



# RPAS Platform

## Concept of Operations

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**Version**

2.0

**Date**

March 2021

## Revision History

Version	Date	Change description
1.0	November 2019	Initial release
2.0	March 2021	Updates for release of airspace authorisations

## Related Documents

Documents	Available at
<p><b>The rules</b></p> <p><b>Civil Aviation Safety Regulations 1998 (CASR) Part 101 – Unmanned aircraft and rockets</b></p> <p><b>Part 101 (Unmanned Aircraft and Rockets) Manual of Standards 2019</b></p> <p><b>CASA 55/20 – Operation of Certain Unmanned Aircraft Directions 2020</b></p>	<p><a href="https://www.casa.gov.au/drones/documents-and-forms">https://www.casa.gov.au/drones/documents-and-forms</a></p>
<p><b>RPAS Platform onboarding documents</b></p> <p><b>RPAS Platform Operating Rules</b></p> <p><b>RPAS Platform Test Procedure</b></p> <p><b>RPAS Platform Terms and Conditions</b></p> <p><b>RPAS Platform Application Form</b></p>	<p><a href="https://www.casa.gov.au/drones/industry-initiatives/digital-platform">https://www.casa.gov.au/drones/industry-initiatives/digital-platform</a></p>

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## Introduction

### 1. Background

- 1.1 CASA regulates civil aviation safety in Australia and the safety of Australian aircraft outside of Australian territory. This includes the regulation of remotely piloted aircraft systems (RPAS) – commonly referred to as drones. One of the challenges facing the aviation environment is the effective management and safe integration of RPAS into Australian airspace, particularly in areas where conventionally piloted aircraft operate.
- 1.2 CASA already provides a range of regulatory services and information to RPAS users, including content about licencing, flight rules, flight approvals, and safety education information. CASA sees value in delivering this information and services to users via mobile applications but recognises it is difficult for CASA to do this across multiple applications designed with the full range of RPAS users' needs in mind.

### 2. RPAS Platform

- 2.1 In July 2019, CASA introduced a web-based digital software solution – the RPAS Platform. The platform enables CASA to manage RPA-related advisories, rules and regulatory services in a digital form.
- 2.2 Applications developed by industry that have been verified by CASA can independently interface with this software platform to exchange data with CASA systems and other third-party applications to deliver a range of regulatory and operational information to RPAS users in Australia.
- 2.3 To assist users to access these applications, drone safety apps that have been approved to connect to the platform are listed on CASA's website. This is the authoritative source of CASA-verified applications and is available at [www.casa.gov.au/droneapp](http://www.casa.gov.au/droneapp)

## Key Concepts

### 3. Overview

- 3.1 CASA launched the RPAS Platform in July 2019.
- 3.2 The first functions released through the platform were selected to deliver safety education information to RPAS users about where they may safely and lawfully operate their RPA in Australia.
- 3.3 In March 2021, CASA announced that the functions of the platform would be expanded to trial airspace authorisations within 3 nautical miles of controlled aerodromes in areas where it is safe to do so. This trial would be available to holders of a remotely piloted aircraft operator certificate (ReOC).
- 3.4 The RPAS Platform may also be used to inform the oversight and regulation of future RPA traffic management.

### 4. Roles

- 4.1 There are four primary roles defined for the RPAS Platform:

**Application Users:** Generally, these will be people and organisations operating, or intending to operate, RPA in Australia.

There are three main categories of RPAS operations in Australia, and information and services provided through the platform may be tailored for these different types of operations.

The three categories of RPAS operations included in the RPAS Platform are:

- *recreational (model aircraft)* - predominantly RPA users flying for fun
- *excluded RPA* - operations flying RPAs commercially under 2kg or flying over their own land, complying with standard operating conditions
- *ReOC (included RPA)* - commercial operations conducted by organisations who hold an operator's certificate issued by CASA

**Software Providers:** The people and organisations that develop the drone safety applications approved to interface with the RPAS Platform. Software Providers must apply to CASA for approval to connect their application to the platform and complete an onboarding approval process to assure CASA the proposed application delivers accurate information and meets the minimum requirements for approval.

To support the overall development of the RPAS Platform and the application ecosystem, Software Providers are encouraged to collaborate with other providers and CASA to resolve issues and identify innovative ways of delivering services to application users.

While the RPAS Platform may enable Software Providers to process RPA-related regulatory services, the Software Provider is not considered an approved industry delegate for delivery of these services.

**CASA:** CASA developed the RPAS Platform and is the approver for allowing third-party applications to connect to the platform. CASA determines the minimum requirements a Software Provider must meet for approval and is responsible for ongoing compliance checks to ensure applications continue to meet these requirements.

To assist with the day-to-day support of the RPAS Platform – including onboarding applications to the platform – CASA may elect to contract some of these services to an external provider.

**Data Providers:** These are the organisations that provide data that is either distributed through the RPAS Platform or is accessed directly by Software Providers to satisfy the requirements of the platform's operating rules.

The range of data providers includes Airservices Australia, Geoscience Australia, Parks Australia, CASA and state and territory emergency services providers.

## 5. Guiding Principles

The following guiding principles have been established by CASA to guide the development of the RPAS Platform and inform future decisions. CASA may also use these principles as a basis for selecting applications to interface with the RPAS Platform.

- 5.1 CASA has introduced the RPAS Platform as a method for delivering RPA-related rules, information and regulatory services to users in a way that better meets users' needs. The RPAS Platform may also provide the building blocks for future oversight and regulation of the effective management and safe integration of RPAS into Australian airspace.
- 5.2 CASA understands the success of the RPAS Platform relies on the broader ecosystem of industry-developed applications connected to the platform and will work with Software Providers to foster and support collaboration and innovation within this ecosystem.
- 5.3 CASA does not intend to charge Software Providers to access the RPAS Platform but may, as part of the minimum requirements for approval, require Software Providers to pay for services (eg. data feeds) delivered through the RPAS Platform that would not otherwise be available free-of-charge outside the platform.
- 5.4 Any costs incurred by the Software Provider including - but not limited to - developing the application, meeting the approval requirements, connecting to the RPAS Platform, sourcing data, travel or communication expenses, or providing any services based on RPAS Platform connectivity, are solely at the Software Provider's expense. CASA will not reimburse providers for any such costs.
- 5.5 Before being approved to interface with the RPAS Platform, Software Providers are required to meet CASA's minimum requirements for approval and onboarding. These requirements may change from time to time and may include demonstrating compliance against CASA-identified, applicable Australian Government security and privacy requirements. Any costs associated with meeting or complying with these requirements are solely at the Software Provider's expense.
- 5.6 Software Providers may pass costs on to their users (e.g. via paid subscriptions, advertising revenue) but these charges must be declared in the Software Provider's initial application to CASA. To ensure RPAS users have ongoing access to a free application/s, CASA may prioritise the onboarding of Software Providers that offer some, or all, services to a wide user-base for example the general public and may also prioritise those that are provided at no cost to application users.
- 5.7 In future, CASA may require third-party applications to charge application users fees for some of CASA's regulatory services delivered through the platform. CASA will work with Software Providers to develop appropriate standards for collecting such fees.
- 5.8 CASA will release new functions to the RPAS Platform in a phased approach. Software Providers may select which functions are delivered through their application, based on their application users' needs. However, CASA may mandate the inclusion of specific functionality, particularly where there is a safety-related case for doing so. Any such requirements will be specified in the *RPAS Platform Operating Rules* document.
- 5.9 Notwithstanding, CASA encourages Software Providers to include the full range of platform functions in their application and may prioritise the onboarding of Software Providers that offer all, or most, RPAS Platform functions.



- 5.10 Connection to the RPAS Platform will be subject to the acceptance of terms and conditions. These terms may change from time to time. Applications found not to be complying with the terms and conditions may be suspended or removed from the platform.

## RPAS Platform Functions

### 6. Overview

- 6.1 The following section outlines the components of the RPAS Platform along with information about the current and proposed functions to be delivered through the platform. These functions will be developed and released to the platform in a phased approach.
- 6.2 The operating rules related to each function are set out in the *RPAS Platform Operating Rules* document and will be updated as new functions become available.

### 7. Platform Components

- 7.1 The RPAS Platform has the following components:

#### Environments and Credentials:

The RPAS Platform has three environments:

- *Staging* – used by Software Providers to develop and test the integration of their implementation with the RPAS Platform. CASA will also conduct testing of new applications or enhancements within this environment.
- *Development* – used by CASA for the development of new RPAS Platform capabilities.
- *Production* – the Software Provider can connect to the Production Environment after successfully meeting CASA's minimum requirements for approval.

CASA will provide credentials to the Staging Environment once a Software Provider's initial written application has been accepted by CASA (which includes acceptance of CASA's terms and conditions) and the Software Provider has been approved to progress to the onboarding process.

On successful completion of the minimum requirements for approval, the Software Provider will be given credentials for the Production Environment. The Software Provider will also retain credentials for the Staging Environment, to support testing of new releases.

#### RPAS Platform APIs:

The RPAS Platform provides access to some of the authoritative data sources required by the platform's operating rules.

Access to the platform APIs will be made available to Software Providers in the Staging and Production Environments. Except for the root URL, these APIs are the same in both environments.

- 7.2 In addition to these components, Software Providers are required to directly source the following:

**External Data Feeds:** Obstacles and hazards data, including emergency services data, required for display in the application. Details of these feeds and their authoritative source are set out in Attachment A of the *RPAS Platform Operating Rules* document.

**Airservices Data:** Airservices data required for the display of airspace data as set out in Attachment A of the *RPAS Platform Operating Rules* document. There is a

cost for accessing this data. Software Providers are responsible for sourcing this data directly from Airservices Australia.

## 8. Phase One – Safe and Lawful Operations

8.1 The function of Phase One is to provide RPA users with safety information about where in Australia they may safely and lawfully operate their RPA.

8.2 The operating rules for this phase cover:

**Authoritative Data:** The approved data sources Software Providers must use to deliver certain platform functions in accordance with the *RPAS Platform Operating Rules*.

**CASA Advisories:** The platform includes a data feed containing CASA-generated airspace activation data to inform RPA users of locations where it may be unsafe or unlawful to operate a RPA for a specified period, and where those locations are not otherwise identified in an authoritative data source. For example, a CASA advisory may be created for airspace around Marvel Stadium in Melbourne on Grand Final day.

**CASA Notifications:** The platform includes a data feed containing CASA-generated notifications for display to application users. CASA intends to use this function to notify RPA users of significant changes to RPA rules and regulations, or where there is a need to quickly communicate to users about an emergency or safety-related incident.

**Other Required Content:** The *RPAS Platform Operating Rules* document sets out other content required for an approved application, such as privacy policy and disclaimer requirements.

8.3 Many of the operating rules developed for Phase One will also be required for the delivery of future RPAS Platform functions. For this reason, most Phase One operating rules are mandatory and must be included in Software Providers' applications.

## 9. Phase Two – Automated Airspace Authorisations

9.1 To manage the risk of a collision between a RPA and a conventionally piloted aircraft, Australia's regulations specify areas in Australian airspace where RPAs are limited from flying. These areas include airspace within 3 nautical miles (3NM) of a controlled aerodrome movement area.

9.2 Under certain conditions, a RPA operator may fly in one of these areas if they have received authorisation from CASA before operations commence (refer *Civil Aviation Safety Regulation 1998* subregulation 101.030).

9.3 The function of Phase Two is to allow applications connected to the RPAS Platform to complete near real-time processing of RPA flight requests that meet pre-defined approval criteria for defined locations and altitudes.

9.4 This functionality allows application users to apply for this airspace authorisation through a third-party application.

## 10. Future Functionality

10.1 Future phases may be designed to deliver additional services to RPA users and support the effective management and safe integration of RPAs into Australian airspace. This may include:

- integration with CASA's systems
  - allowing other RPA operators to submit flight requests
  - providing the building blocks to inform future RPA traffic management.
- 10.2 CASA will work collaboratively with Software Providers to identify additional functions for future development in the RPAS Platform in line with the platform's guiding principles.

## Minimum Requirements for Approval

In order to become approved to interface with the RPAS Platform, a Software Provider **must** meet the following requirements before being considered for approval by CASA. CASA may, at its sole discretion, elect to delay or reprioritise onboarding an app (for example, where CASA does not have capacity to onboard all apps in the same onboarding round) even if all other requirements for approval have been met.

### 11. Operating Rules and Test Procedure

- 11.1 The Software Provider must demonstrate their application complies with the operating rules set out in the *RPAS Platform Operating Rules* document.
- 11.2 This will be verified via a formal onboarding check-out where the Software Provider must demonstrate the application to CASA and show that it complies with test activities similar to those set out in the *RPAS Platform Test Procedure*. These test activities align with the operating rules.
- 11.3 Software Providers will be given two attempts to pass the onboarding tests. If an application fails both attempts, the Software Provider will not be able to proceed in that application and onboarding round, although they may be considered in future rounds.
- 11.4 CASA will conduct a post implementation review within 90 days of an application connecting to the platform to ensure continued functionality of the product. Additionally, CASA will conduct scheduled twice yearly testing of all applications and may at its discretion conduct ad-hoc testing of any application.

### 12. RPAS Platform Terms and Conditions

- 12.1 Software Providers must accept the terms and conditions for connecting to the RPAS Platform before final approval will be given for the application to connect the RPAS Platform in the Production Environment. These terms may change from time to time.

### 13. Payment for Airspace Data

- 13.1 Software Providers must source airspace and other aviation data directly from Airservices Australia. There is a licensing fee for accessing this data and applicants must be paid before CASA will consider approving access to the RPAS Platform.

### 14. Certification as a Data Provider

- 14.1 While not currently a requirement for approval, CASA may in future require Software Providers to become certified as a data service provider under *Civil Aviation Safety Regulations 1998* (CASR) Part 175, or complete a similar certification process, before they can be approved to deliver certain information or services through the RPAS Platform. There would be a cost for this certification.
- 14.2 Information about CASR Part 175 certification is available at:  
<https://www.casa.gov.au/regulations-and-policy/standard-page/aeronautical-information-management-casr-part-175>

## Attachment A – Acronyms

Acronym	Expansion	Explanation
<b>CASA</b>	Civil Aviation Safety Authority	The government body that regulates Australian aviation safety and the operation of Australian aircraft overseas.
<b>ReOC</b>	RPA Operator’s Certificate	A RPA Operator’s Certificate allows RPA users to employ RePL holders, earn money for flying and fly outside standard operating conditions.
<b>RePL</b>	Remote Pilot Licence	A Remote Pilot Licence allows RPA users to fly in circumstances that require specialist training. This includes flying a RPA larger than 2kg for commercial purposes and flying outside standard operating conditions.
<b>RPA</b>	Remotely Piloted Aircraft	Also commonly known as drones.
<b>RPAS</b>	Remotely Piloted Aircraft Systems	Also known as Unmanned Aerial Systems.