6TH EAC AVIATION SYMPOSIUM
ZANZIBAR
15TH TO 16TH MAY 2024

6TH EAC AVIATION SYMPOSIUM 15TH – 16TH MAY 2024

AVIATION CYBER SECURITY: ADDRESSING LEGAL ISSUES & REGULATIONS RELATED TO CYBER SECURITY IN AVIATION

Isaac Kagimu

Aviation Security Inspector
Uganda Civil Aviation Authority

CASSOA East African Community

CYBER SECURITY IN AVIATION

- How secure is your next flight?

CASSOA
East African Community

OUTLINE

- Introduction to Cyber Security In Aviation
- Current Legal & Regulatory Framework
- Challenges in Cyber Security in Aviation
- Best Practices & Strategies for Enhancing Security
- Role of Civil Aviation Authorities & Future Directions

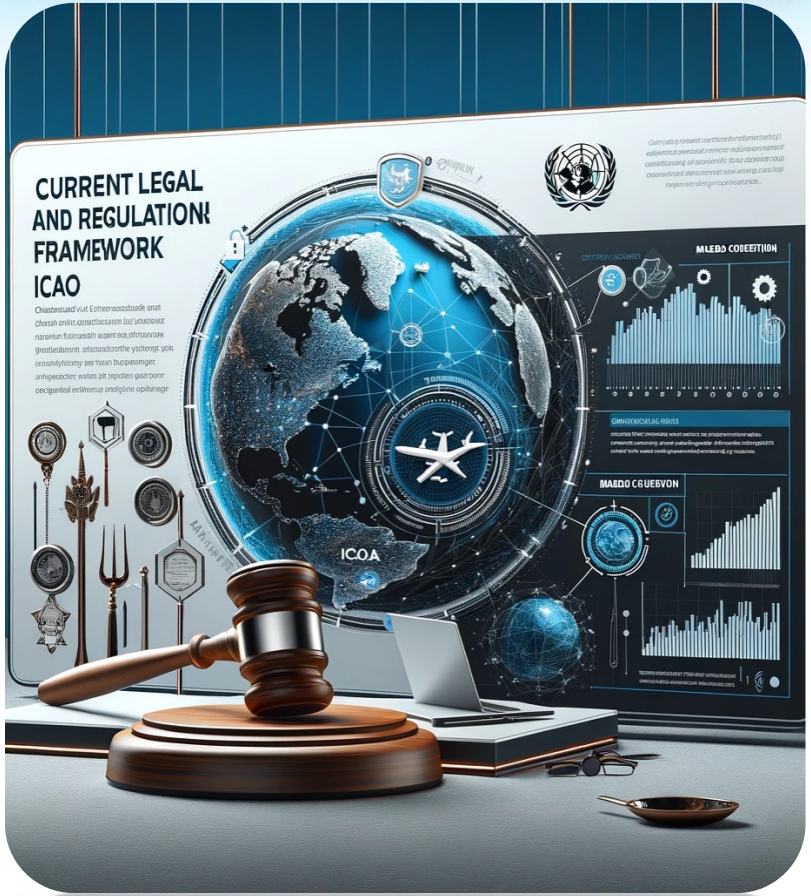
CASSOA
East African Community

INTRODUCTION TO CYBER SECURITY IN AVIATION

- The aviation industry faces cyber threats compromising safety, security, and trust. Over 1,000 global cyber incidents are reported monthly.
- Cyber threats cause operational disruptions, financial losses, and loss of passenger confidence.
- A comprehensive approach to cyber security, integrating the latest technologies, regulatory standards, and global collaboration, is necessary to protect this vital industry.

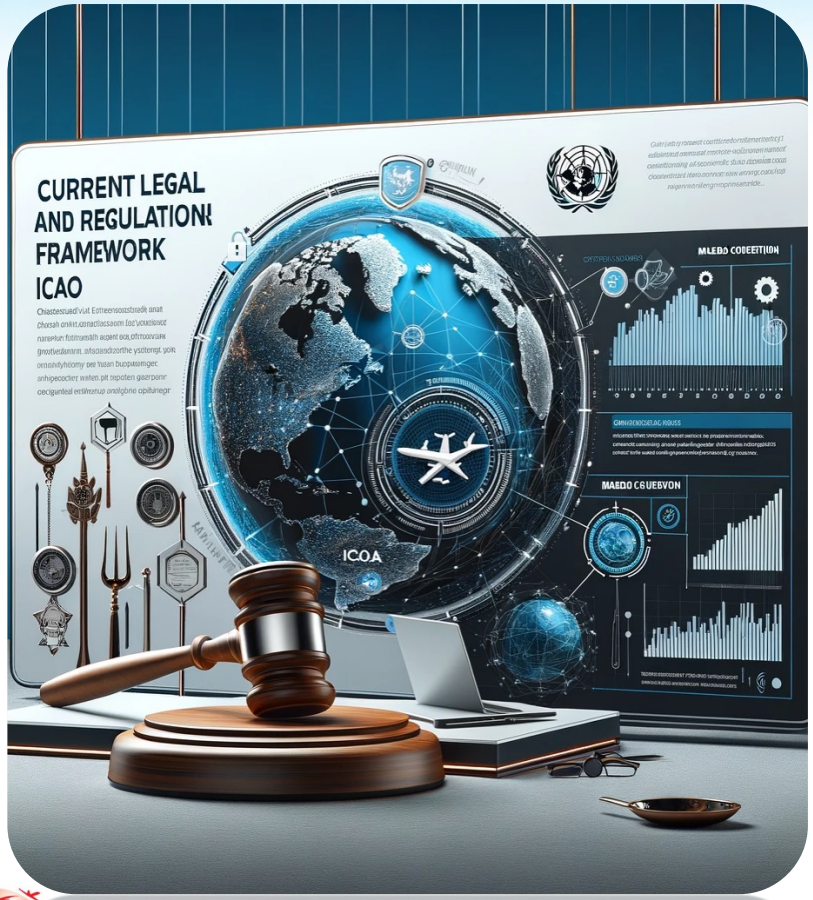
CASSOA
East African Community

CURRENT LEGAL AND REGULATORY FRAMEWORK



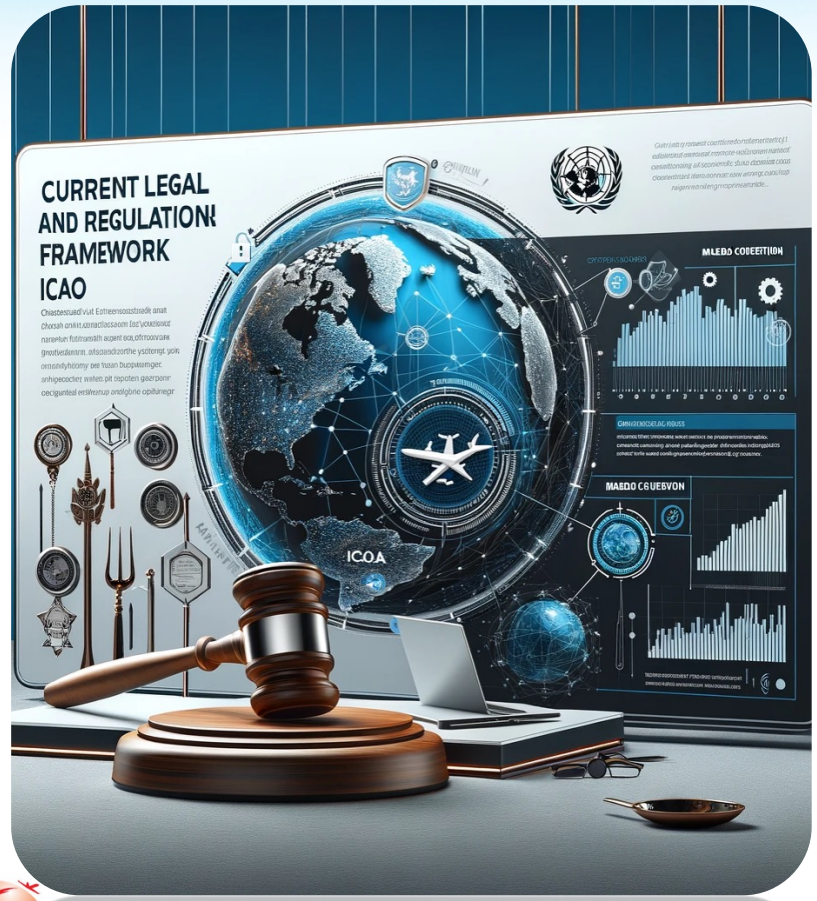
- Annex 17 Ch. 4.9 MEASURES RELATING TO CYBER SECURITY
- 4.9.1 Each Contracting State shall ensure that operators or entities, as defined in the national civil aviation security programme or other relevant national documentation identify their critical information and communications technology systems and data used for civil aviation purposes and, in accordance with risk assessment, develop and implement, as appropriate, measures to protect them from unlawful interference.

CURRENT LEGAL AND REGULATORY FRAMEWORK



- 4.9.2 Recommendation.— Each Contracting State should ensure that the measures implemented protect, as appropriate, the confidentiality, integrity and availability of the identified critical systems and/or data. The measures should include, inter alia, security by design, supply chain security, network separation, and the protection and/or limitation of any remote access capabilities, as appropriate and in accordance with the risk assessment carried out by its relevant national authorities.

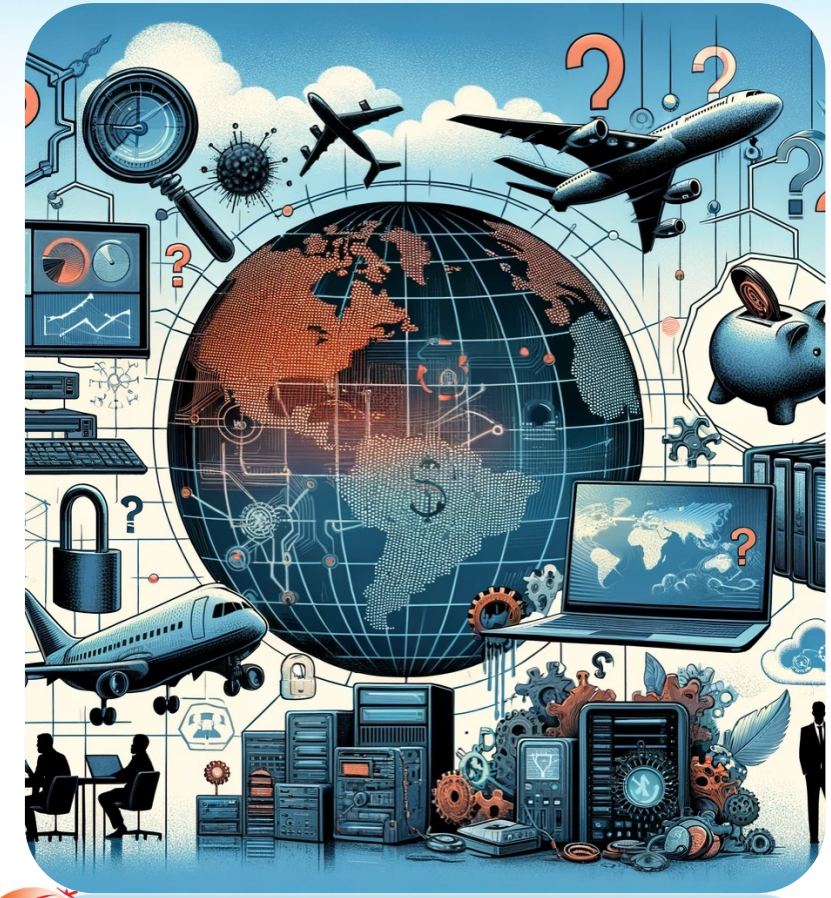
CURRENT LEGAL AND REGULATORY FRAMEWORK



- The aviation cyber security legal framework involves international and national regulations, with ICAO taking a vital role.
- ICAO includes cyber security in its safety and security frameworks, such as Annex 17 and Annex 11.
- African countries like South Africa, Kenya, Tanzania, and Uganda have enacted cyber security laws based on ICAO standards.
- The African Union's Malabo Convention aims to enhance cyber security and data protection among member states and ensure safety, security, and trust in aviation through continuous updates.

CASSOA
East African Community

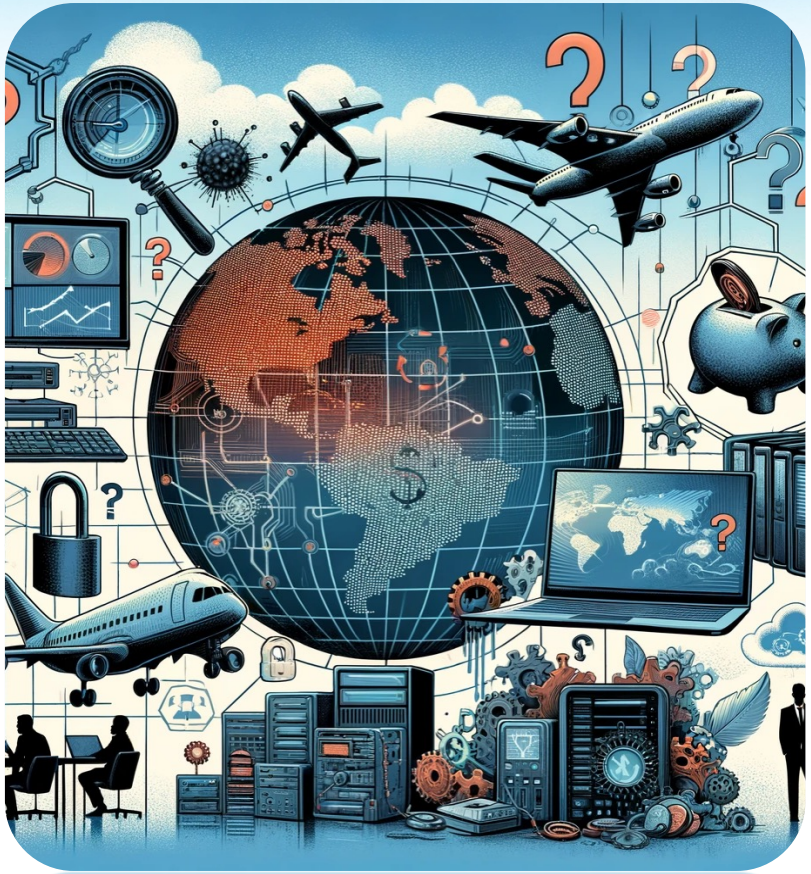
CHALLENGES IN CYBER SECURITY IN AVIATION



- Regulatory Inconsistencies: Inconsistent cybersecurity regulations worldwide pose challenges in enforcement and compliance, hindering global security stability.
- Technical Limitations: Aging infrastructure and disparate technology systems often lack the necessary integration for robust security measures, exposing critical vulnerabilities.
- Human Resource Constraints: The aviation sector faces a severe shortage of skilled cybersecurity professionals, exacerbated by the lack of training and awareness among existing staff.

CASSOA
East African Community

CHALLENGES IN CYBER SECURITY IN AVIATION



- Financial Constraints: Funding shortages undermine the implementation of essential technological enhancements and security protocols, particularly in economically disadvantaged regions.
- Evolving Threat Landscape: Cyber-attacks on aviation are increasing in sophistication and frequency, requiring constant adaptation and vigilance.

CASSOA
East African Community

BEST PRACTICES & STRATEGIES FOR ENHANCING SECURITY

- Undertake routine and thorough evaluations to pinpoint weaknesses in the aviation security system.
- Configure systems securely and update regularly while monitoring for unauthorised changes. Implement network segmentation and strict access controls to minimise risk.
- Employee Training: Train all aviation employees on cyber security best practices and run drills/simulations to prepare for potential cyber incidents.

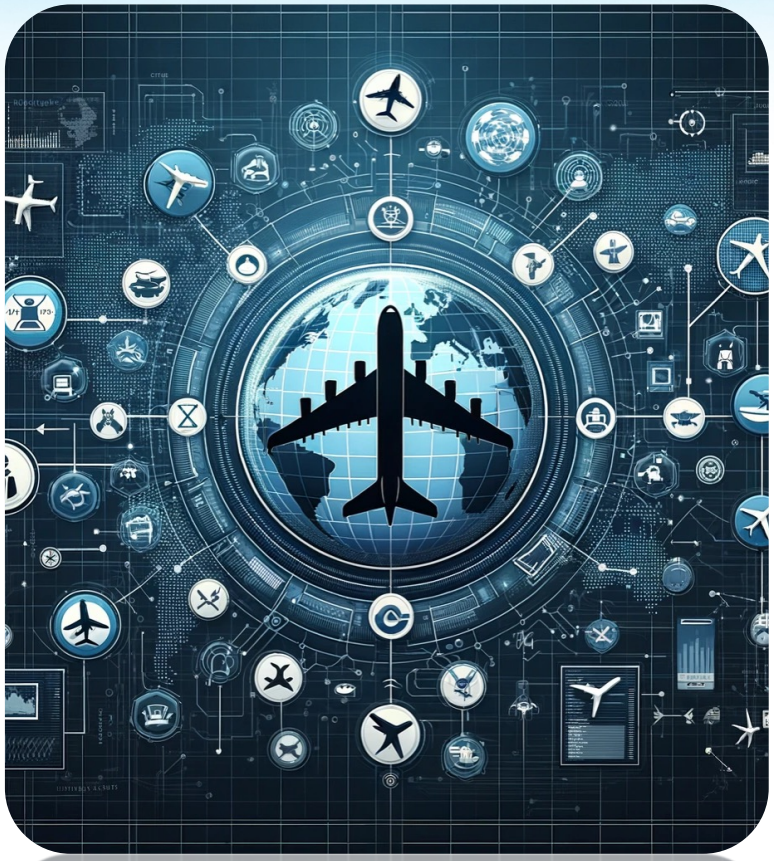
CASSOA
East African Community

BEST PRACTICES & STRATEGIES FOR ENHANCING SECURITY

- Incident Response: Develop and maintain an incident response plan that outlines roles and communication strategies for quick action during a security breach.
- Collaboration and Sharing: Join industry-wide platforms to exchange information on emerging threats, fostering a culture of openness and cooperation among all stakeholders.

CASSOA
East African Community

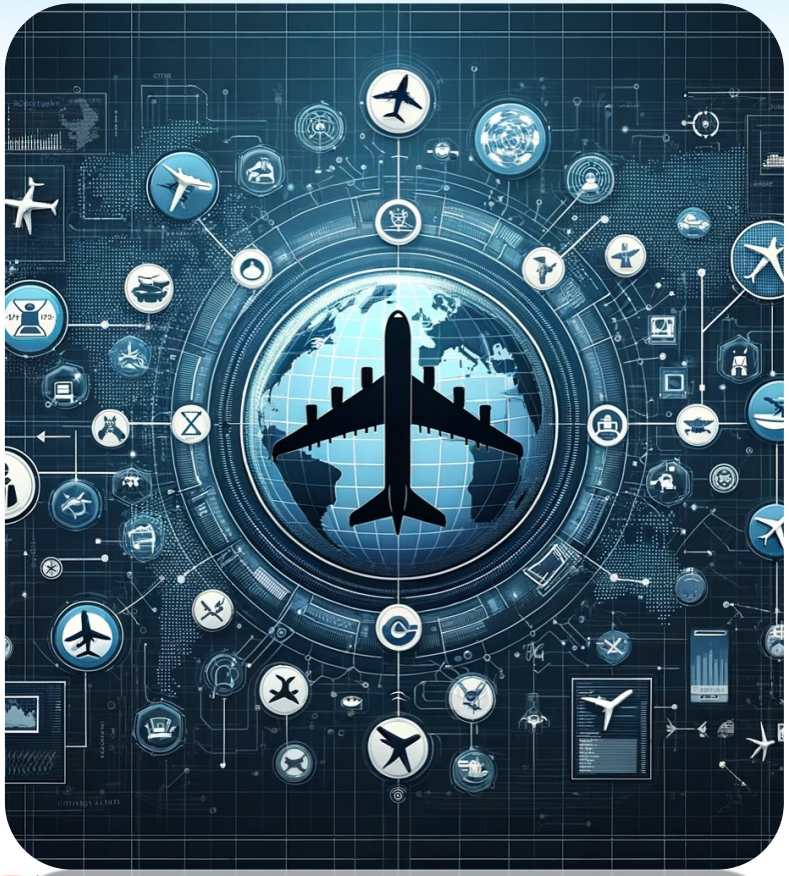
ROLE OF CIVIL AVIATION AUTHORITIES & FUTURE DIRECTIONS



Civil Aviation Authorities (CAAs) are pivotal in ensuring the aviation sector's cyber resilience. They are responsible for developing and enforcing cyber security regulations that align with national and international standards, such as those set by the International Civil Aviation Organization (ICAO).

CASSOA
East African Community

ROLE OF CIVIL AVIATION AUTHORITIES & FUTURE DIRECTIONS

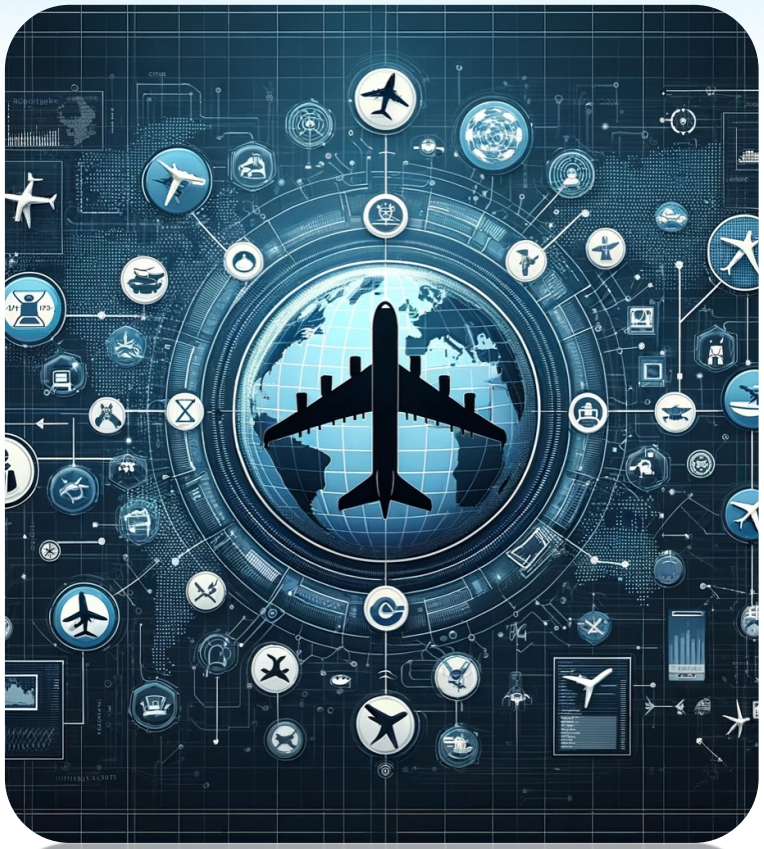


Key Responsibilities:

- Regulatory Oversight: CAAs are tasked with updating and maintaining cyber security standards to match global best practices.
- Inspections and Audits: Regular cyber security audits and inspections are conducted to ensure that aviation operators comply with established standards.
- Incident Response Coordination: CAAs lead coordination efforts during cyber security incidents to facilitate efficient information sharing between agencies and stakeholders.

CASSOA
East African Community

ROLE OF CIVIL AVIATION AUTHORITIES & FUTURE DIRECTIONS

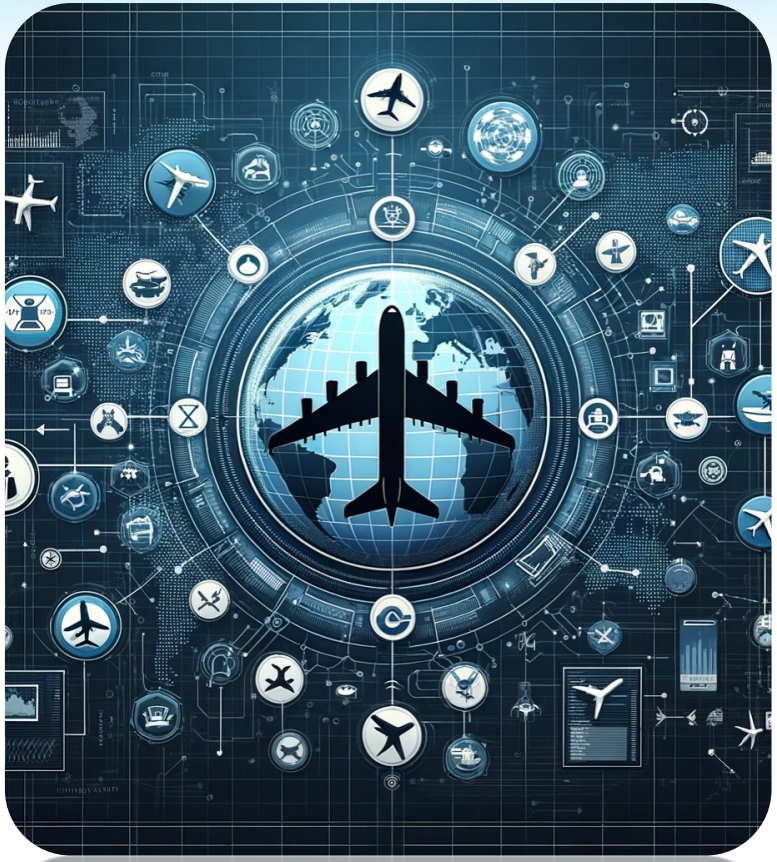


Future Directions:

- International Collaboration: Engaging with international aviation bodies is crucial to align security measures globally and participate in global cyber security initiatives.
- Training and Capacity Building: Providing continuous training and resources to enhance industry-wide cyber security skills.
- Risk Assessment: Regular comprehensive risk assessments are vital to identify and mitigate evolving threats.

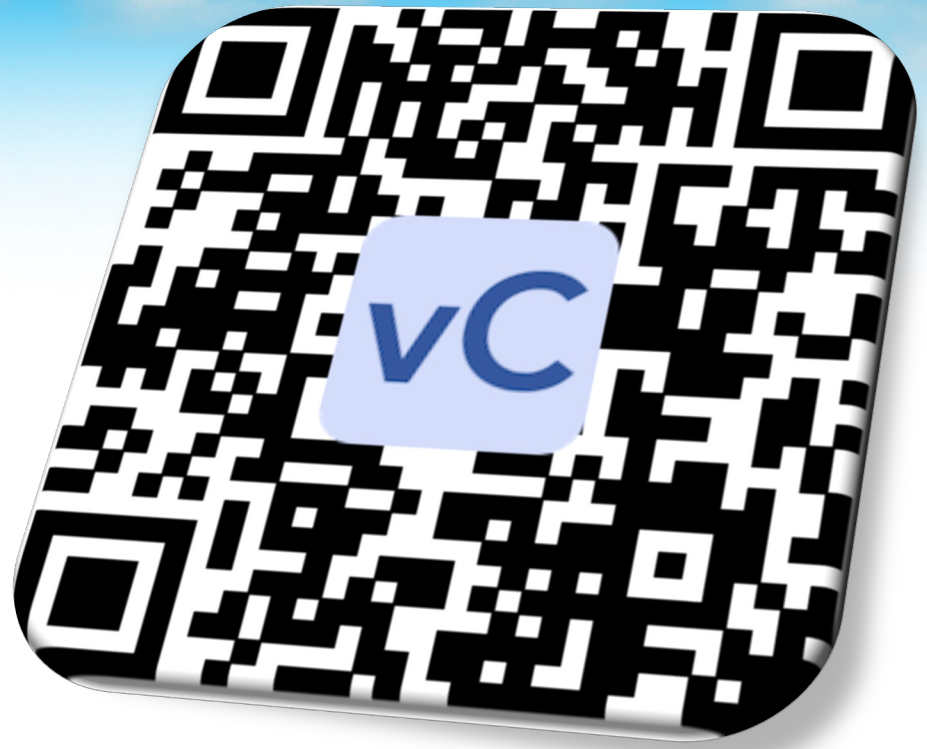
CASSOA
East African Community

ROLE OF CIVIL AVIATION AUTHORITIES & FUTURE DIRECTIONS



CAAs ensure the aviation industry's preparedness against cyber threats through these efforts, fostering a safe and secure air travel environment.

CASSOA
East African Community



Question? Thank you

CASSOA
East African Community