



DC GEOMATICS
DRONE TECHNOLOGY

COMPLIANCE LANDSCAPE

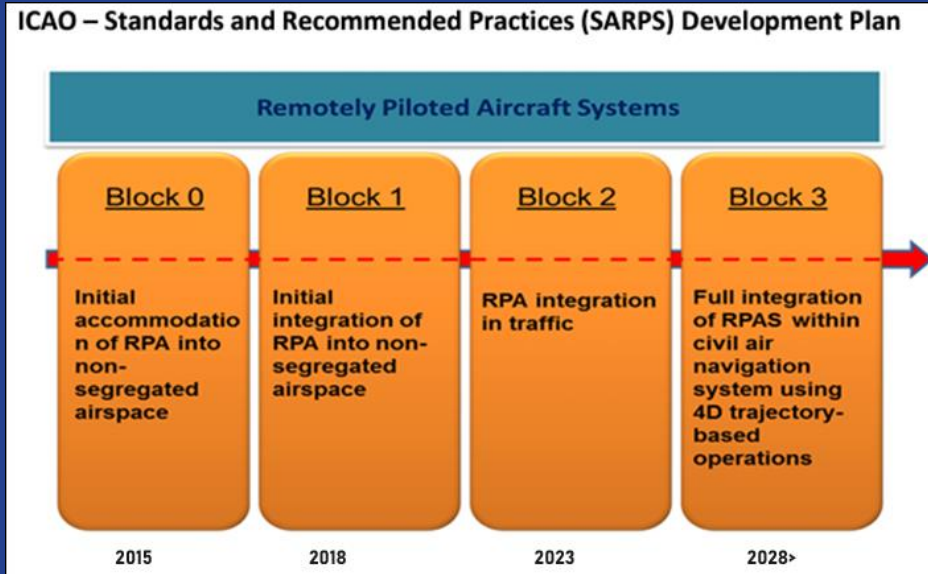




COMPLIANCE LANDSCAPE

WHAT IS HAPPENING WORLDWIDE

International Development Plan



Full integration Eco System

Local Regulations



Enforcement



Accountability



Unmanned Collision Avoidance Systems





International Civil Aviation Organization



The International Civil Aviation Organization is a specialized agency of the United Nations that coordinates the principles and techniques of international air navigation, and fosters the planning and development of international air transport to ensure safe and orderly growth. [Wikipedia](#)

Headquarters: [Montreal, Canada](#)

Founded: 7 December 1944

Parent organization: [United Nations](#)

Abbreviation: ICAO

Council President: Salvatore Sciacchitano

Main organ: Triennial Assembly; ICAO Council; Secretariat

Secretary General: [Juan Carlos Salazar Gómez](#)

ICAO Standards and Recommended Practices (International CIVIL AVIATION ORGANISATION)

Vision:

Achieve the sustainable growth of the global civil aviation system.

Mission:

To serve as the global forum of States for international civil aviation. ICAO develops policies and Standards, undertakes compliance audits, performs studies and analyses, provides assistance and builds aviation capacity through many other activities and the cooperation of its Member States and stakeholders.

Authority and Responsibility

- Set Standards and Recommended Practices worldwide
- Countries must align to this standard or face exclusion
- Represents 193 Member states in 2023

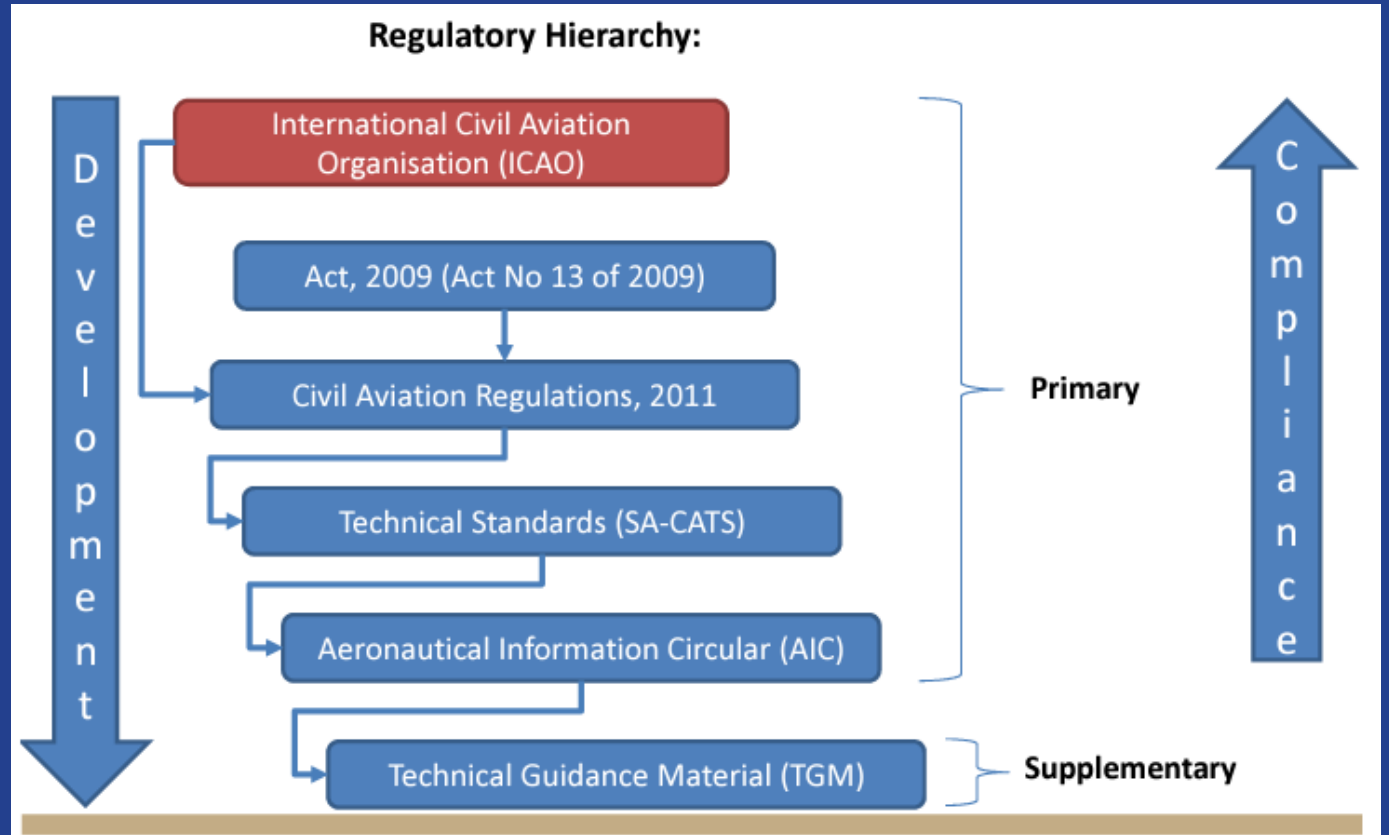


COMPLIANCE LANDSCAPE

REGULATORY HIERARCHY EXPLAINED

- ICAO is at the top
- SACAA is in the middle
- The Operator is at the bottom

- Development from the top
- Compliance from bottom up

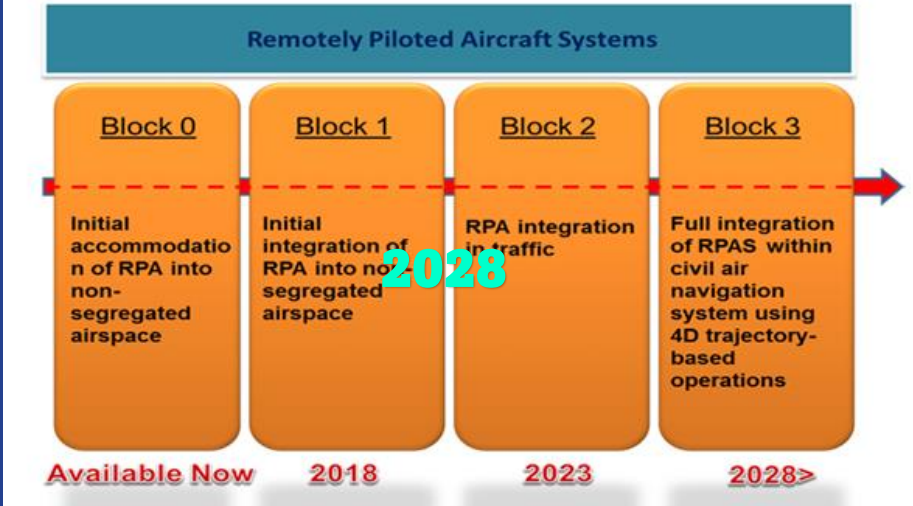




COMPLIANCE LANDSCAPE WHERE ARE WE?

International Development Plan

ICAO – Standards and Recommended Practices (SARPS) Development Plan



Full integration Eco System

Local Regulations



Enforcement



Accountability

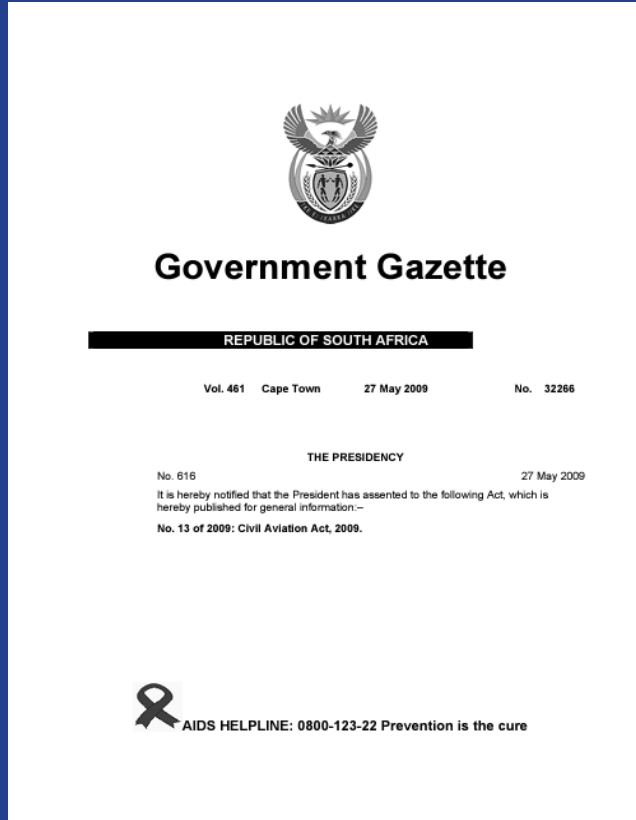


Unmanned Collision Avoidance Systems





CIVIL AVIATION ACT



2009

CIVIL AVIATION REGULATIONS

Civil Aviation Regulations, 2011

CONTENTS

- Part 1 Definitions and Abbreviations
- Part 11 Procedures for Making Regulations and Technical Standards, Granting Exemptions and Notifying Differences
- Part 12 Aviation Accidents and Incidents
- Part 13 Powers and Duties of Authorised Officers, Inspectors and Authorised Persons
- Part 21 Certification Procedures for Products and Parts
- Part 24 Airworthiness: Non-type Certificated Aircraft
- Part 34 Aircraft Engine Emissions
- Part 36 Aircraft Noise
- Part 43 General Maintenance Rules
- Part 44 Maintenance Rules – Non-type Certificated Aircraft
- Part 47 Registration and Marking
- Part 48 Leasing of Aircraft
- Part 60 Flight Simulator Training Devices
- Part 61 Pilot Licensing
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- Part 67 Medical Certification
- Part 68 Glider Pilot Licence
- Part 69 Free Balloon Pilot Licence
- Part 71 RPAS Personnel Licensing
- Part 91 General Aviation and Operating Flight Rules
- Part 92 Conveyance of Dangerous Goods
- Part 93 Corporate Aviation Operations and High Performance Aircraft
- Part 94 Operation of Non-type Certificated Aircraft
- Part 96 Commercial Operation of Non-type Certificated Aircraft
- Part 101 Remotely Piloted Aircraft Systems

2011

PART 101 REMOTELY PILOTED AIRCRAFT SYSTEMS

EIGHTH AMENDMENT OF THE CIVIL AVIATION REGULATIONS, 2015

Part 101: Remotely Piloted Aircraft Systems

Consists of Six Sub-parts:

Subpart 1: General provisions

Subpart 2: Approval and registration

Subpart 3: Personnel licensing

Subpart 4: RPAS operating certificate

Subpart 5: RPAS operations

Subpart 6: Maintenance

2015



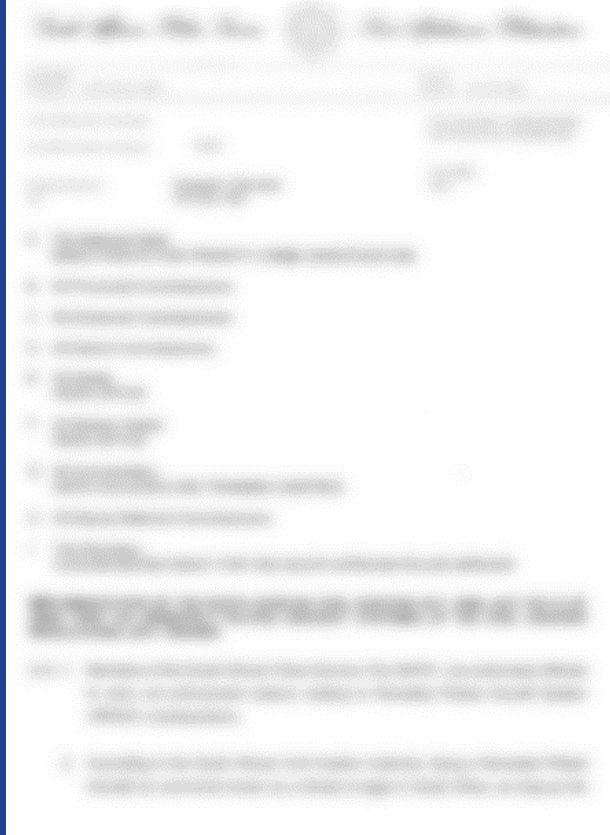
COMPLIANCE LANDSCAPE ACCOUNTABILITY

SACAA INSTRUCT SAPS



October 2020

SAPS IMPLEMENT CHARGE CODES



February 2022

SAPS REQUEST NATIONAL REGISTER



November 2023



BAN ON FISHING DRONES



forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

PUBLIC NOTICE

24 February 2022

For immediate release

USE OF MOTORISED EQUIPMENT FOR RECREATIONAL ANGLING: DRONES AND REMOTELY OPERATED DEVICES AND/OR VEHICLES

It has come to the attention of the Department of Forestry, Fisheries and the Environment (the Department) that a variety of motorised devices, such as, but not limited to, bait-carrying drones, bait-carrying remote-controlled boats and other remotely operated vehicles, as well as motorised electric reels are used by recreational anglers to illegally catch fish as well as sharks.

These devices are prohibited for use of angling in terms of the Regulations promulgated in terms of the Marine Living Resources Act, 1998 (Act No. 18 of 1998) ("MLRA").

In terms of the Regulations, "angling" means recreational fishing by manually operating a rod, reel and line or one or more separate lines to which no more than ten hooks are attached per line. Therefore, it is clear that angling is limited both from shore and from vessels, to fishing by manually operating a rod, reel and line.

The Department is concerned about the conservation status of several shark and fish species targeted by these illegal methods. The motorised devices give anglers a huge advantage over those that confine themselves to traditional angling methods as provided for by the law. With the aid of these devices, anglers are able to catch large breeding fish with a much higher success rate than when confined to manual methods and in so doing unduly increase the pressure on already threatened species.

Recreational angling is an activity that can be enjoyed by all South Africans, regardless of socio-economic status. The Regulations that govern recreational fishing were designed to limit the cumulative impact of this activity and to ensure that it remains sustainable, ethical and with minimal adverse impact on our aquatic environment.

The purpose of this Public Notice is to alert recreational anglers and suppliers of fishing equipment that the Department intends to rigorously enforce the Regulations that govern recreational angling and ensure offenders are prosecuted and sentenced accordingly. The Department will also seize the various illegal devices used and upon any successful conviction will seek an order from the court to have these devices forfeited to the state.

SUE MIDDLETON

DEPUTY DIRECTOR-GENERAL: FISHERIES MANAGEMENT

ENFORCEMENT GUIDE



RPAS OPERATIONS - PART 101

Enforcement Guide for Private use & Illegal Operations

Revision 5 - March 2022

This guide has been drafted in line with the SAPS charge codes in respect of Part 101 of the Civil Aviation Act of 2011

CAS CHARGE CODES

IMPLEMENTATION OF THE SOUTH AFRICAN CIVIL AVIATION ACT, 2009 (ACT NO.13 OF 2009), PART 101 (REMOTELY PILOTED AIRCRAFT SYSTEMS) OF THE CIVIL AVIATION REGULATIONS, 2011: DRONES

REG	DESCRIPTION OF OFFENCE	KEY WORDS
		ROC

LAW/ORD	YEAR	TITLE OF LAW/ORDINANCE
		2011 CIVIL AVIATION REGULATION, 2011 (DRONES)

CODE	ARTICLE	DESCRIPTION	STATUS
378026	101_01.3	SELL REMOTELY PILOTED AIRCRAFT WITHOUT NOTIFY VALID FOR REQUIREMENTS PRESCRIBED IN DOCUMENT S.A.C.A. 15-101 BY PACKAGING LABEL/Written NOTIFICATION	VALID
378026	101_02.1(1)	OPERATION OF REMOTELY PILOTED AIRCRAFT WITHIN THE REPUBLIC WITHOUT BEING ISSUED LETTER OF APPROVAL BY THE DIRECTOR OF CIVIL AVIATION	VALID
378026	101_01.1(1)	REMOTE PILOTING REMOTELY PILOTED AIRCRAFT WITHOUT UNDERGOING SKILL TEST/RECEIVING FLIGHT INSTRUCTION AND NOT HAVING VALID REMOTE PILOT LICENSE	VALID

PUBLIC EDUCATION

TRENDING

A police crackdown of illegal drone operators is imminent – thanks to 20 updated charge codes

Jay Caboz, Business Insider SA

20 Jul 2022



Flying drone. Getty Images



- Things just got a lot more difficult for South African companies looking to fly under the radar and operate drones without the correct licences.
- Updates to the SAPS charge sheet system made in February now include 20 charges for drone offences – which will make it much easier for police to fine you.
- On the top of the list is holding drone retailers accountable for failing to inform consumers about SA drone laws when buying a drone.
- For more stories go to www.BusinessInsider.co.za.



COMPLIANCE LANDSCAPE

UNMANNED COLLISION AVOIDANCE SYSTEMS

AIRCRAFT COLLISION AVOIDANCE SYSTEMS

Intruder	Own aircraft: TCAS II
	
No transponder or non-ICAO standard transponder	No ACAS II protection
Mode A transponder only	No ACAS II protection
ADS-B only	No ACAS II protection
Mode A/C transponder with no altitude reports	TA (below FL155)
Mode C or Mode S transponder	TA & RA
TCAS I	TA & RA
TCAS II	TA & coordinated RA

vs

UNMANNED COLLISION AVOIDANCE SYSTEMS





COMPLIANCE LANDSCAPE

WHAT ARE YOUR OPTIONS?

Excludes Military use	Type of Operation	Commercial	Corporate	Non-profit	Partnerships Clients	Ad hoc Clients	Private use
Requirements							
ASL		<input checked="" type="checkbox"/>	N/A	N/A	N/A	N/A	N/A
ROC		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	N/A	N/A
RLA		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	N/A
RPL		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	N/A
C of R		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	N/A
Client operations Checklist		N/A	N/A	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Private operations Checklist		N/A	N/A	N/A	N/A	N/A	<input checked="" type="checkbox"/>



PRIVATE OPERATIONS



COMMERCIAL UNMANNED AIRCRAFT ASSOCIATION
OF SOUTHERN AFRICA
CAASA House, Gate 9, Lanseria International Airport, 1748
P.O. Box 658, Lanseria, 1748
Tel: +27 11 659 2345 Fax: +27 11 701 2536
Email: info@cuaasa.org or office@cuaasa.co.za

Private Operations

Subject to sub regulation (2), the provisions of subparts 2, 3, 4 and 6 of Part 101 do not apply to private operation of RPAS; however, they do need to comply with subpart 5 of the regulation. Private operations are further exempted from the provisions of regulations 101.05.5 (2); 101.05.8 (1) (b), (c) and (d); 101.05.10 (1) (a) and (b) but must comply with the rest of subpart 5. These requirements have been summarised in the list below and is called the private operations checklist.

Private & Hobbyist Checklist

- ✚ Not for commercial gain, interest, or outcome (see definitions)
- ✚ Strictly Clear weather conditions
- ✚ Strictly RVLOS (see definitions)
- ✚ May not use a public road as a place of landing or take-off
- ✚ May not operate in Controlled airspace
- ✚ May not operate in Restricted airspace
- ✚ May not operate in Prohibited airspace
- ✚ May not release, dispense, drop, deliver, or deploy objects or substance from an RPA
- ✚ May not carry Dangerous Goods
- ✚ Must not consume Drugs or Alcohol
- ✚ May not operate near Prisons, Police Stations, Court of Law, Crime Scenes, National Key Points, Strategic Installations
- ✚ May not operate within 10km of an Aerodrome
- ✚ May not operate within 50m of people
- ✚ May not operate within 50m from any structure
- ✚ May not operate within 50m from a public road
- ✚ Only with a Class 1A or 1B RPA (Sub 7 kg Drones)
- ✚ May not tow another aircraft
- ✚ May not perform aerial or aerobatic displays
- ✚ May not fly in formation or swarm.

Any transgression for any of these would mean that they are guilty under the regulations and under the SAPS codes. For more information relating to the Act please contact SACAA directly on the contact details below.

General email: RPASInbox@caa.co.za
Responsible Acting Manager: GqibitoleZ@caa.co.za

CUAASA Executive Committee

COMMERCIAL/CORP/NON-PROFIT CHECKLIST



COMMERCIAL UNMANNED AIRCRAFT ASSOCIATION
OF SOUTHERN AFRICA
CAASA House, Gate 9, Lanseria International Airport, 1748
P.O. Box 658, Lanseria, 1748
Tel: +27 11 659 2345 Fax: +27 11 701 2536
Email: info@cuaasa.org or office@cuaasa.co.za

Commercial, Corporate and Non-Profit Operations Checklist

These operators should be fully licensed. However, Corporate and Non-Profit operators do not need to have an Air services License (ASL).

Commercial operations Checklist

- ✚ Must have an ASL
- ✚ Must have a valid ROC
- ✚ Must have a SACAA approved Ops Spec Rating for type of operations being executed:
 - o BVLOS operations
 - o Use a public road as a place of landing or take-off
 - o Operations in Controlled airspace
 - o Operations in Restricted or Prohibited airspace
 - o Release, dispense, drop, deliver, or deploy objects or substance from an RPA
 - o Operate near Prisons, Police Stations, Crime Scenes, National Key Points
 - o Operate within 10km of an Aerodrome
 - o Operate closer than 50m from any people
 - o Operate closer than 50m from any structure
 - o Operate closer than 50m from any public road
- ✚ Must have an RLA for RPAS being operated
- ✚ Must have a POM
- ✚ Must have an RPL
- ✚ Must have VHF radio to listen out for other air traffic
- ✚ Must have a Restricted Radio License
- ✚ Must have first aid kit & fire extinguisher in hand
- ✚ Landowner of site or permission letter from the landowner

To verify evidence or to report a commercial, corporate, or non-profit operator for non-compliance please contact SACAA directly on the below contact details. If for whatever reason the details below stop working contact CUAASA for the latest contact details.

General email: RPASInbox@caa.co.za
Responsible Acting Manager: GqibitoleZ@caa.co.za

CUAASA Executive Committee

PARTNER/CLIENT CHECKLIST



COMMERCIAL UNMANNED AIRCRAFT ASSOCIATION
OF SOUTHERN AFRICA
CAASA House, Gate 9, Lanseria International Airport, 1748
P.O. Box 658, Lanseria, 1748
Tel: +27 11 659 2345 Fax: +27 11 701 2536
Email: info@cuaasa.org or office@cuaasa.co.za

Clients Compliance Checklist

These users do not need to hold any licenses and may buy Aerial Services from any fully licensed aerial services provider. Due to the complexity of modern businesses, it may become confusing to the client on how he is allowed to advertise the fact that Aerial Services are incorporated into its overall solution to third parties.

Add hoc Client Checklist

- ✚ May not falsely represent itself as an Aerial Services Provider
- ✚ May not have a Company name that implies it is an Aerial Services Company
- ✚ May not have a Company logo that implies it is an Aerial Services Company
- ✚ May not advertise any Aerial Services
- ✚ May not sell any Aerial Services

Aerial Services Agreement Client Checklist

- ✚ May not falsely represent itself as a fully licensed Aerial Services Provider
- ✚ May not have a company name that implies it is an Aerial Services Company
- ✚ May not have a company logo that implies it is an Aerial Services Company
- ✚ May not advertise any Aerial Services
- ✚ May not sell any Aerial Services
- ✚ Must have a formal agreement in place with Aerial Services provider
- ✚ Must have a formal agreement dealing with client staff as Pilots
- ✚ Must have a formal agreement dealing with client assets as registered Aircraft
- ✚ Must ensure that all flight operations are conducted in conjunction with and under the operational control of the applicable fully licensed Aerial Services provider

Clients may wish to advertise the fact that their organization makes use (as a client of an Aerial Services Provider) of Aerial Services in achieving their objectives as such may be important to promoting their specialized solutions. In such case the Client must make it clear that "All aerial services and compliance depicted or advertised are provided by a ASL and SACAA registered ROC holder as part of a formal Aerial Services Agreement"



COMPLIANCE LANDSCAPE COMPARISON OF OPTIONS

OPERATE ILLEGALLY

Lead time

- Process to follow N/A
- Time to complete Process N/A

Setup Cost

- Direct Cost ZERO
- Indirect Cost ZERO
- Total Cost ZERO

Running Cost

- Basic ROC, with 1 to 2 drones ZERO p/m
- Intermediate ROC, with 3 to 4 drones ZERO p/m
- Developed ROC, with 5 to 10 drones ZERO p/m
- Advanced ROC, with 10 plus drones ZERO p/m

Risk

- Criminal Offence
- Not qualify for certain projects

OBTAIN YOUR OWN LICENSE

Lead time

- Process to follow 5 Phase process
- Time to complete Process 2 Years

Setup Cost

- Direct Cost R 250 000
- Indirect Cost R 250 000
- Total Cost R 500 000

Running Cost

- Basic ROC, with 1 to 2 drones R50 k p/m
- Intermediate ROC, with 3 to 4 drones R80 k p/m
- Developed ROC, with 5 to 10 drones R150 k p/m
- Advanced ROC, with 10 plus drones R250k p/m

Risk

- Extremely expensive
- Lose License due to noncompliance in annual audits

PARTNER WITH EXISTING LICENSE

Lead time

- Process to follow Onboarding
- Time to complete Process 3 Months

Setup Cost

- Direct Cost R 20 000
- Indirect Cost R 5 000
- Total Cost R 25 000

Running Cost

- Basic ROC, with 1 to 2 drones R3,5 k p/m
- Intermediate ROC, with 3 to 4 drones R10 k p/m
- Developed ROC, with 5 to 10 drones R35k p/m
- Advanced ROC, with 10 plus drones R50k p/m

Risk

- Choosing the wrong partner
- Partner compete with you



COMPLIANCE PARTNERSHIP ADVANTAGES

- Huge saving in time and money
- SACAA approved solution
- Dedicated aviation postholders support
- Largest partnering ROC in South Africa
- Paperless compliance system
- Dedicated training department
- Online training system
- Operational checklist to guide you in on-site compliance



DC GEOMATICS
DRONE TECHNOLOGY

MAKE CONTACT TODAY

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