plants.

The primary builder of drones is the Chinese drone maker, DJI from Shenchen China, which is called China's Silicon Valley. DJI makes 70% of all the commercial drones in the world. There are over 800,000 registered drones in America, with annual sales over $1 billion. Our government agencies own many drones. Our Department of Interior owned 800 drones to conduct its mission quicker and more effective than driving trucks or using helicopters. Many police departments and fire departments use drones.

Like most advanced technology, drone technology can be used for good, or evil.

On 4 August 2018, two DJI drones detonated explosives near Avenida Bolívar, Caracas in an apparent attempt to assassinate Venezuelan president Nicolás Maduro.

In January 2015, a casual user of a DJI drone flew out of control range, and crashed into the White House's south lawn.

The FAA has tightened regulations and drone pilots are now required certification a drone pilot license. Drone pilots who are not trained and have the own objectives and motives are hard to identify, so we will have a problem with drones for some time.

Detection of small, slow moving drones is difficult for conventional radars.

Homeland Security is now seeking technologies that will detect the presence of drones of all sizes and capabilities.

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SOURCE: **"Risks Rise as More Drones Take Flight," Brett Forrest, Brian McGill, WSJ, May 22-23, 2021, A5**

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DJI - Wikipedia

[***https://en.wikipedia.org/wiki/DJI\_(company)***](https://en.wikipedia.org/wiki/DJI_%28company%29)

SZ DJI Technology Co., Ltd.[3] or Shenzhen DJI Sciences and Technologies Ltd. (Chinese: 深圳大疆创新科技有限公司) in full,[4] more popularly known as its trade name DJI, which stands for Da-Jiang Innovations (大疆创新; 'Great Frontier Innovations'), is a Chinese technology company headquartered in Shenzhen, Guangdong with manufacturing facilities throughout the world. DJI manufactures commercial unmanned aerial vehicles (drones) for aerial photography and videography. It also designs and manufactures camera gimbals, action cameras, camera stabilizers, flight platforms, propulsion systems and flight control systems.

DJI accounts for around 70% of the world's consumer drone market as of March 2020,[5] with no other company accounting for more than 5%.[6][7] Its camera drone technology is widely used in the music, television and film industries. The company's products have also been used by militaries and police forces,[8] as well as terrorist groups, with the company taking steps to limit access to the latter.[9] US government institutions have issued statements discouraging their internal use of DJI products,[10] but as of 2020, various agencies at the local and federal level continue to use DJI products.[8]

In January 2019, DJI acquired a majority stake in Hasselblad, the iconic Swedish camera company.

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History

A DJI store in Shenzhen, Guangdong

The company was founded in 2006 by Frank Wang (Wang Tao, 汪滔).[11] Born in Hangzhou, Zhejiang, he enrolled as a college student in the Hong Kong University of Science and Technology (HKUST) in 2003. He was part of the HKUST team participating in ABU Robocon and won third prize.[12]

Wang built the first prototypes of DJI's projects in his dorm room, selling the flight control components to universities and Chinese electric companies. He used the proceeds to move to the industrial hub of Shenzhen and hired a small number of staff in 2006. The company struggled at first, with a high degree of churn among employees that has been attributed to Wang's abrasive personality and perfectionist expectations of his employees. The company sold a modest amount of components during this period, relying as well on financial support from Wang's family friend, Lu Di, who provided US$90,000 and managed the company's finances.[13] **In 2009, DJI's components allowed a team to successfully pilot a drone around the peak of Mt. Everest**.[8]

In 2010, Wang hired a high school friend, Swift Xie Jia, to run the company's marketing. DJI began to cater more to drone hobbyists in markets outside of China. **In 2011, Wang met Colin Guinn at a trade show, and the two of them founded DJI North America**, a subsidiary company focusing on mass market drone sales. In 2013, DJI released the first model of the Phantom drone, an entry-level drone which was more user-friendly than other drones on the market at the time.

The Phantom was commercially successful, but it led to conflict between Guinn and Wang. Midway through the year, Wang made an offer to buy Guinn out, which Guinn refused. By the end of the year, DJI had locked all employees of the North American subsidiary out of their email accounts and was well on its way to shutting down the subsidiary's operations. Guinn sued DJI, with the case being settled out of court.[13]

In 2015, DJI eclipsed the success of the Phantom with the release of the Phantom 3, whose even greater popularity was in part due to the addition of a built in live-streaming camera.[8] DJI was now the largest consumer drone company in the world,[14] driving many of its competitors out of the market over the following years.[8] 2015 also marked the beginning of DJI's RoboMaster Robotics Competition (机甲大师赛), an annual international collegiate robot combat tournament held at the Shenzhen Bay Sports Centre.[15]

In 2017, DJI won a Technology & Engineering Emmy Award for its camera drone technology, which was used in the filming of various television shows including The Amazing Race, American Ninja Warrior, Better Call Saul and Game of Thrones.[16] That same year, Wang became Asia's youngest tech billionaire,[17] and world's very first drone billionaire.[18]

Also **in 2017, signed a strategic cooperation agreement to provide surveillance drones for use by the Chinese police in Xinjiang**.[8][19]

**On 5 June 2018, police body cam and Taser maker Axon announced a partnership with DJI to sell surveillance drones to U.S. police departments**.[20][21] **As of 2020, DJI products are also widely used by U.S. police and fire departments.**[8]

On 21 January 2019, DJI announced that an internal probe had uncovered "extensive" fraud by certain employees who "inflated the costs of parts and materials for certain products for personal financial gain."[22] DJI estimated the cost of the fraud at "up to CN¥1 billion" (US$147 million), but maintained that the company "did not incur a full year loss in 2018."[23]

In **January 2020, the United States Department of the Interior announced that it would be grounding around 800 drones, which it had been using for wildlife conservation and infrastructure monitoring purposes**. As of March 2020, DJI holds nearly 77% of the US market share for consumer drones, with no other company holding more than 4%.[8]

**In 2020, DJI drones are being used by many countries around the world to combat the Coronavirus.[24] In China, DJI drones are used by the police force to remind people to wear masks. In other countries, such as Morocco and Saudi Arabia, DJI drones are used to disinfect urban areas and monitor human temperatures in order to contain the spread of Coronavirus**.[25]

**Corporation structure and infrastructure**

In 2018, DJI raised roughly $1 billion in funds in preparation for an envisioned IPO at the Hong Kong Stock Exchange.[26] As of July 2020, these rumors persisted with no indication that an IPO is forthcoming.[27] The company had previously raised $500 million in a 2015 funding round from investors including New China Life Insurance Co Ltd, GIC, and New Horizon Capital, the latter being co-founded by the son of China's former premier minister Wen Jiabao.[28]

DJI counts roughly 14,000 employees and has 17 offices internationally.[29] The company is known for having a very difficult hiring process, as well as an extremely competitive internal culture, where teams are often pitted against each other to design better products.[8]

DJI's factories in Shenzhen include highly sophisticated automated assembly lines. Many of the components for these assembly lines are built in-house.[8]

Products

Flight systems

Controllers

DJI develops flight controllers intended for multi-rotor stabilization control of various platforms or heavy payloads in aerial photography. The A2 controller includes orientation, landing, and home return features. Products include GPS-compass receivers, LED indicators and Bluetooth connectivity.[30][31]

Model A2 Naza V2 Wookong-M Naza-M Lite

Number of motors supported 4–8 4–8 4–8 4–6

Has built-in receiver yes (2.4 GHz) no no no

Hovering accuracy (m) vertical: ±0.5m / horizontal: ±1.5m vertical: ±0.8m / horizontal: ±2.5m vertical: ±0.5m / horizontal: ±2m vertical: ±0.8m / horizontal: ±2.5m

Motor-rotor configuration quad-rotor: +4,X4; hex-rotor: +6,X6,Y6,Rev Y6; octo-rotor: +8,X8,V8 quad-rotor: I4, X4; hex-rotor: I6, X6, IY6, Y6; octo-rotor: I8,V8,X8 quad-rotor: +4,X4; hex-rotor: +6,X6,Y6,Rev Y6; octo-rotor: +8,X8,V8 quad-rotor I4, X4; hex-rotor I6, X6, IY6, Y6

Camera stabilization, platforms

**Ronin**

Habib Wahid using DJI Ronin

The Ronin (如影) is a standalone ground-based camera platform developed for cinematography and aerial filmmaking in professional environments. It is built for professional videography and photography and targets the film industry. By using three individual motors, Ronin stabilizes when moving vigorously.[32] Later models of the Ronin include the Ronin-M, Ronin 2, Ronin-S, and Ronin-SC.[33][34]

Modules

Module Lightbridge PMU (A2, Wookong, Naza V2, Naza Lite) iOSD MARK II iOSD mini BTU

Type (Purpose) Video Downlink Power Management On-Screen Display On-Screen Display Bluetooth Link

Works With A2, Wookong-M, Naza V2 A2, Wookong-M, Naza V2, Naza-M Lite A2, Wookong-M, Naza V2 A2, Wookong-M, Naza V2 Naza V2

Interface CAN Bus CAN Bus, Battery Connection CAN Bus CAN Bus CAN Bus

Battery Requirements 4S-6S Lipo 4S-12S Lipo 4S Lipo and Shared Flight Controller Power 2S Lipo and Shared Flight Controller Power Shared Flight Controller Power

UAVs

**Flame Wheel**

The Flame Wheel (风火轮) series are multirotor platforms for aerial photography. As of 2016, there is the hexacopter F550, and quadcopters F330 and F450. The most recent is the ARF KIT.[35][36]

Model Flame Wheel F330 Flame Wheel F450 Flame Wheel F550

Diagonal wheelbase (cm) 33 45 69

Frame weight (g) 156 282 478

Take-off weight (g) 600–1200 800–1600 1200–2400

Phantom

Main article: Phantom (UAV)

**A DJI Phantom 2 Vision+ V3.0**

The Phantom (精灵) series has evolved to integrated flight programming with a camera, Wi-Fi or Lightbridge connectivity, and the pilot's mobile device.[37] Phantoms are made for aerial cinematography and photography applications,[38] but are also used in recreational use.[39]

There have now been four generations of the product line, the most recent one is the Phantom 4 RTK, announced on October 15, 2018.[40][41][42]

Model Phantom 1 Phantom 2 Phantom 2 Vision Phantom 2 Vision+ Phantom FC40 Phantom 3 Standard Phantom 3 4K Phantom 3 Advanced Phantom 3 Professional Phantom 3 SE Phantom 4 Phantom 4 Pro Phantom 4 Advanced Phantom 4 Pro v2.0

Diagonal wheelbase (mm) 350 350 350 350 350 350 350 350 350 350 350 350 350 350

Height (m) 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19

Power consumption (W) 3.12 — — — 3.12 — — — — — — — — —

Take-off weight (g) < 1200 < 1300 1180 1284 1200 1216 1280 1280 1280 1280 1380 1388 1368 1375

Max speed (m/s) 10 15 15 15 10 16 16 16 16 16 20 20 20 20

Endurance (min) — 25 25 25 10 25 25 23 23 25 28 30 30 30

Rate of climb/descend (m/s) 6 6/2 6/2 6/2 6 5/3 5/3 5/3 5/3 5/3 6/4 6/4 6/4 6/4

Operating temperature (°C) −10 to 50 −10 to 50 — — −10 to 50 0 to 40 0 to 40 0 to 40 0 to 40 0 to 40 0 to 40 0 to 40 0 to 40 0 to 40

Maximum altitude (m) 6000 6000 6000 6000 6000 6000 6000 6000 6000

Maximum range (m) 1000 4000 5000 7000 7000 7000

Mavic

Mavic 2 Pro unfolded

Main article: Mavic (UAV)

The Mavic (御) series currently includes Mavic Pro, Mavic Pro Platinum, Mavic Air, Mavic Air 2, Mavic Air 2S, Mavic 2 Pro, Mavic 2 Zoom, Mavic Mini, and DJI Mini 2. The release of the Mavic Air 2 was not without controversy, however, as DJI announced that a key safety feature, AirSense (ADS-B), would not be available on models outside the USA.[43] Shortages on components and complexities of production owing to the ongoing COVID-19 crisis at the time were blamed.

DJI released Mavic Air 2S on April 15, 2021. [44]

Model Mavic Pro[45] Mavic Air[46] Mavic 2 Pro[47] Mavic 2 Zoom[47] Mavic Air 2[48] Mavic Air 2S[49] Mavic Mini[50] DJI Mini 2[51]

Maximum Speed (Sport mode, no wind) 18.0 m/s 19.0 m/s 20 m/s 20 m/s 19 m/s 19 m/s 13 m/s 16 m/s

Maximum Speed (P-Mode) 9.7 m/s 6.9 m/s 13.4 m/s 13.4 m/s 12 m/s 15 m/s 8 m/s 10 m/s

Empty weight (grams) 734 (without gimbal cover) / 743 (with gimbal cover) 430 (without gimbal cover) 907 (max takeoff weight) 905 (max takeoff weight) 570 (max takeoff weight) 595 (Takeoff weight) 249 (default) / 199 (Japan) 249

Flight time ~27 Mins ~21 Mins ~31 Mins ~31 Mins ~34 Mins 31 Mins ~30 Mins ~31 Mins

Operating temperature (°C) 0° to 40 °C 0° to 40 °C -10° to 40 °C -10° to 40 °C -10° to 40 °C 0° to 40 °C 0° to 40 °C 0° to 40 °C

Range (with controller) 7 km, 3.5 km with CE controller 4 km, 2 km with CE controller 8 km 8 km 10 km, 6 km with CE controller 18.5 km(No wind) 4 km, 2 km with CE controller 10 km

DJI Mavic Air in flight

Spreading Wings

DJI Spreading Wings S800 hexacopter

The Spreading Wings (筋斗云) series are mainly industrial UAVs for professional aerial photography, high definition 3D mapping, ultra-light search and rescue, and surveillance etc. based on camera gear on board. In 2013, two models were released: S800 regular and EVO.[52]

Model Spreading Wings S800 Spreading Wings S800 EVO Spreading Wings S900 Spreading Wings S1000

Diagonal wheelbase (cm) 80 80 90 104.5

Empty weight (kg) 2.6 3.7 3.3 4.2

Take-off weight (kg) 5 – 7 6 – 8 4.7 – 8.2 6 – 11

Endurance (min) 16 20 18 15

Operating temperature (°C) — — - 10 to 40 - 10 to 40

**Inspire**

DJI Inspire 2

The Inspire (悟) series is a professional series of camera quadcopters similar to the Phantom line, but with an aluminum-magnesium body with carbon fibre arms, as well as detachable props on the Inspire 2. It was presented in 2017.[53]

Inspire specifications:[54]

Model Inspire 1 Inspire 1 Pro Inspire 2[55]

Weight 2935 g (Battery included) 3400 g (Battery, propellers and Zenmuse X5 included) 3440 g (Battery, propellers and camera on board)

Takeoff weight 3400 g 3500 g 4000 g

Hovering accuracy

GPS mode

vertical: 0.5 m; horizontal: 2.5 m vertical: 0.5 m; horizontal: 2.5 m vertical: 0.5 m; horizontal: 1.5 m

Max angular velocity pitch: 300°/s； yaw: 150°/s pitch: 300°/s； yaw: 150°/s pitch: 300°/s； yaw: 150°/s

Max tilt angle 35° 35° 35°

Max ascent/descent speed 5/4 m/s 5/4 m/s 5/6 m/s

Max speed 22 m/s (ATTI mode, no wind) 18 m/s (ATTI mode, no wind) 24 m/s (ATTI mode, no wind)

Max flight altitude 4500 m 4500 m 4500 m

Max wind speed resistance 10 m/s 10 m/s 10 m/s

Operating temperature range −10°−40 °C −10°−40 °C −20°−40 °C

Max flight time approximately 18 minutes approximately 15 minutes approximately 27 minutes

Indoor hovering Enabled by default Enabled by default Enabled by default

Release date November 13, 2014 January 5, 2016 November 16, 2016

Matrice

DJI Matrice 200 Series, used by Deutsche Bahn

The Matrice (经纬) series is designed for industrial applications, including surveying, inspection, search and rescue and firefighting.[56]

LiDARUSA Snoopy 120 LiDAR System mounted on an DJI M600pro

The Matrice 100 is a fully programmable and customizable drone, launched on July 6, 2015.[57] It has expansion bay and communication ports, which allows developers to add additional components for different purposes.[58] The Matrice 600pro was released November 2016, followed by the Matrice 200 announced in February 2017.

**Spark**

A DJI Spark with its controller and an extra battery

Released in May 2017, the Spark (晓) features a 12-megapixel camera stabilized mechanically by a 2-axis gimbal. The Spark also carries an advanced infrared 3D camera that helps the drone to detect obstacles in front of it, as well as facilitating hand-gesture control. In addition to a smartphone app with virtual controller, a physical controller can also be bought.[59]

There have been multiple complaints that the drone switches off and fall while flying.[60] DJI responded to this by releasing a mandatory battery firmware update in August 2017.[61] In November 2019 the Mavic Mini was released, replacing the Spark in DJI's consumer line-up.

FPV

On March 2, 2021, DJI announced the launch of the DJI FPV, an entirely new type of hybrid drone combining the first-person view (FPV) and high-speed performance of racing drones, the cinematic camera and reliability of traditional consumer drones, and an optional innovative motion controller that allows pilots to control the drone with just single-handed movements. Based on DJI's earlier Digital FPV system, the drone features high-performance motors for a maximum air speed of 140 km/h (87 mph) and a 0-100 km acceleration of just 2 seconds under manual mode, an intuitive user interface and the latest safety features for greater flight control. The new FPV system lets pilots see from the drone’s perspective in low-latency high-definition video thanks to "O3", the third iteration of DJI’s proprietary OcuSync technology. It allows pilots to capture ultra-smooth and stable 4K video at 60 fps with the assistance of RockSteady electronic image stabilization.[62]

Camcorders

Osmo

Main article: Osmo (camera) The Osmo (灵眸) is a camcorder developed by DJI. The camera uses a smartphone to view camera footage and can record 4K and take either 12–16 MP stills. Later models include the Osmo Pocket[63] and the Osmo Action.[64][65][66]

The Osmo mobile relies on the user's smartphone as the camera. Most smartphones are accepted into the gimbal with a width range of 2.31–3.34 inch (58.6-84.8 mm). The original Osmo Mobile has reached its end-of-life and has been replaced with a second generation, called Mobile Osmo 2.[67][68][69] Osmo Mobile 3 was announced in August 2019, and is designed for the social media crowd.[70]

Zenmuse gimbal-cameras

The Zenmuse (禅思) series of gimbal cameras are a mixed system made of a compact camera and a 3-axis gimbal, designed as a part of a modular system, for example attached to UAVs. The 2019 Zenmuse X7 gimbal camera features a camera with interchangeable 4 prime DJI DL-mount lenses.

Goggles

DJI Goggles

The DJI FPV series[71] are head-mounted displays designed for FPV drone flying. There are two different product lines in the FPV series, the DJI Goggles (DJI飞行眼镜) and the Digital FPV System (FPV数字图传系统). The DJI Goggles are designed to interface with DJI-branded drones, using dual LC display screens, wireless connectivity and direct photo and video capture control. In November 2017, DJI also released DJI Goggles RE ("Racing Edition"), which featured compatibility with racing quadcopters.[72] The DJI Digital FPV System is a standalone system designed for non-DJI brand or custom-built drones.[73]

Educational robots

RoboMaster S1

On 11 June 2019, DJI unveiled the RoboMaster S1 (机甲大师 S1), its first consumer ground drone, named after DJI's annual RoboMaster robot combat competition,[74] of which it is now an unofficial mascot. The S1 is a tank-like rover remotely controlled in first-person view via Wi-Fi and an app on Microsoft Windows, Apple iOS or Google Android mobile devices. Designed to be an "advanced educational robot", the user has to assemble the S1 out of the box from loose parts and learn to program its AI functionality. Both Scratch and Python are programming languages employed by DJI along with app learning modules to teach the end user how to code.[75]

RoboMaster EP

The DJI RoboMaster EP (机甲大师 EP) was officially released on March 9, 2020, although it was first teased in a YouTube RoboMaster S1 commercial on November 25, 2019.[76] On August 8, 2020, DJI formally launched an upgraded version named RoboMaster EP Core. Intended to be a counterpart to the Engineer robot from the competition, the EP Core features a gripper and numerous infrared distance sensors that can detect between 0.1–10 m (3.9 in–32 ft 9.7 in).

The EP supports more than 20 third-party sensors and open-source hardware such as Micro Bit, Arduino and Raspberry Pi.[77]

Controversies

Privacy and security concerns

In August 2017, the United States Army published internal guidance banning the use of DJI products for security reasons, although as of 2019 other branches of the US military continue to use its products in a limited capacity.[10]

On 17 November 2017, Ars Technica reported a security breach of private customer data at DJI that was uncovered by security researcher Kevin Finisterre.[78] The company denied the existence of such a breach, and subsequently added an offline mode that allows its drones to fly without transferring data over the internet.[79] The Register reported in August 2017 that the DJI's Go app contains a framework that allows DJI to make "substantial changes" to the app without triggering a review by Apple.[80] According to Kevin Finisterre, the hot-patch mechanism would've allowed DJI to covertly update the app without first seeking user consent, a critical security flaw.[81]

In 2018, Kivu Consulting released a report commissioned by DJI that largely refuted the allegations related to DJI's mishandling of user data. However, the report confirmed that the DJI GO 4 mobile app did transfer information to Chinese servers through a crash reporting app called Bugly.[81]

**In January 2020, the United States Department of the Interior announced that it would be grounding around 800 DJI drones over security concerns, which it had been using for wildlife conservation and infrastructure monitoring purposes.[**82]

In a May 2020 report analyzing the data use of DJI's Mimo app, which is used to control the Osmo gimbles from a smartphone, security research company River Loop Security made several discoveries "of concern" for users and policy-makers.[83] According to the researchers, the app sends a variety of data, including sensitive personal information, through insecure means to servers located in China without user consent, raising suspicions that personal user data could be freely accessible to the Chinese authorities.[83] User information was also sent to third-party servers, "where the Terms of Use Agreement supports cooperation with the Chinese Government."[83]

* In July 2020, two reports on the security of the DJI GO 4 mobile app found that it was highly obfuscated to prevent security analysis, collected user information from phones and was able to force the installation of updates or other applications.[84] The app was also found to be able to download and install arbitrary applications, although this required approval by the user.[85] Furthermore, the app restarted after being closed and continued running in the background and sending telemetry requests while the user believes it to be inactive.[85] Because of the far-reaching permissions to use the app means that servers owned by DJI or Weibo "have almost full control over the user's phone."[86] Furthermore, Google's app store was unable to do any verification of any updates pushed by DJI. No issues related to hidden updates were found on the app's iOS version.[86]
* In August 2020, Synacktiv alleged that DJI's Pilot app shares many of the same issues present in DJI GO 4, which DJI denied.[87]

In November 2020, senators Chris Coons, Rick Scott, and others criticized a decision by the United States Air Force to purchase DJI drones on security grounds.[88]

**U.S. sanctions**

In December 2020, the United States Department of Commerce added DJI to the Bureau of Industry and Security's Entity List.[89][90] In January 2021, Trump signed an executive order mandating the removal of Chinese-made drones from U.S. government fleets.[91]

**Incidents involving DJI products**

In January 2015, a Phantom 3 crashed into the White House's south lawn, in Washington, D.C., US.[92] DJI later set up a no-fly Geo-system according to prohibited airspace, and forced all drones to update the firmware. The new system will forbid flights getting closer or take off in restricted zones based on its GPS location.[93]

In the 2015 Tokyo drone incident, a DJI Phantom 2 drone carrying radioactive material was landed on the Prime Minister's Official Residence. Subsequently, the National Diet passed a law restricting drone flights near government buildings and nuclear sites.[94]

In 2016, ISIS used DJI drones as exploding devices in Iraq.[95][96] DJI later created a broad no-fly zone over nearly all of Iraq and Syria.[9] That year, a DJI drone was nearly involved in a midair collision with a Chinese fighter jet. The Chinese government subsequently insisted that DJI develop an air traffic registry to track its drones within China.[8]

On 30 March 2018, Israel Defense Forces used DJI's Matrice 600 drone to drop tear gas from above, causing injuries, panic and death during Gaza and West Bank protests.[97][98]

On 4 August 2018, two Matrice 600 drones detonated explosives near Avenida Bolívar, Caracas in an apparent attempt to assassinate Venezuelan president Nicolás Maduro.[99]

In 2020, "Matrice 200" series drones that were used by the UK police force fell out of the sky and crashed in the rain due to technical failures.[100]