|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Country/  Policy and Regulation | China | American | Europe | Japan | Australia | Canada | Korea |
| Airspace restriction | Y | Y |  |  |  |  |  |
| The Maximum Flying Height for UAVs | 120m (for light UAVs) | less than 122 m(G) | 120m(open category) | 150m (weighing 200 g or more) |  |  | 300m |
| Real-name Recorded | License required for all UAVs users | weighing between 0.55 and 55 pounds | Registered(sensors that can breach privacy) | N/A | N/A | N/A | N/A |
| Traffic Management System | UOM | UTM | U-space |  |  |  |  |
|  |  |  |  |  |  |  |  |

UAV policies and regulations, specifically the constraints on airspace utilization, represent a significant impediment to the application of UAVs in atmospheric environments. The regulations and policies governing the use of UAVs for the study of atmospheric pollution remain somewhat undefined, potentially impeding their adoption by governmental agencies.

In the United States, all civil UAVs within the country must operate under the oversight of the Federal Aviation Administration (FAA), complying with Part 107 requirements. These requirements encompass constraints such as a maximum UAV weight of 25 kg, a maximum flight altitude of 120 m, and a maximum flight speed of 100 miles per hour. UAVs are subject to UTM (traffic Management System) and those weighing between 0.55 and 55 pounds need to be registered. Furthermore, civil UAVs are prohibited from flying over sensitive areas and facilities, including airports and military restricted zones. In Canada the weight is the same as the U.S. requirements, the registration number is to be marked on the UAV after registration, and the operator is required to obtain a certificate of authorization. When flying, follow maintain a visual line of sight (VLOS), and the maximum flight altitude should be less than 122 meters. Keep a distance of at least 30 meters from pedestrians while flying the UAV, and do not fly near businesses, emergency events, or parades.

In Europe, the European Union Aviation Agency (EASA) has now harmonized the regulation and management of the UAVs management system in most member States. The general rules for flying UAVs in the EU include three operational categories, namely the Open Category, the Specific Category and the Certified Category. In the open category, UAVs need to comply with certain marking labeling and weight requirements, and need to comply with some operational regulations, such as keeping a distance from people, VLOS, and so on. The Open Category is also divided into three subcategories, each with additional rules. The Specific Category applies to UAVs that cannot meet the requirements of the Open Category and must be operated in accordance with standard scenarios issued by the EASA or NCAA, with the submission of an appropriate declaration. The Certified category applies to large-scale UAVs operations with a high level of risk. Overall, UAVs need to be conducted in accordance with the rules of the different operating categories, in compliance with the respective regulations, and governed by U-space.

In Asia, China, Singapore and Japan have their own unique requirements for the management of UAVs. In China, All UAVs users are required to obtain a license and are subject to UOM management. The maximum altitude of the UAVs is 120 m (for light UAVs). Meanwhile UAVs are not permitted in air restricted areas, airports, military restricted zones, and hazardous locations. Micro-UAVs can operate in airspace below 50 m without approval, while light UAVs can operate in airspace below 120 m. In other scenarios, submitting an airspace application is necessary to gain permission. Detailed information on airspace restrictions can be accessed through the DJI FlySafe Geo Map (https://www.dji.com/cn/flysafe/geo-map).

Singapore's UAV requirements are similar to Japan's, in that they also do not allow flights at night, and only allow UAVs under 7kg or under 60m to be flown, while all other cases require a permit and are subject to the Urban Traffic Management System (uTM-UAS). Japan has strict requirements for UAV flights, which require approval from the Minister of Land (visit the Minister of Land for details) for flights in airspace above 150 meters, areas affecting aviation safety, densely populated residential areas, rallies, exhibitions, and other densely populated areas, and flights at night, etc., with violators facing hefty fines and penalties. fines for violators. The UAV Control Law also prohibits UAVs from flying over no-fly zones such as the Prime Minister's residence, the Emperor's palace, hotels where foreign dignitaries are staying, important industrial facilities and military bases. (Japan's Safety Rules on Unmanned Aircraft (UA)/Drone)

北美，在美国，国内所有民用无人机必须在联邦航空管理局（FAA）的监督下运行，遵守第 107 部分的要求。这些要求包括无人机最大重量为 25 千克、最大飞行高度为 120 米、最大飞行速度为每小时 100 英里等限制。无人飞行器须遵守 UTM（交通管理系统）的规定，重量在 0.55 至 55 磅之间的无人飞行器需要注册。此外，民用无人机禁止飞越敏感区域和设施，包括机场和军事禁区。（未改）

在加拿大重量与美国要求一致，注册后要在无人机上标明注册号，操作者需获得许可证书。在飞行时，遵循maintain a visual line of sight (VLOS)，最大飞行高度要低于122米。无人机飞行时与行人保持至少30米的距离，不能在商业、紧急活动、游行队伍附近飞行。

欧洲，目前欧盟航空局（EASA）已经对大部分成员国对无人机管理制度进行了统一的规范和管理。 欧盟飞行无人机的一般规则包括三个操作类别，分别是开放类别、特定类别和认证类别。在开放类别中，无人机需要符合一定的标识标签和重量要求，并需要遵守一些操作规定，如与人保持距离、VLOS等。开放类别还分为三个子类别，每个子类别有附加规则。特定类别适用于无法符合开放类别要求的无人机，操作必须根据欧洲航空安全局或国家航空管理局发布的标准情景，并提交相应声明。认证类别适用于具有高风险的大型无人机操作。总体而言，无人机飞行需要根据不同操作类别的规定进行，并遵守相应的法规。并受 U-space（欧盟）监管。（重写）

在亚洲，中国、新加坡和日本对无人机的管理有各自独特的要求。

在中国，所有无人机用户都必须获得许可证，并接受无人机资源管理。无人机的最大飞行高度为 120 米（轻型无人机）。同时，无人机不得在空中禁区、机场、军事禁区和危险场所飞行。微型无人机可在 50 米以下的空域运行，无需获得批准，而轻型无人机可在 120 米以下的空域运行。有关空域限制的详细信息，可通过大疆创新 FlySafe 地理位置图（https://www.dji.com/cn/flysafe/geo-map）获取。（未改）

新加坡的无人机，与日本的要求接近，同样不允许在夜晚进行飞行，只允许7kg以下无人机或在60m以下飞行，其他情况则都需要许可证，同时需要受系统城市交通管理（uTM-UAS）

日本有着严格的无人机飞行要求，在150米以上的空域飞行、影响航空安全的区域、人口稠密的居民区、集会、展览和其他人口稠密的区域以及夜晚飞行无人机等都要得到the Minister of Land的批准（详细请访问the Minister of Land），违反者将面临着高额的罚款。《无人机管制法》还禁止无人机飞越首相官邸、天皇宫殿、外国政要下榻的酒店、重要工业设施和军事基地等禁飞区。（Japan’s Safety Rules on Unmanned Aircraft (UA)/Drone）

韩国政府建议在300m以下飞行

北美：US、Canada

欧洲

亚洲：中国、新加坡、日本

在中美已经开始使用USS（the UAV service systems），可以通过云服务统一调动无人机、获取他们的信息，从而进行管理、避免碰撞