A Concept Note

Wakanda Beyond Peer Action Group

Adaptation of the Specific Operations Risk Assessment (SORA)

Overview

Drone technology presents significant economic opportunities but requires a balance between safety and innovation. The Specific Operations Risk Assessment (SORA) framework is an analytical tool designed to mitigate operational risks to an acceptable level, ensuring the safety and compliance of drone operations within the global drone economy.It obliges operators to understand and mitigate risks in a standardized way. When implemented well, the SORA facilitates safer skies and more reliable drone operations.

The Challenge

The SORA, developed by the Joint Authorities for Rulemaking on Unmanned Systems (JARUS) and adopted by the European Union Aviation Safety Agency (EASA), is a pivotal framework for assessing the risk of unmanned aerial vehicle (UAV) operations, influencing drone regulations worldwide.

It provides a structured approach to risk estimation, accommodating diverse and complex missions across all drone types and operational models, thus enhancing safety and transparency. However, the EASA's implementation has its drawbacks, including the requirement for Civil Aviation Authorities (CAAs) to maintain a large pool of specialists, no consideration for operational history in application processes, and a significant variance in application across different countries. The flexibility intended to accommodate complex operations inadvertently leads to a cumbersome, time-consuming process for even low-risk operations.

The framework's reliance on unverified assumptions and mathematical models, coupled with the inefficacy of tools intended to streamline the process, raises concerns about its economic viability and practical application, obscuring uncertainties under layers of complexity. This complexity challenges the SORA's effectiveness and its potential adoption in regions like Africa. The Wakanda Beyond Peer Action Group highlighted the need for a balanced approach to enhancing UAS operation safety without resorting to prohibitive techniques. A meaningful SORA can be a very important step for increasing safety without the implementation of expensive and complex techniques which can fail.

> ❝ *Wakanda Beyond members seek a more pragmatic, doable implementation of the SORA.*❞

Our Proposed Solution

The proposed solution is to co-develop with the Wakanda Beyond Member countries a region-specific variant or adaptation of the SORA process along with the supporting guidance materials tailored to the environmental, legal, economic, and social contexts of member countries.

This localized SORA, inspired by initiatives like Ghana's ARRO, aims to improve the accuracy and relevance of risk assessments, enhancing safety, process, and operational efficiency at the same time. This would also include promoting knowledge sharing and regulatory alignment across members of Wakanda Beyond to facilitate cross-border drone enterprises, which is crucial for industry scalability. This includes the development of appropriate and comprehensive guidance material both for the involved authorities as well as the operators' benefit.

Why This Is Important

This approach would offer:

✔ **Context-specific approaches:**
Tailored to suit unique environmental, social, and technological conditions of the local context

✔ **Improved accuracy and relevance of risk assessments:**
Critical in environments differing significantly from standard SORA guidelines, which will enhance safety, process efficiency, and operational effectiveness

✔ **Knowledge sharing and regulatory consistency:**
Alignment of regulatory frameworks facilitates cross-border operations and eases regional expansion for drone operators

✔ **Efficiency gains through harmonization:**
Similar benefits as has demonstrated in the crewed aviation sector

Our Approach

To ensure the development and implementation of regional adaptation of SORA is executed efficiently and effectively, our process follows this structured, step-by-step approach:

1. **Target Definition:** Definition of what the new SORA needs to achieve, including safety objectives, compliance requirements, and innovation facilitation. Identification of specific use cases that the SORA should cover, focusing on the types of drone operations that are most relevant and beneficial for the region.

2. **Assessment of Local Conditions:** Evaluation of the unique environmental, social, and technological conditions of the participating members. This involves collecting data on airspace conditions, local drone usage patterns, and regulatory requirements.

3. **Adaptation of SORA Framework:** Survey of existing adaptations (e.g. ARRO) and modification of the SORA framework to align with local conditions identified in the first step. This might involve altering risk assessment parameters and operational guidelines to reflect regional specifics.

4. **Stakeholder Engagement:** Involving local drone operators and end users not directly affiliated with the drone industry (e.g. health, agriculture) in the adaptation process. This collaborative approach ensures the localized SORA is comprehensive, practical, and widely accepted.

5. **Development of Guidance Materials:** Creation of detailed guidance documents, templates, and tools to assist stakeholders in understanding and applying the localized SORA. This includes user-friendly application forms and checklists.

6. **Pilot Testing:** Performing end-to-end pilot tests (from writing an operations manual and mock applications for approval to actual drone flight) with personnel involved in the definition of the regional SORA to ensure practicability. Performing pilot tests with a select group of drone operators to validate the applicability and safety of the localized SORA. Includes collection of feedback to refine the framework.

7. **Definition of PDRAs and Training Development:** Establishing Pre-defined Risk Assessments (PDRAs) tailored to the region's specific use cases and conditions. Develop training modules and materials specifically for these PDRAs, ensuring that operators and regulators are well-prepared for their application and assessment.

8. **Training and Education:** Developing and delivering training programs, both on the general principles of the SORA and on specific adaptations, to educate assessors and drone operators about the localized SORA.

9. **Implementation:** Rolling out of the finalized localized SORA across the region, ensuring consistent application across all initiative members and easy access to necessary resources to apply the new framework effectively.

10. **Continuous Improvement:** Periodic updates to the localized SORA to address new challenges, incorporate technological advancements, and refine operational guidelines based on feedback gathered from assessors and drone operators.

Expected Outcomes

Expected Results:
The adaptation of the SORA for Wakanda Beyond aims to deliver a streamlined, localized risk assessment framework, enhancing operational efficiency and safety. This region-specific approach will reduce complexities, fostering a safer and more dynamic drone economy across member countries.

Outcomes:
Implementing a localized SORA is expected to improve drone operation safety and scalability, promoting regulatory alignment and innovation. This initiative will position the African continent as a leading hub for drone technology, attracting diverse operators and fostering a sustainable drone ecosystem.

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.