



PRESS INFORMATION BUREAU
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The Drone Rules, 2021

Realising our collective vision of an Aatmanirbhar Bharat

(Ministry of Civil Aviation)

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Introduction

The Ministry of Civil Aviation vide gazette notification CG-DL-E-26082021-229221 dated August 25, 2021 published the [Drone Rules](#)¹ and vide gazette notification CG-DL-E-26012022-232917 dated January 26, 2022 published the [Certification Scheme for Unmanned Aircraft Systems](#)².

Drones are Unmanned Aerial Vehicles (UAVs) or Remotely Piloted Aerial Systems (RPAS) that are controlled either by a pilot on the ground or with the help of technology.

Drones offer tremendous benefits to almost all sectors of the economy like – agriculture, mining, infrastructure, surveillance, emergency response, transportation, geo-spatial mapping, defence and law enforcement etc. Drones can be significant creators of employment and economic growth due to their reach, versatility, and ease of use, especially in India's remote and inaccessible areas.

In view of its traditional strengths in innovation, information technology, frugal engineering and huge domestic demand, India has the potential to be global drone hub by 2030.³

Classification of unmanned aircraft systems

The unmanned aircraft system shall, based on the maximum all-up weight including payload, [be classified as follows](#)⁴:

- **Nano unmanned aircraft system:** weighing less than or equal to 250 grams;
- **Micro unmanned aircraft system:** weighing more than 250 grams, but less than or equal to Two kilograms;
- **Small unmanned aircraft system:** weighing more than Two kilograms, but less than or equal to 25 kilograms;
- **Medium unmanned aircraft system:** weighing more than 25 kilograms, but less than or equal to 150 kilograms

¹ <https://egazette.nic.in/WriteReadData/2021/229221.pdf>

² [232917.pdf \(egazette.nic.in\)](https://egazette.nic.in/WriteReadData/2022/232917.pdf)

³ <https://pib.gov.in/PressReleasePage.aspx?PRID=1749154>

⁴ <https://egazette.nic.in/WriteReadData/2021/229221.pdf>

- **Large unmanned aircraft system:** weighing more than 150 kilograms.

Usage of Drones:

- Drone based surveillance system introduced for Railway Security⁵.
- Survey of India to use drones for mapping of inhabited areas of villages under “SVAMITVA” scheme⁶.
- India deployed drones to deliver COVID-19 vaccines. The ICMR-led pilot project is being rolled out in Manipur, Nagaland and Andamans and Nicobar Islands.⁷
- Drone is used for surveillance of COVID-19 hotspots and containment zones to ensure strict compliance of lockdown guidelines. The system has been demonstrated to the Chandigarh Police in a containment zone.⁸
- [Ministry of Civil Aviation](#) (MoCA) and [Directorate General of Civil Aviation](#) (DGCA) have granted conditional exemption to the [Board of Control for Cricket in India](#) (BCCI) for the deployment of drones for live aerial cinematography of the India Cricket Season in 2021.⁹



Drones in Defence Sector

India’s [Defence Research and Development Organization](#)¹⁰ (DRDO) has developed its own domestic Unmanned Aerial Vehicle (UAV) or Unmanned Aircraft Systems (UAS) program. The project aims to develop a domestic arsenal to replace and augment the existing fleet of unmanned vehicles. [Examples of these](#)¹¹ are:

- **[DRDO Lakshya](#)**¹²: This is a target drone used for discreet aerial reconnaissance and target acquisition. It is launched by a solid propellant rocket motor and sustained by a turbojet engine in flight.
- **[DRDO Nishant](#)**¹³: Primarily designed for intelligence-gathering over enemy territory, it is also used for reconnaissance, training, surveillance, target designation, artillery fire correction, and damage assessment. The Nishant has completed its developmental phase and user trials.

⁵<https://ddnews.gov.in/national/drone-based-surveillance-system-introduced-railway-security>

⁶<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1725715>

⁷<https://www.who.int/india/news/feature-stories/detail/india-deploys-drones-to-deliver-covid-19-vaccines>

⁸<https://www.drdo.gov.in/drone-based-surveillance-system>

⁹<https://pib.gov.in/PressReleseDetailm.aspx?PRID=1696175>

¹⁰<https://www.drdo.gov.in/>

¹¹<https://www.investindia.gov.in/team-india-blogs/growing-market-drone-technologies-india>

¹²<https://www.drdo.gov.in/pilotless-target-aircraft-lakshya>

¹³<https://www.drdo.gov.in/nishant>

- **DRDO Rustom¹⁴**: Modelled after the American Predator UAV, the Rustom is a Medium-Altitude Long-Endurance (MALE) system. Like the Predator, the Rustom is designed to be used for both reconnaissance and combat missions. It is still in prototype stage and is expected to replace and supplement Israeli Heron model UAVs in the Indian Air Force.

Features of Drone Rules, 2021

[Drone Rules, 2021](#)¹⁵ were notified by the Central Government on August 25, 2021.

- Based on a premise of **trust, self-certification and non-intrusive monitoring**.
- Designed to usher in an era of super-normal growth while balancing safety and security considerations.
- Several approvals abolished: unique authorisation number, unique prototype identification number, certificate of manufacturing and airworthiness, certificate of conformance, certificate of maintenance, import clearance, acceptance of existing drones, operator permit, authorisation of R&D organisation, student remote pilot licence, remote pilot instructor authorisation, drone port authorisation etc.
- Number of forms reduced from **25 to 5**.
- Types of fee reduced from **72 to 4**.
- Quantum of fee reduced to nominal levels and delinked with size of drone. For instance, the fee for a remote pilot license fee has been reduced from INR 3000 (for large drone) to INR 100 for all categories of drones; and is valid for 10 years.
- Digital sky platform being developed as a user-friendly online **single-window system**. There will be minimal human interface and most permissions will be self-generated.
- Interactive drone **airspace map** with red and yellow zones shall be displayed.
- No permission required for operating drones in **green zones**.
- Yellow zone, where ATC permission is required, has been reduced from **45 km to 12 km** from the airport perimeter.
- No **remote pilot licence** required for micro drones (for non-commercial use) and nano drones.
- No requirement of Type Certificate, unique identification number and remote pilot licence by R&D entities operating drones in own or rented premises, located in a green zone.
- Import of drones to be regulated by DGFT.
- Requirement of import clearance from DGCA abolished.
- No **security clearance** required before issuance of any registration or license.
- Coverage of drones under drone rules, 2021 increased from 300 kg to **500 kg**. This will cover **drone taxis** also.
- DGCA shall prescribe drone training requirements, oversee drone schools and provide pilot licences online.
- No restriction on **foreign ownership** in Indian drone companies.

¹⁴<https://www.drdo.gov.in/rustom-1>

¹⁵<https://pib.gov.in/PressReleaselframePage.aspx?PRID=1757850>

- Remote pilot licence to be issued by DGCA within **15 days** of pilot receiving the remote pilot certificate from an authorised drone school through the digital sky platform.
- Testing of drones for issuance of Type Certificate to be carried out by Quality Council of India or authorised testing entities.
- Type Certificate required only when a drone is to be operated in India. Importing and manufacturing drones purely for exports are exempt from type certification and unique identification number.
- Nano and model drones (made for research or recreation purposes) are exempt from type certification.
- Manufacturers and importers may generate their drones' unique identification number on the digital sky platform through the self-certification route.
- Easier process specified for transfer and deregistration of drones through the digital sky platform.
- Drones present in India on or before 30 Nov 2021 will be issued a unique identification number through the digital sky platform provided, they have a DAN (Device Acknowledgment Number), a GST-paid invoice and are part of the list of DGCA-approved drones.
- Standard operating procedures (SOP) and training procedure manuals (TPM) will be prescribed by DGCA on the digital sky platform for self-monitoring by users. No approvals required unless there is a significant departure from the prescribed procedures.
- Safety and security features like 'No Permission – No Takeoff' (NPNT), real-time tracking beacon, geo-fencing etc. to be notified in future. A six-month lead time will be provided to the industry for compliance.
- Maximum penalty for violations reduced to **INR One lakh**. It was several lakhs earlier.
- Drone corridors will be developed for **cargo deliveries**.
- Drone **promotion council** to be set up by government with participation from academia, start-ups and other stakeholders to facilitate a growth-oriented regulatory regime.

Category of Zones

The Drone Rules 2021 associated airspace maps classifies Indian airspace into [three zones](#)¹⁶ as follows:

- **“Red Zone”** means the airspace of defined dimensions, above the land areas or territorial waters of India, or any installation or notified port limits specified by the Central Government beyond the territorial waters of India, within which unmanned aircraft system operations shall be permitted only by the Central Government.
- **“Yellow Zone”** means the airspace of defined dimensions above the land areas or territorial waters of India within which unmanned aircraft system operations are restricted and shall require permission from the concerned air traffic control authority. The airspace above 400 feet or 120 metres in the designated green zone and the airspace above 200 feet or 60 metres in the area located between the lateral distance of 8 kilometres and 12 kilometres from the perimeter of an operational airport, shall be designated as yellow zone.

¹⁶<https://egazette.nic.in/WriteReadData/2021/229221.pdf>

- “**Green Zone**” means the airspace of defined dimensions above the land areas or territorial waters of India, up to a vertical distance of 400 feet or 120 metres that has not been designated as a red zone or yellow zone in the airspace map for unmanned aircraft system operations and the airspace up to a vertical distance of 200 feet or 60 metres above the area located between a lateral distance of 8 kilometres and 12 kilometres from the perimeter of an operational airport.

India’s Airspace Map for Drone Operations

The Central Government under the leadership of Prime Minister Shri Narendra Modi released India’s airspace map for drone operations on 24 September 2021. The map is available on DGCA’s digital sky platform at <https://digitalsky.dgca.gov.in/home>.

The [drone airspace map](#)¹⁷ comes as a follow-through of the liberalized Drone Rules, 2021. The top 10 features of the drone airspace maps are:

- The drone airspace map is an interactive map of India that demarcates the **yellow and red zones** across the country.
- Green zone is the airspace **up to 400 feet** that has not been designated as a red or yellow zone; and **up to 200 feet** above the area located between 8-12 km from the perimeter of an operational airport.
- In green zones, **no permission** whatsoever is required for operating drones with an all-up weight up to **500 kg**.
- Yellow zone is the airspace **above 400 feet** in a designated green zone; **above 200 feet** in the area located between 8-12 km from the perimeter of an operational airport and **above ground** in the area located between 5-8 km from the perimeter of an operational airport.
- Drone operations in yellow zone require permission from the concerned **air traffic control authority** – AAI, IAF, Navy, HAL etc. as the case may be.
- Yellow zone has been reduced from **45 km earlier to 12 km** from the airport perimeter.
- Red zone is the ‘**no-drone zone**’ within which drones can be operated only after a permission from the **Central Government**.
- The airspace map may be modified by **authorised entities** from time to time.
- Anyone planning to operate a drone should **mandatorily** check the latest airspace map for any changes in zone boundaries.
- The drone airspace map is **freely available** on the digital sky platform to all without any login requirements.

Registration of unmanned aircraft system¹⁸

- No person shall operate an unmanned aircraft system without first registering it on the digital sky platform and obtaining a unique identification number, unless exempted from the requirement of a unique identification number under Drone Rules, 2021.
- A registration record shall be maintained by the Director General of all such unmanned aircraft systems to which unique identification number has been issued under Drone

¹⁷<https://pib.gov.in/PressReleaselframePage.aspx?PRID=1757850>

¹⁸<https://egazette.nic.in/WriteReadData/2021/229221.pdf>

Rule, 2021.

- It shall be the responsibility of the person operating an unmanned aircraft system to ensure that such unmanned aircraft system conforms to a valid type certificate.

Remote Pilot License¹⁹

- **General** – No individual other than a holder of a valid remote pilot license enlisted on the digital sky platform shall operate an unmanned aircraft system.
- **Classification** – A remote pilot license shall specifically mention the category, sub-category and classification of the unmanned aircraft system or a combination of these, for which it is issued.

Eligibility for Pilot License²⁰

An individual shall be eligible to obtain a remote pilot license, if he:

- is not less than eighteen years of age and not more than sixty-five years of age
- has passed class tenth examination or its equivalent from a recognized Board
- has successfully completed such training as may be specified by the Director General, from any authorized remote pilot training organization.

Unmanned aircraft system operations for research, development and testing²¹

The following persons shall not require a type certificate, unique identification number, prior permission and remote pilot license for operating unmanned aircraft systems for research, development and testing purposes, namely:

- any research and development entity under the administrative control of, or recognized by, the Central Government or State Government or Union Territory Administration;
- any educational institution under the administrative control of, or recognized by, the Central Government or State Government or Union Territory Administration;
- any Startup recognized by the Department for Promotion of Industry and Internal Trade;
- any authorized testing entity
- any unmanned aircraft system manufacturer having a Goods and Service Tax Identification Number

¹⁹<https://egazette.nic.in/WriteReadData/2021/229221.pdf>

²⁰ ibid

²¹ ibid

Regulations of Import²²

Import of unmanned aircraft systems shall be **regulated by the Directorate General of Foreign Trade** or any other **entity authorized by the Central Government**.

Production-Linked Incentive (PLI) scheme for Drones and Drone components²³

The Central Government has notified the Production-Linked Incentive (PLI) scheme for drones and drone components on [September 30, 2021](#).

The PLI scheme comes as a follow-through of the liberalised Drone Rules, 2021 released by the Central Government on [August 25, 2021](#). The PLI scheme and new drone rules are intended to catalyse super-normal growth in the upcoming drone sector.

Thanks to the new rules and the incentive scheme, the drones and drone components manufacturing industry may see an investment of over Rs 5000 crores over the next three years. The annual sales turnover of the drone manufacturing industry may grow from Rs 60 crores in 2020-21 to over Rs 900 crores in FY 2023-24. The drone manufacturing industry is expected to generate over 10,000 direct jobs over the next three years.

The drone services industry (operations, logistics, data processing, traffic management etc.) is far bigger in scale. It is expected to grow to over Rs 30,000 crores in next three years. The drone services industry is expected to generate over five lakh jobs in three years.

Features of the Production Linked Incentive (PLI) Scheme are:

1. The total amount allocated for the PLI scheme for drones and drone components is Rs **120 crores** spread over three financial years. This amount is nearly **double** the combined turnover of all domestic drone manufacturers in FY 2020-21.
2. The incentive for a manufacturer of drones and drone components shall be as high as **20 per cent of the value addition** made by her.
3. The value addition shall be calculated as the **annual sales revenue from drones and drone components (net of GST) minus the purchase cost (net of GST) of drone and drone components**.
4. The Government, has agreed to keep the PLI rate **constant at 20 per cent** for all three years, an **exceptional treatment** given only to the drone industry. In PLI schemes for other sectors, the PLI rate **reduces every year**.
5. The proposed tenure of the PLI scheme is **three years** starting in FY 2021-22. The PLI scheme will be **extended or redrafted** after studying its impact in consultation with the industry.
6. The Government has agreed to fix the minimum value addition norm at **40 per cent of net sales** for drones and drone components instead of 50 per cent, another **exceptional treatment** given to the drone industry. This will allow widening the number of beneficiaries.
7. The PLI scheme covers a **wide variety** of drone components:
 - a. Airframe, propulsion systems (engine and electric), power systems, batteries and associated components, launch and recovery systems
 - b. Inertial Measurement Unit, Inertial Navigation System, flight control module, ground control station and associated components

²²<https://egazette.nic.in/WriteReadData/2021/229221.pdf>

²³<https://pib.gov.in/PressReleasePage.aspx?PRID=1755157>

- c. Communications systems (radio frequency, transponders, satellite-based etc.)
 - d. Cameras, sensors, spraying systems and related payload etc.
 - e. 'Detect and Avoid' system, emergency recovery system, trackers etc. and other components critical for safety and security
8. The list of eligible components may be **expanded** by the Government from time to time, as the drone technology evolves.
9. The Government has agreed to widen the coverage of the incentive scheme to include developers of **drone-related IT products** also.
10. The Government has kept the eligibility norm for MSME **and start-ups** in terms of annual sales turnover at a **nominal level** - Rs Two crores (for drones) and Rs 50 lakhs (for drone components). This will allow widening the number of beneficiaries.
11. Eligibility norm for **non-MSME companies** in terms of annual sales turnover has been kept at Rs Four crores (for drones) and Rs One crore (for drone components).
12. The **incentive payable** to a manufacturer of drones and drone components shall be simply **one-fifth of her value addition**.
13. PLI for a manufacturer shall be capped at **25 per cent of total annual outlay**. This will allow widening the number of beneficiaries.
14. In case a manufacturer fails to meet the threshold for the eligible value addition for a particular financial year, she will be allowed to **claim the lost incentive in the subsequent year** if she makes up the shortfall in the subsequent year.

Recent Developments

1. Digital Sky Platform

The Ministry of Civil Aviation launched the [Digital Sky Platform](#)²⁴, a unique unmanned traffic management (UTM) system which will facilitate registration and licensing of drones and operators in addition to giving instant (online) clearances to operators for every flight. The Digital Sky Platform will enable online registration of pilots, devices, service providers, and NPNT (no permission, no take-off).

2. Government is working as enabler by creating demand structure for Drones

Addressing the session on Drones for Public Good – Mass Awareness Program, organized by FICCI on October 06, 2021, Union Civil Aviation Minister Jyotiraditya Scindia said that the government's role has changed under the leadership of Prime Minister Narendra Modi, and it is working as an enabler, and not a regulator, looking at a new approach of evidence-based policymaking for drones. Union Civil Aviation Minister said technology promotion is crucial and drone technology will bring those living at the margins to the centre of development. "Drones play a crucial role in connecting the people from the length and breadth of the country."²⁵

3. Doon Drone Mela in Uttarakhand

Union Minister of Civil Aviation, Shri Jyotiraditya M. Scindia along with the Minister of State in the Ministry of Civil Aviation, General (Retd.) Dr. V.K. Singh flagged off the Doon Drone Mela 2021 in Dehradun, Uttarakhand. Shri Scindia flagged off the

²⁴ [Welcome to DigitalSky \(dgca.gov.in\)](https://dgca.gov.in)

²⁵ <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1761530>

event with a paragliding demonstration and also interacted with the drone companies exhibiting their prototypes at the Doon Drone Mela.

On the occasion Union Minister Jyotiraditya M. Scindia said, “We recognise the immense opportunities which usage of drones bring in. The Government of India is working towards enabling the same with a liberalized drone policy and the launch of the Production Linked Incentive (PLI) Scheme. We insist that the Uttarakhand Government works towards developing Dehradun as an Aerospots and Drone Hub of India.”²⁶

4. Five Drone Schools to be set-up in Madhya Pradesh

Gwalior Drone Mela was organised on 11 December jointly by Ministry of Civil Aviation, Government of India, Government of Madhya Pradesh, Federation of Indian Chambers of Commerce & Industry (FICCI) at Madhav Institute of Technology & Science (MITS), Gwalior. This is part of the series of events planned under the Azadi ka Amrit Mahotsav celebration. The programme was the biggest congregation of drone manufacturers, service providers, drone enthusiasts and user communities, especially students, farmers and common man of the city. Programme included drone exhibition, demonstration, drone spardha, industry – user interactions and launches.²⁷

Further Reading:

- [GOVERNMENT INVITES APPLICATIONS FROM DRONE INDUSTRY FOR PRODUCTION LINKED INCENTIVE](#) **Posted On: 11 Mar 2022**
- [Employment opportunities in Drone sector](#) **Posted On: 03 Feb 2022**
- [Ministry of Civil Aviation urges various ministries to promote use of drones.](#) **Posted On: 03 Feb 2022**
- [Air sports like aerobatics, aero modelling, amateur-built and experimental aircraft, ballooning, drones gliding, hang gliding are to be promoted under NASP](#) **Posted On: 07 Feb 2022**
- [Five Drone Schools to be set-up in MP: Jyotiraditya M. Scindia](#) **Posted On: 11 Dec 2021**
- [Incentive of Rs. 120 crore has been provided for Indian manufacturers of drone and drone components under PLI Scheme](#) **Posted On: 09 Dec 2021**
- [Production Linked Incentive of Rs. 120 crore is provided for Indian manufacturers of drone and drone components](#) **Posted On: 29 Nov 2021**
- [Shri Jyotiraditya M. Scindia flags off the Doon Drone Mela in Uttarakhand](#) **Posted On: 08 Oct 2021**
- [Government is working as enabler by creating demand structure for Drones: Civil Aviation Minister Shri Jyotiraditya Scindia](#) **Posted On: 06 Oct 2021**
- [Ministry of Civil Aviation releases India’s airspace map for drone operations](#) **Posted On: 24 Sep 2021**
- [Incentives of Rs.120 crore to be given in next 3 years under PLI scheme for drones and drone components: Civil Aviation Minister Shri Jyotiraditya M. Scindia](#) **Posted On: 16 Sep 2021**
- [Government Approves PLI Scheme for Drones and Drone Components](#) **Posted On: 15 Sep 2021**
- [Ministry of Civil Aviation grants drone use permission to ICMR & IIT, Bombay](#) **Posted On: 13 Sep 2021**
- [Ministry of Civil Aviation notifies liberalized Drone Rules, 2021](#) **Posted On: 26 Aug 2021**
- [Ministry of Civil Aviation grants drone use permission to 10 organizations](#) **Posted On: 16 Aug 2021**

²⁶<https://pib.gov.in/PressReleasePage.aspx?PRID=1762127>

²⁷<https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1780579>

- Ministry of Civil Aviation grants drone use permission to National Institute of Science Education and Research, Bhubaneswar **Posted On: 06 Aug 2021**
- Ministry of Civil Aviation grants drone use permission to Directorate of Urban Local Bodies (DULB), Haryana **Posted On: 03 Aug 2021**
- Draft Drone Rules, 2021 released for public consultation by Ministry of Civil Aviation **Posted On: 15 Jul 2021**
- PROHIBITION OF FLYING NON-CONVENTIONAL AERIAL OBJECTS INCLUDING RPAS (DRONE/UAVs) **Posted On: 16 Jun 2021**
- 166 additional green zone sites approved for NPNT(No-permission-No-Takeoff) compliant drone operations **Posted On: 29 May 2021**
- Experimental Drone Flights for Vaccine Delivery **Posted On: 08 May 2021**
- Telangana Government granted exemption to conduct Beyond Visual Line of Sight (BVLOS) experimental flights of drones **Posted On: 07 May 2021**
- Exemption to conduct Beyond Visual Line of Sight (BVLOS) experimental flights of drones **Posted On: 05 May 2021**
- Drone use Permission to Telangana Government for Experimental delivery of Covid-19 Vaccines **Posted On: 30 Apr 2021**
- Drone use permission to ICMR for conducting feasibility study of Covid-19 vaccine delivery **Posted On: 22 Apr 2021**
- Drone use permission to Central Mine Planning and Design Institute for coalfield survey **Posted On: 08 Apr 2021**
- Drone use permission to Professor Jayashankar Telangana State Agricultural University (PJTSAU) **Posted On: 02 Apr 2021**
- 34 green zone sites approved for NPNT compliant drone operations **Posted On: 25 Mar 2021**
- Drone use permission to Indian Institute of Sugarcane Research for field trials **Posted On: 11 Mar 2021**
- Ministry of Agriculture & Farmers Welfare Granted Drone Use Permission **Posted On: 19 Feb 2021**
- Drone Use Permission to Kochi Metro Rail **Posted On: 17 Feb 2021**
- Permission granted to BCCI to use drones **Posted On: 08 Feb 2021**
- International Crops Research Institute permitted to use drones **Posted On: 16 Nov 2020**
- NTPC allowed to use drones for research and inspection of Thermal Power Projects **Posted On: 23 Oct 2020**
- NCRTC permitted to use drone **Posted On: 16 Oct 2020**
- 13 Flying Training Organisations (FTOs) approved by DGCA to Provide Pilot Training for Drones **Posted On: 22 Sep 2020**
- Conditional exemption to Government entities for COVID-19 related Drone/RPAS operations via GARUD portal **Posted On: 05 May 2020**
- Voluntary Disclosure of information of non-Compliant Drones flying in India **Posted On: 13 Jan 2020**
- Digital Sky Platform launched – India to start registration of drones, pilots, and operators Registration portal for online permission **Posted On: 01 Dec 2018**
- Government announces Regulations for Drones **Posted On: 27 Aug 2018**
- Draft Regulation of CAR on Civil Use of Drones Announced **Posted On: 02 Nov 2017**
- [Rules for Commercial use of Drones](#) **Posted On: 04 Aug 2015**
- [Use of Drones](#) **Posted On: 16 March 2015**

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