



## State Approach to Countering UAS in the Interests of Aviation Security

Aviation Security Department  
Aviation Administration of Kazakhstan

## Slide 2: Relevance and Context

Kazakhstan observes steady increase in number of UAS users—individuals and state authorities comprised.

UAS are used in geodetic, agriculture, logistic and infrastructure monitoring.

Meantime, the risk increases of unauthorized OPS in the vicinity of airports and critical infrastructure.

State is forming a system that combines regulations, technical oversight and prevention.



## Slide 3-1. Categories of UAS Operations

### Operational Categories of Unmanned Aerial Systems (UAS)

To ensure safety and efficiency of airspace use, all operations of unmanned aerial system (UAS) are divided into three categories depending on the associated risk level. This ensures that regulatory requirements are proportionate to the factual flight risk.

#### Open Category

**Risk Level LOW.** No special FLT OPS approval required; strict limitations on weight, altitude and proximity to persons.



#### Specific Category

**Risk Level MEDIUM.** Demands a specific risk assessment and an OPS approval. This category applies when the risk cannot be fully mitigated within the Open category.



#### Certified Category

**Risk Level HIGH.** Demands mandatory UAS certification of the UAS, its operator and organization. Applied for flights over densely populated areas or for high-risk commercial operations.

## Slide 3-2. Current Situation

Current state of regulation and implementation of unmanned aerial systems (UAS) in the airspace of the Republic of Kazakhstan illustrates annual increase of registered UASs and qualified operators.

1424

### REGISTERED IN THE NATIONAL REGISTRY

The total number of registered unmanned aircraft in the CAA Register.

1035

### OPERATOR CERTIFICATES ISSUED

The number of certificates confirming the theoretical and practical training of UAS operators.

### EMPHASIS ON SAFETY

The high number of certificates and authorizations for operations over the city highlights the strict approach to oversight regarding flights in high-risk conditions and during commercial operations.

67

### PERMITS FOR AERIAL WORKS

Authorizations for specialized aerial works using UAS (e.g., aerial photography, inspections).

124

### PERMITS FOR FLIGHTS OVER URBAN AREAS

The number of overflight permits for densely populated areas, requiring higher level of oversight and risk assessment.

- 94% regulatory compliance rate
- 37 occurrences investigated

## Slide 3-3. Current Situation

Implementation of Rules governing use of unmanned aerial systems is aimed toward a safe and transparent environment for the development of the industry while minimizing operational risks.

1

### Establishment of Categories

Classification of UAS operations into **Open, Specific, and Certified** categories depending on the level of potential risk.

2

### Requirements for Operators

Establishing strict requirements for the theoretical and practical training of UAS operators to ensure their professionalism.

3

### Technical Standards

Defining clear technical standards for the UAS to increase their reliability and flight safety.

1

### Restricted Zones (No Drone Zone)

Introduction of geographical zones where UAS flights are restricted or prohibited (e.g. around airports and critical infrastructure).

2

### Remote Identification

Mandatory requirement for UAS remote identification system to provide for operational monitoring and tracking.

EFFECT: The regulations allow to **minimize the risks** associated with unsafe UAS operations and significantly **improve control** over operators' activities within the airspace of the Republic of Kazakhstan.



## Slide 4. Regulatory and Legal Framework

### 1 Regulatory Framework

The operation of UASs is regulated by the **Law of the Republic of Kazakhstan on the Use of Airspace, the Rules for the Use of Airspace**, as well as various **Orders of the Ministry of Transport of the Republic of Kazakhstan**.

### 2 Registration and Identification

A system for UAS **registration and operator identification** is in effect.

### 3 Authorization Mechanism

A mechanism for obtaining **flight permits** in the “Specific” category of operations has been implemented.

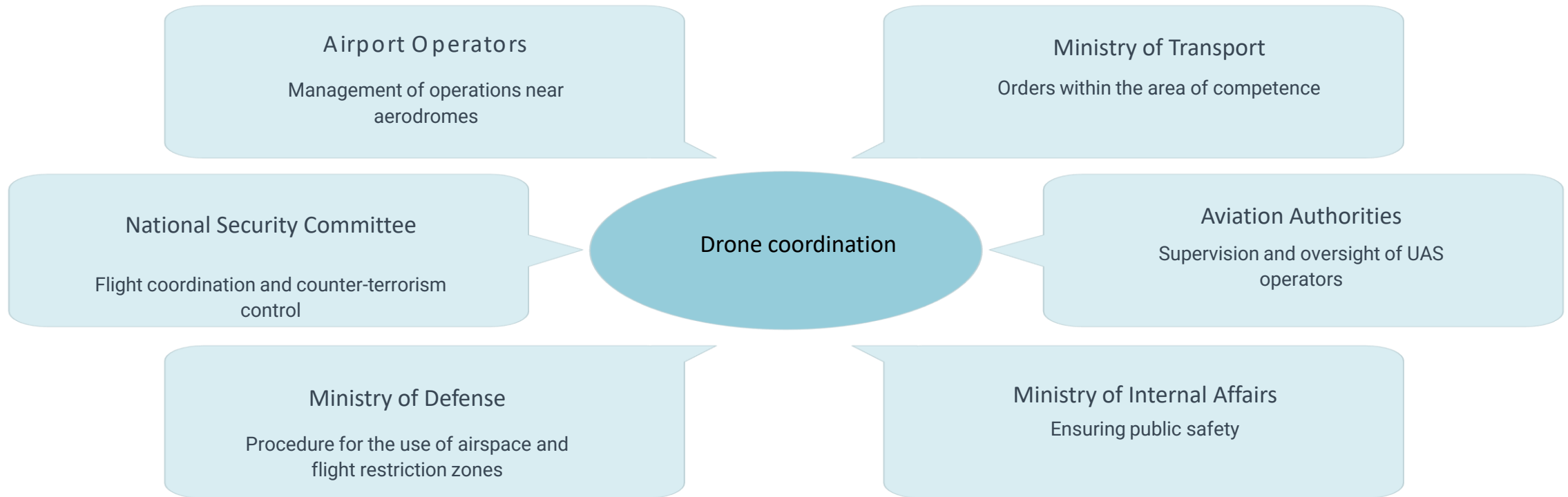
### 4 Training and Certification

Updated standards for operator training certification are being developed.

### 5 Integration into ATM

In the future – integration of UASs into the ATS (UTM).

## Slide 5. Institutional Mechanisms



The coordination of actions is carried out by an **Interagency Working Group**.

Coordination is ensured between the CAA, emergency services, Ministry of Internal Affairs, Ministry of Defense, National Security and airport operators.

The main focus is the development of a regulatory framework within the legal domain.

Existing **coordination challenges** include differences in approaches, limited resources and technical compatibility of systems.

## Slide 6. Key Challenges



### Risk Management

UAS **risk assessment**.



### Technical means

Limited technical means for drone **detection and neutralization**.



### Awareness

**Public awareness** of UAS regulations and restriction zones.



### Liability

Complex **liability mechanism** in case of violations.



### Integration

Need for integration of UAS into the overall aviation security (AVSEC) system.

## Slide 7. Priority policy areas



### National concept

Development of a **National Concept for Managing Risks Associated with UAS.**



### Monitoring system

Establishment of a **national UAS coordination and monitoring system** for early detection and counteraction purposes.



### Definition of Competences

Development of **Competences on UAS-related matters.**



### Regulations for Coordination

Development of **regulations for interagency coordination** and data exchange.



### International cooperation

Expansion of **international cooperation** within the framework of ICAO regional initiatives.

## Slide 8. Educational and preventive measures. Safety culture



- Unified standards for UAS operator training and certification.
- **Information campaigns** on safe and secure UAS operations.
- Inclusion of UAS safety in **aviation security programs**.
- Collaboration with educational institutions and tech manufacturers.
- Creation of a **digital platform** for public and operator awareness.

## Slide 9. International Cooperation



### Regional dialogues

Kazakhstan participates in ICAO regional dialogues.



### Experience exchange

Exchanges experience with Central Asian and Caucasus States (AVSEC Coordination Group)



### EU best practices

Interest in adopting EU and JARUS **best practices** regarding integrating UAS into an airspace.



### Incident database

Creation of a database for UAS-related occurrences.

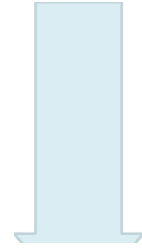


### Active cooperation with ICAO

Participation in working groups and initiatives of the International Civil Aviation Organization (ICAO) on RPAS-related matters.

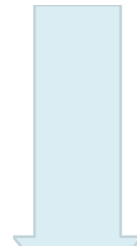


## Slide 10. Initiative Examples



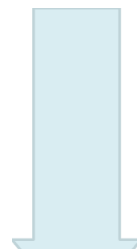
### Testing of detection systems

Pilot project for testing **UAS detection** systems at Aktobe Airport.



### Interagency exercises

Exercises involving **law enforcement agencies and airport operators**.



### Situation Center

In the future — establishment of a **Situation Center** for UAS flight control.



# *Thank you for your attention*

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