UAV Regulation Checklist

A tool for Civil Aviation Authorities and others interested in strengthening the safe and impactful use of UAVs for good in Africa and beyond.

Context

About the Wakanda Beyond UAV Peer Action Group (PAG)

The PAG is a network of African Civil Aviation Authorities (CAAs)and Ministries committed to exploring solutions to increase UAV safety and security through a holistic and locally adapted approach. The group is proactively testing practical solutions, sharing findings via peer learning, adopting and adapting good practices.

The challenge

Many CAAs in Africa are under pressure to balance the impact and economic opportunities presented by drones with potential safety and security risks associated with their use.

While safety is paramount, overly strict and complex regulations, with high-cost barriers can unintentionally increase unregulated or unsafe activities, stifle business growth, and reduce the positive impact of the technology, including its life-saving potential.

The challenge today is for African CAAs to continue pioneering this space - developing, testing and refining regulations that allow the benefits of drones to be reaped locally, while maintaining a high degree of safety and security.

About the UAV Regulation Checklist

This checklist is a tool for Civil Aviation Authorities and others interested in strengthening the safe and impactful use of UAVs for good in Africa and beyond. It is designed to highlight important features of good practice in the development of UAV regulation, based on real-world examples and experiences from UAV PAG members.

The checklist can be used in a variety of ways, including:

- To support a structured review of existing regulations to assess whether they are fit for purpose or whether adaptations may support more effective, enabling approaches.
- To act as a point of reference in the development of new regulations.
- To provide examples and illustrations of regulations in practice.

With thanks to members of the UAV Peer Action Group for their contributions to this tool:

- *Benin - Agence Nationale De L'aviation Civile*
- *Côte d'Ivoire - Autorité Nationale de L'Aviation Civile*
- *Ethiopia - Information Network Security Agency*
- *Ghana - Civil Aviation Authority*
- *Kenya - Civil Aviation Authority*

- *Malawi - Department of Civil Aviation*
- *Mauritania - Agence Nationale de l'Aviation Civile*
- *Rwanda - Civil Aviation Authority*
- *Senegal - Agence Nationale de l'Aviation Civile et de la Météorologie*

Checklist Overview

The checklist comprises **six key dimensions**. Each dimension is defined and described in further detail on the following pages, including specific features for consideration, alongside examples and illustrations of these features in practice.

Easy to find and understand ☑	Enabling ☑	Flexible ☑
Doable ☑	Affordable ☑	Enforceable ☑

Easy to find and understand

It's important to note that this dimension is applicable both to your regulations __as a whole__, and to individual regulations.

- Regulations are in a digital format and accessible online (e.g. via a website or application)
- All regulations are available in the same location
- Information is easy to navigate, with a clear structure and format
- Regulations are communicated in concise, simple language and not legal jargon
- Regulations are available in all applicable languages
- Regulations are actively communicated and promoted among relevant stakeholders
- Training on regulations is available regularly
- Additional assistance is available in case users have queries (e.g. a helpdesk / regularly monitored inbox)

Good practice examples

All relevant regulations that affect UAV operations are consolidated into a single source, including links to regulations that are led by other Ministries / authorities.

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Websites have good search engine optimisation (SEO). They are user friendly thanks to the integration of user feedback and work well on both laptops and mobile phones. This could include a mobile application.

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Users are directed via multiple communication channels to a single platform (e.g. website or app) to get details of any changes or updates including NOTAMS.

◆

Descriptions of the regulations offer clear and concise overviews with links to more detailed information and visual illustrations are used to complement the written content.

◆

An interactive map indicates the regulations for specific areas, e.g. on an app or website.

Enabling

- Regulations enable increased operations
    - Provide different regulations for different risk classes
    - Considers varied drone types and use cases
    - Considers varied operating models and new market entrants
    - Considers varied locations
- Regulations incentivise compliance
- Regulations accommodate responses to operator needs / different use cases in a timely manner

Meaningful risk classes are defined and refined based on real world situations, e.g. flying over un-populated farmlands is very low risk even with heavy drones.

Operators have access to an anonymous database to report accidents, operation errors, malfunctions and failures in order to allow you to better tailor regulations.

Data is collected and analysed for all drone operations and accidents in order to regularly review and refine regulations.

There are open communication channels with users to assess how enabling and meaningful regulations are and how they can be improved, e.g. focus groups and roundtables.

Flight permissions are granted quickly especially for time sensitive operations, e.g for spraying campaigns against pests and disease.

Flexible

- Regulations can accommodate exceptions where required

- Requirements are flexible based on the type of operation, location and level of risk involved

- Regulations are regularly reviewed to ensure they remain relevant over time

- There are processes in place for rapid response when a time-sensitive exception is requested

A lean and pragmatic Standard Operation Risk Assessment (SORA) is used to assess risk.

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There is a defined process through which to make timely exceptions, e.g. to fly in restricted airspace for a search and rescue operation or to safely test new drone technology such as heavy spraying drones for agriculture.

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Exceptional permissions can be provided for drone operations in shared airspace when drones are equipped with the appropriate technology, e.g. transponders.

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Expanded permissions can be granted for operators or drones based on their track record.

Doable

- Processes are straightforward and there is a single / centralised point of entry and authorisation

- Requirements are practical and feasible for operators to implement

- Requirements consider availability of resources locally, and any specific hardware / software that is required to comply is easily available on the open market

- Physical infrastructure is easily accessible (e.g. testing and inspection sites)

- Timeframes for operators to comply are proportionate with the requirements (e.g. sharing flight plans)

- Processes are digitised and operator data is retained and reused, where appropriate

Good practice examples

One portal is used to manage all permissions for UAV flights including environmental, police, secret service, etc. as appropriate.

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The feasibility and usefulness of regulations is reviewed regularly e.g. requirement to have a fire extinguisher or requiring a UTM when there is not suitable option available on the market, limited internet connection and you cannot guarantee that it is working 24/7.

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There are easily accessible areas where drones can be safely tested and evaluated, e.g. near an airport.

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Invests have been made in smart processes that are digitised to reduce the workload for CAA, increase compliance, save costs and enable operations

Affordable

- Fees are not prohibitively expensive for operators

- Costs of establishing the drone sector have been subsidised, if necessary.

- Fees are commensurate with the scale and scope of an operators' work

- Any fees payable by operators are consolidated (i.e. there are not multiple separate fees that need to be paid at different times or through different channels)

- Fees enable good service delivery to operators

CAA takes a long term view to realising benefits from the industry and the national benefit is taken into account. For example the CAA does not seek to recover all costs via operator fees if this would be prohibitively expensive and lower fees are implemented while the industry is nascent. Instead they approach the Ministry of Finance and other potential funders in order to support costs related to establishing drones in the country.

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Clearly communicated and consolidated costs reflect industry and operator business needs.

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Make sure intermediary organisations are not overcharging companies if they have a monopoly position.

Enforceable

- Enforcement procedures and penalties are clear to operators

- The governing authority has the capacity and resources to monitor compliance

- Enforcement procedures and penalties are straightforward and efficient for the governing authority to implement

- Regulations align with security agency and other state regulations where applicable

- Penalties are impactful deterrents

- Penalties are reasonable and proportionate

Good practice examples

Clear communication of violations and associated fines.

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Fines are proportional to the possible repercussions of the act and there are harsh penalties for very dangerous acts that put people at risk.

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Leverage violations to show the severe consequences of illegal activities, e.g. announcement on national news of an operator that flew near an airport and received a prison sentence (although this must also be balanced with positive news reports).

◆

There is a mechanism for the public to report suspicious or illegal drone operations, e.g. ISD text service, phone number, application, anonymous email.
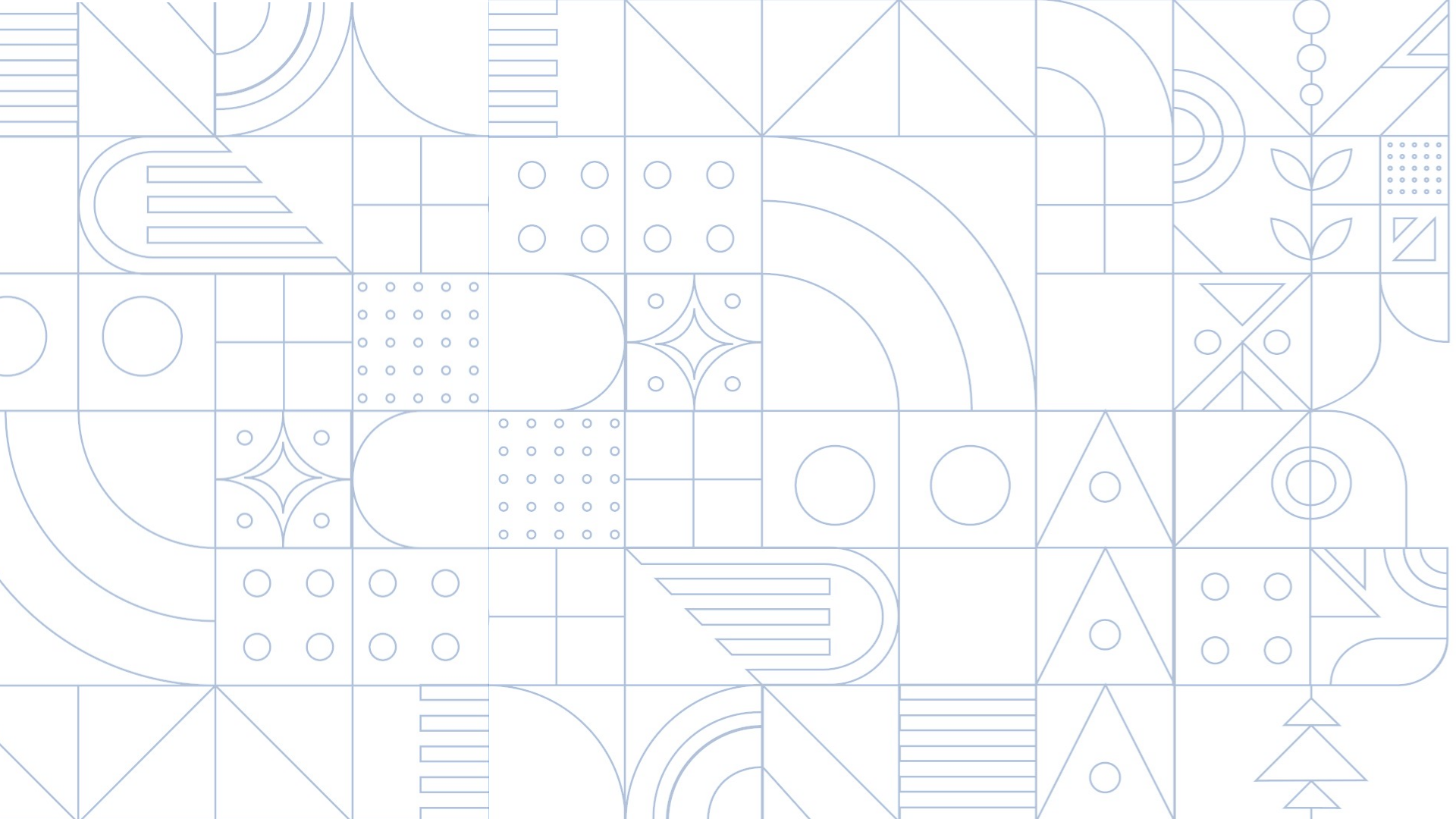
For more information on the UAV Peer Action Group, or for queries or feedback on this Checklist tool, please get in touch.

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