

Commission : 6

Technology Development in Aviation (RPAS)



transport

Department:
Transport
REPUBLIC OF SOUTH AFRICA



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Summit on the
Review of Civil Aviation Policy
01 – 02 March 2021

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1. Application Regulatory Frameworks

Policies:

- 1.) National Civil Aviation Policy (NCAP)

Regulations:

- 1.) Civil Aviation Regulations
- 2.) Civil Aviation Technical Standards

Charters:

- 1.) N/A

Ministerial Order

- 1.) N/A

2. Problem Situation Landscape

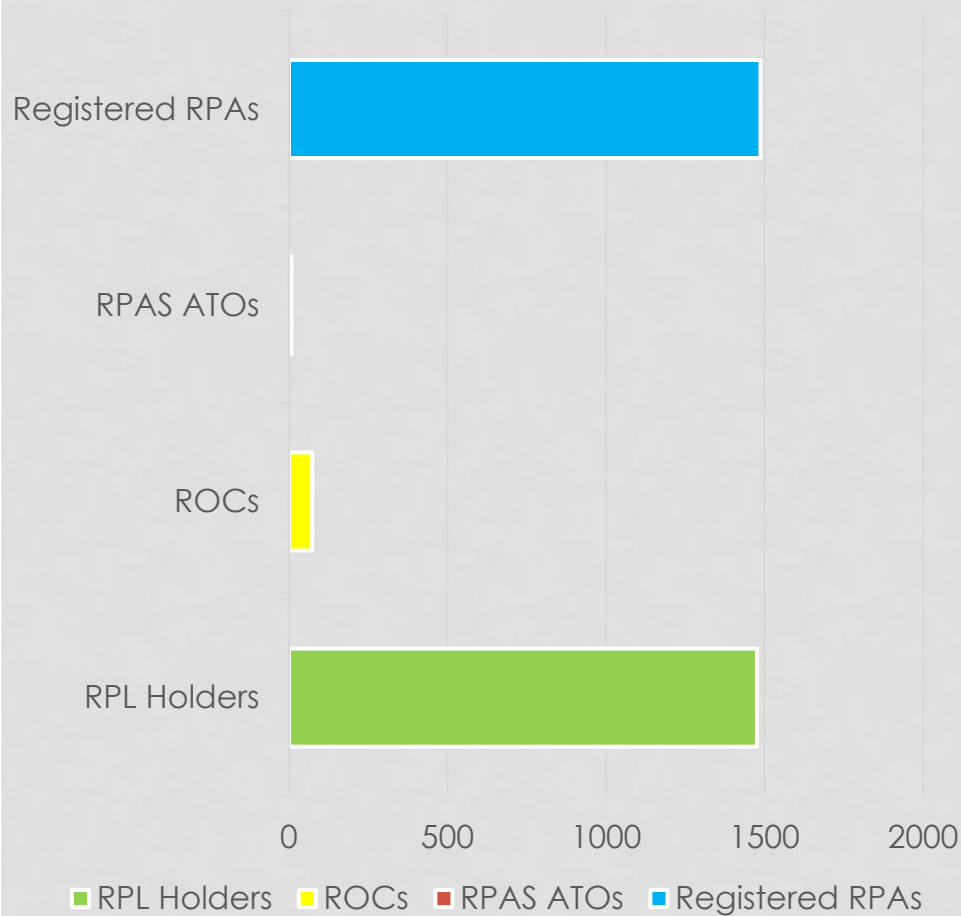
- **Current influx of foreign** designed and manufactured RPAS, whilst local manufacturers seem somewhat discouraged.
- **Uncontrolled access** or distribution of RPAS in the Republic (i.e. any store from spaza shops to hypermarkets may sell or distribute RPAS.
- Lack of enforcement by law enforcement agencies, other than CAA.
- Lack of public awareness (i.e. parents buy kids RPAS as toys, people privacy invasion etc)
- Growing RPAS **infringements** in civil airspace (Airliners, airports, GA etc.);
- RPAS detection and integration with the current ATM/CNS systems has not yet been established
- Accommodation of RPAS within the National Airspace, through the FUA process is a lengthy process, and could lead to non-compliance to the regulations
- No clear policy **position on use of UTM framework** and establishment.

3. Policy and Legislative Gaps Identified

Policy gaps (if any):

- All entities that operate within the RPAS environment should receive awareness training on a regular basis.
- Any means that is intended for the management of RPAS should promote safe operations not only for RPAS operations but for all airspace users including manned aircraft.
- Currently there is no levy structure for RPAS operations within the Republic.
- Registration does apply to all RPAS operated within the national airspace that are sold within the boundaries of South Africa.
- Regulatory reform is necessary for RPAS regulations as the industry adapts to be mature. **Deliberations on RPAS regulations needs to align with stakeholders' expectations, technological advancements, and industry best practices.**

4. RSA RPAS Statistics



■ RPL Holders
 ■ ROCs
 ■ RPAS ATOs
 ■ Registered RPAs

4. RSA RPAS Statistics

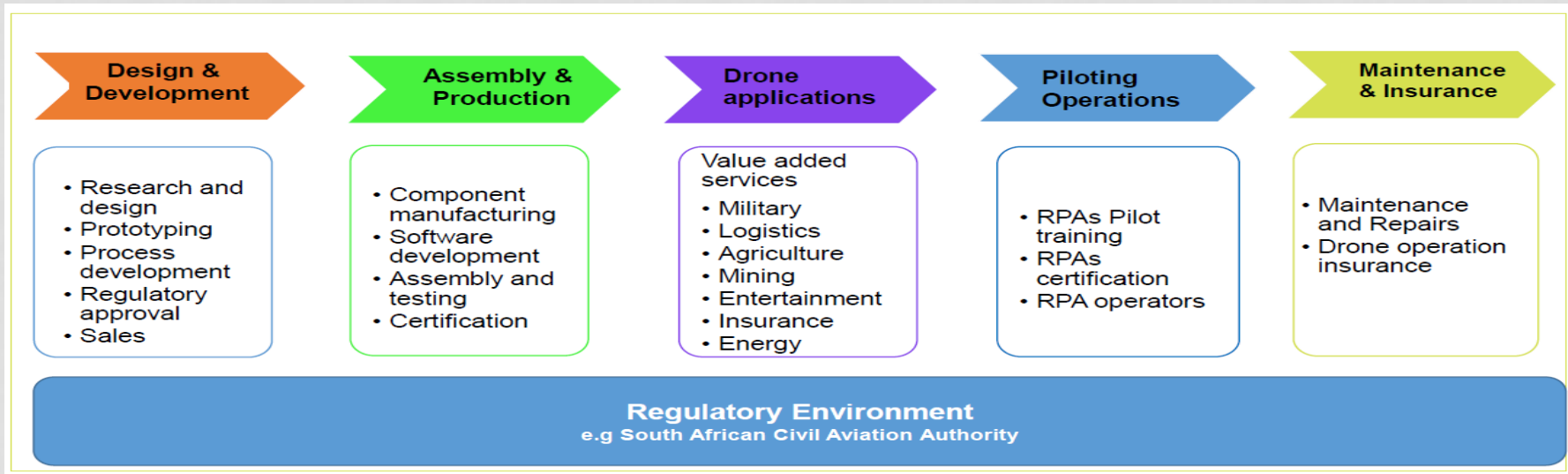
- Remote Pilot License holders: 1476 / 48%
- RPAS Operators Certificate holders: 74 / 2%
- RPAS ATOs: 8 / 1%
- Registered RPAs: 1487 / 49%

5. Key RPAS utilisation sectors in RSA

- ▶ Health Services Sector
- ▶ Safety and Security Sector
- ▶ Real Estate Sector
- ▶ Mining and Energy Sector
- ▶ Boarder Patrol Sector
- ▶ Postage and Delivery Sector
- ▶ Wild Life Preservation and Anti-Poaching Sector
- ▶ Media Sector
- ▶ Fire-fighting Sector
- ▶ Construction Sector
- ▶ Insurance Sector
- ▶ Search and Rescue Sector

6. RPAS Economic Value Chain

Creating an enabling environment for SMME (innovation space) and value proposition for South Africa.



The DRONE Council has classified the value chain in 10 categories.

Provide greater opportunities and participation of PDI's, Women and Youth.

7. Industry View

- Part 101 issues:
 - Rapid adoption by industry is inhibited by current regulations
 - SACAA lack of capacity and resources
 - Aviation level oversight required but human intensive process cause delays
- ICASA issues
 - Process to certify new imports are slow
 - Additional frequency bands needed for Drone C2 links
- No sustainable Government Financial Model in place to generate funding of regulatory oversight
- No integrated national drone registry (RICA for drones)
- No oversight or control over import of drones

7. Industry View

- Regulatory change is required in several separate regulatory frameworks
 - SACAA Part 101 (Drone Operations)
 - SACAA Part 71 and 141 (Personnel Licensing and Training)
 - Broadcasting and Telecommunications Act (Protected Spectrum dedicated to Drones)
 - National Security requirements
 - Customs and Excise
 - SAQA NQF Levels for Remote Pilot training
- National Aviation Plan
- National Digital Economy framework
- Reducing the timeframe to enter the market from the current 24+ months to less than 6 months and increasing access to capital for startup and growing ROPC's.

7. Industry View

- Improvement in all the regulatory application and oversight processes that are required to operate a compliant ROC so that the time from application to approval is a minimum.
- The regulator has sufficient capacity to license the new upcoming pilots, however the lack of capacity refers to the ability to support commercial operators to absorb the new pilots. The lack of capacity at the SA CAA is limiting the commercial sector from the growth needed to employ more pilots]
- Bursaries and government funding structures cannot be accessed as the SACAA regulations are not aligned with the National Qualification framework, as there are no clear guidelines on how to progress potential students from ab initio to qualified Commercial Drone pilots
- High Barriers to entry for the SMME's to enter the market in less risky categories. This has resulted in a culture of non-compliance. There are currently over 100 000 unregistered drones in the country, under 2000 licenced drone pilots.
- Length and cost implications to acquire licenses/permits and further anchored in lack of diversity and transformation.
- Some ground has been lost since the ground-breaking development of regulations in 2015. The implementation of these regulations has been negatively impacted by bureaucratic procedure and lack of deliberate effort to support and transform the sector from regulatory and economic perspective.

8. Desired End State

- **Public and private partnership** on the planning, development and implementation of latest technologies for the benefit of the air transport sector.
- **Seamless adaptation and incorporation of emerging technologies** to regulations and policies governing the air transport sector.
- **Establish RPAS SWIM (Systems Wide Information Management)** amongst the stakeholders to ensure data sharing and eliminate futile silo operations amongst stakeholders. This will promote effective and seamless **RPAS monitoring and management.**
- Record of all RPAS operating or intended to be operated within the South African airspace.
- The registration process should link national RPAS regulations as an awareness mechanism for operators and/or owners.

8. Desired End State

- **Availability of guidance material** that will guide cross-border/international UAS operations that have not been covered in ICAO material.
- **Steady research on RPAS**, engage various stakeholders on RPAS, periodically review RPAS regulations.
- **Investment in transformative technology** that enables future-state aviation capabilities by using real-time system principles. Include infrastructure, systems and technology that will increase enterprise awareness, workflow/process automation, and collaboration.
- Concentrated financial investment to pursue **local industrialisation** and promote the establishment of incubation agencies to **drive local product development** and implementation.
- A **digital or electronic platform** for enabling registration of RPAS.

9. Industry Desired End State

- Agile and Sandboxing policies that supports drone industry platform with:-
 - Adaptive regulation regime, that allows experimentation to achieve economic growth
 - Certification regime that is lean
 - Common ground for innovators and regulators
 - Cross industry collaboration from DTI, DOT, DOE and Communications
- Design and develop the Digital Drone Ecosystem to support drone adoption
 - Access to Airspace that is equitable
- Regulatory Impact Assessment - harmonise regulation changes across:
 - SACAA Part 101 (Drone Operations) with Categorisation
 - SACAA Part 101 CATS updated to include Categorisation management
 - SACAA Part 71 and 141 (Personnel Licensing and Training) updated to reflect drone licensing and training as per Part 101

9. Industry Desired End State

- Broadcasting and Telecommunications Act updated to include the drone communication link registration (Drone RICA) for each drone
 - The Drone Registry with communication link will address National Security requirements and concerns
 - The Drone Registry with communication link will futureproof UTM
- National Drone Registry
- Harmonization of RPAS regulations across Africa
- Increase efficiency OR create an independent AAO (Authorised Aviation Organisation) to operate and manage the compliance requirements for the Drone Industry
- Update the National Aviation Framework to include drones
- Update the National Digital Economy Framework to include drones

9. Industry Desired End State

- All SOCs to maximize all economic value from the Drone Industry in order to ensure sustainable development and growth of the Drone Industry.
- Introduce incentives and support local production with transformation at the centre.
- Create awareness as well as build enabling infrastructure for drone flying.
- To create a flexible and responsive regulatory approach that allows the Commercial Operators, and new entrants, to grow their businesses to match demand with **NO** regulatory induced delay in issuing permits and licenses to allow the Operators to maximise all economic value from the Drone Industry in order to ensure sustainable growth and development of the Drone Industry.
- Regulations to align the SACAA drone license with the SAQA NQF Levels.
- Implement the online training that is accredited by the SACAA.

10. Policy Statements

- An Agile ,efficient, reliable, regulated, sustainable and inclusive air transport sector that enable active participation of non-traditional air modes of transportation.
- System wide collaboration and technology integration to ensure safer and efficient air transportation of goods, passengers and other services.
- **Streamlined technological infrastructure** planning, licensing of air services, access by law enforcement and economic agencies, allocation of air traffic rights and permutations on the flexible use of the airspace.
- Establish **easily accessible electronic register** for all RPAS intended to be operated within the national airspace or sold within the boundaries of South Africa.
- **Levy structure for RPAS registered** and operated in the Republic, especially those used for commercial purposes.
- **Controlled access and distribution of RPAS** in the Republic (i.e. any store from spaza shops to hypermarkets may sell or distribute RPAS.

11. WAY FORWARD

Stakeholders Engagements that still further engagement/s

- SALGA
- Security Cluster
 - SAPS
 - Military
 - Boarder Control
 - SSA
- ITAC(International Trade Administration Commission) – Imports and Exports

**THANK
YOU**