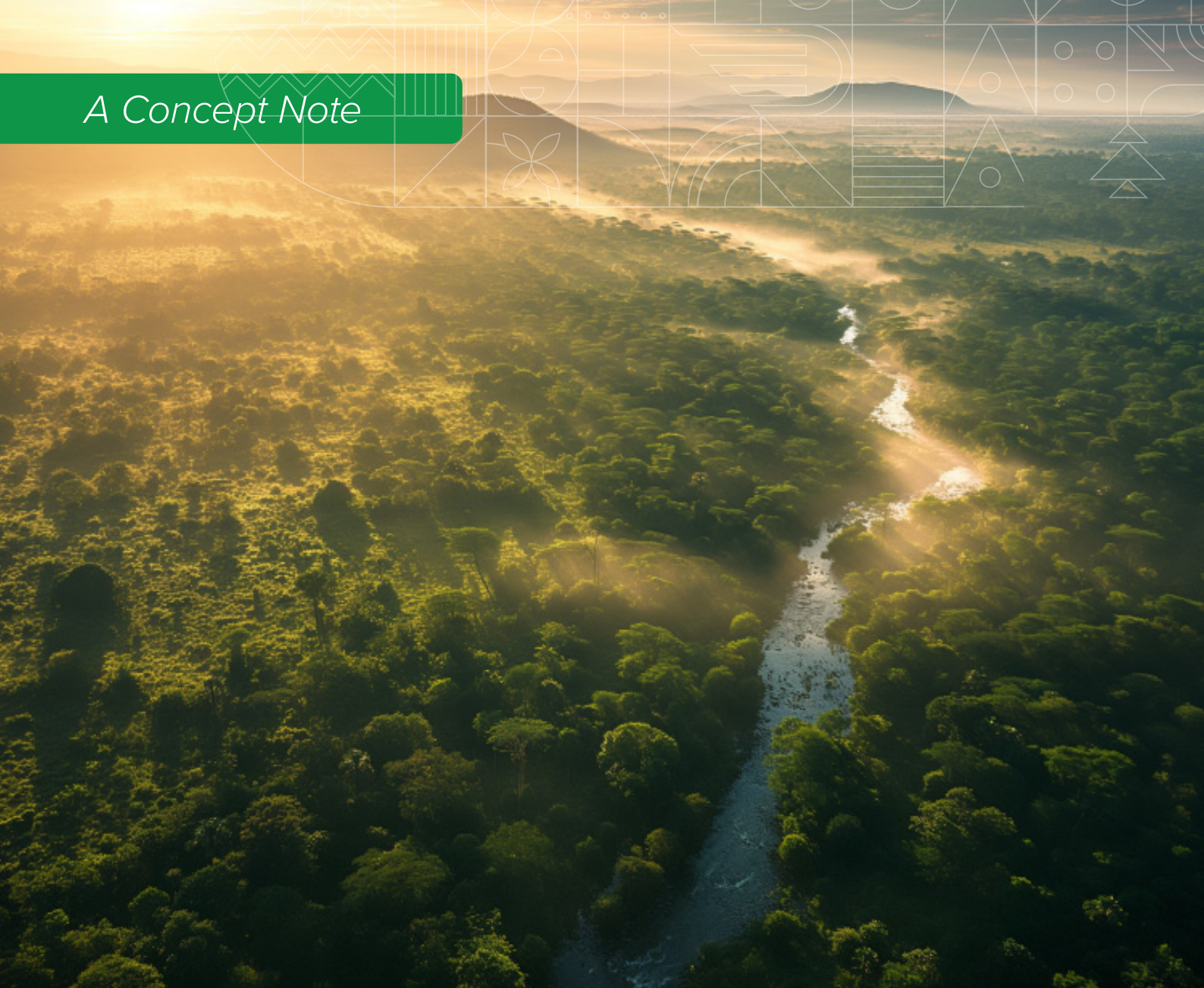


A Concept Note



*Wakanda Beyond
Peer Action Group*



Open-source web application for registration, permissions and flight data.



Overview

The landscape of drone operations necessitates a robust framework for safety and security. The registration of drones, alongside the accreditation of pilots and companies, forms the cornerstone of this framework, enabling Civil Aviation Authorities (CAA) to maintain oversight over drone activities within their airspace. This system not only facilitates the identification and management of drones for regulatory purposes but also plays a crucial role in the integration with Unmanned Traffic Management (UTM) systems, enhancing both safety and operational efficiency.

The Problem

Current drone registration processes are marked by inefficiency and fragmentation. Many CAAs rely on outdated, paper-based systems or bespoke digital solutions that are resource-intensive, difficult to maintain, and often fail to meet basic standards of usability, data protection, and security. This disparate approach leads to redundancies, exposes critical data to risks, and stretches the capacities of CAAs' IT departments beyond their core competencies. There is a clear need for a high quality solution that is user friendly, secure, and efficient is evident, as is the requirement for a system that can easily integrate with existing and future UTM solutions.

Our Proposed Solution

We propose the development of a powerful and robust open-source database system for the registration of drones, pilots, and drone companies, the issuance of flight permissions and the analysis of post flight data. This system will feature:

- A user-friendly web interface to encourage compliance and ease of use.
- High-level data security measures, including protection against unauthorized access and potential hacking.
- Integrated backup and data recovery solutions.
- Capability for regional customization in terms of language and operational parameters.
- Full support for installation, maintenance, and ongoing operation.
- An open source solution will leverage collective expertise and resources, reducing the need for individual CAAs to develop their own systems from scratch and ensuring a high standard of data security and system reliability. Such a solution would serve not only the member countries but could be valuable to other countries in Africa and beyond.

“Efficiency and Standardization consolidates registration efforts, saving time, resources, and reducing duplication of work.”



Our Approach

To ensure the development and implementation of the registration database is executed efficiently and effectively, our process follows a structured, step-by-step approach:

- 1. Needs Assessment:** Initially, we conduct a comprehensive assessment to determine the essential properties and features that the database must have. This step ensures that the database meets the specific needs of CAAs and the unique challenges they face.
- 2. Specification Development:** Based on the assessment outcomes, we draft detailed specifications for the database. These specifications guide the development process and ensure that all technical and functional requirements are clearly defined.
- 3. Technical Foundation:** With specifications in hand, we define the technical base for the database. This includes selecting the appropriate technologies, frameworks, and infrastructure to support the database's long-term stability and scalability.
- 4. Interface Design:** Experienced designers, who specialize in creating user-friendly interfaces for databases, will design the web interface. This ensures that the system is accessible and intuitive for all users, promoting higher compliance rates and a smoother registration process.
- 5. Software Development:** The programming phase is undertaken by expert developers with extensive experience in creating modular, secure software systems. Their expertise ensures that the database is robust against hacking attempts and meets the highest data security standards.
- 6. Installation and Customization:** Following development, we assist in the database installation at CAAs, providing comprehensive owner manuals, online support, and workshops. This step is crucial for ensuring that the system is correctly set up and fully operational.
- 7. Regional Adaptations:** We tailor the database to meet regional needs, including customization of the design and language. This localization is essential for ensuring the database is as effective as possible in different countries.
- 8. Training:** Parallel to the installation and customization, we provide training for system administrators in each country. This ensures that local teams are fully equipped to manage and maintain the database efficiently.





Why This Is Important

Efficiency and Standardization: Consolidates registration efforts, saving time, resources, and reducing duplication of work.

- **Security and Compliance:** Meets stringent data protection laws and minimizes vulnerability to cyber threats.
- **User Engagement:** An intuitive interface increases the likelihood of compliance by drone owners.
- **Integration Readiness:** Well-defined data interfaces facilitate seamless integration with UTM systems.

Support and Documentation: Comprehensive support ensures successful implementation and customization according to regional needs.

Expected Outcomes

Results

The successful implementation of this project will result in a universally accessible, secure, and efficient system for drone registration, the issuance of flight permits and both the collection and analysis of post-flight data.

Outcomes

By introducing a user-friendly, secure, and universally accessible web application, we aim to boost compliance rates among drone operators and pave the way for advanced airspace management practices. This project is set to create a scalable infrastructure capable of accommodating future expansions, such as more advanced data analysis tools and other components of a modular UTM, thereby fostering a safer and more effective drone operational environment amongst member countries and beyond. Through this effort, we anticipate not only the optimization of Civil Aviation Authorities' (CAAs) resources but also the establishment of a foundation for international collaboration, setting new standards for drone regulation and management.

Join us

Become part of the **Wakanda Beyond Alliance**, joining forces with partners dedicated to enhancing drone safety and operational efficiency across Africa and beyond.

If you share our vision for a seamlessly integrated airspace, we invite you to express your interest. Together, we can contribute to making Africa the easiest place to fly drones safely.