



# **The UN Journey: UAS/RPAS & Airborne ISR 2013–2025**

**From pioneers in 2013 to harmonized framework in 2025**  
*Peace, Humanitarian, Development mandates*

**ICAO APAC Workshop**

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# Introduction and Context

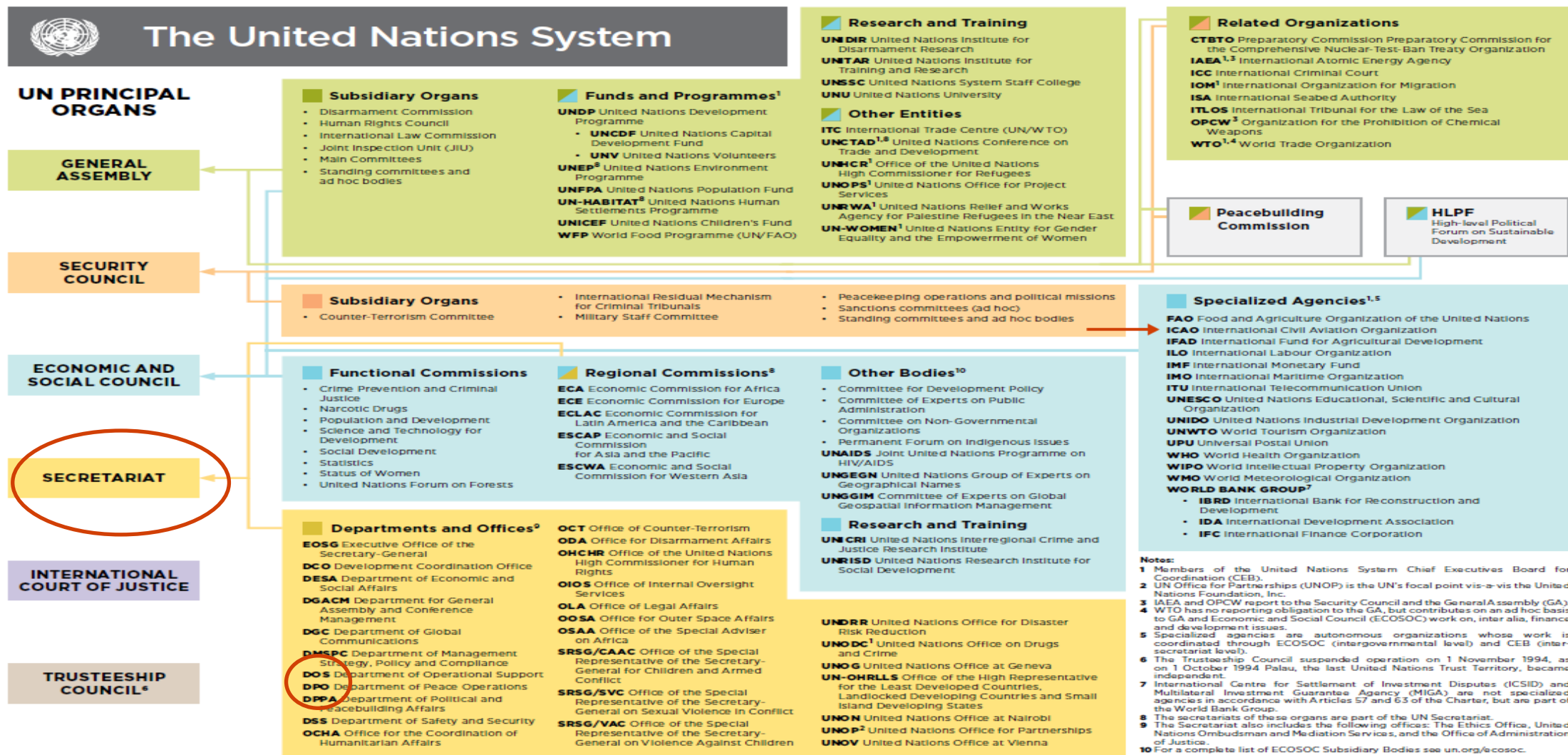
- UN missions operates in high-risk, remote, complex environments and lack of infrastructure environments

- Growing demand for cost-effective, safe and persistent solutions

- Unmanned Aircraft Systems (UAS) serve as a key enabler for modernizing for UN field operations

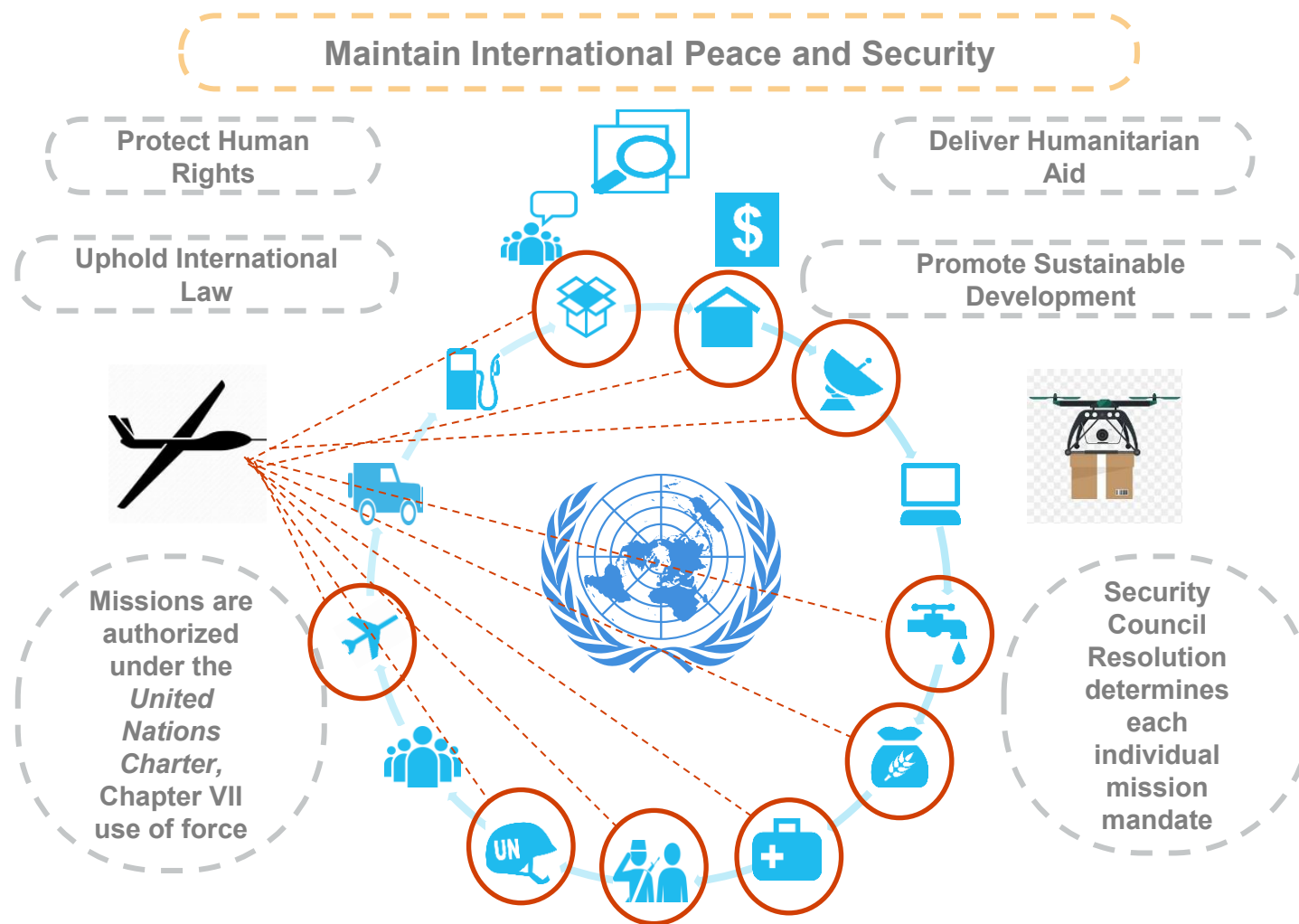


# UN System

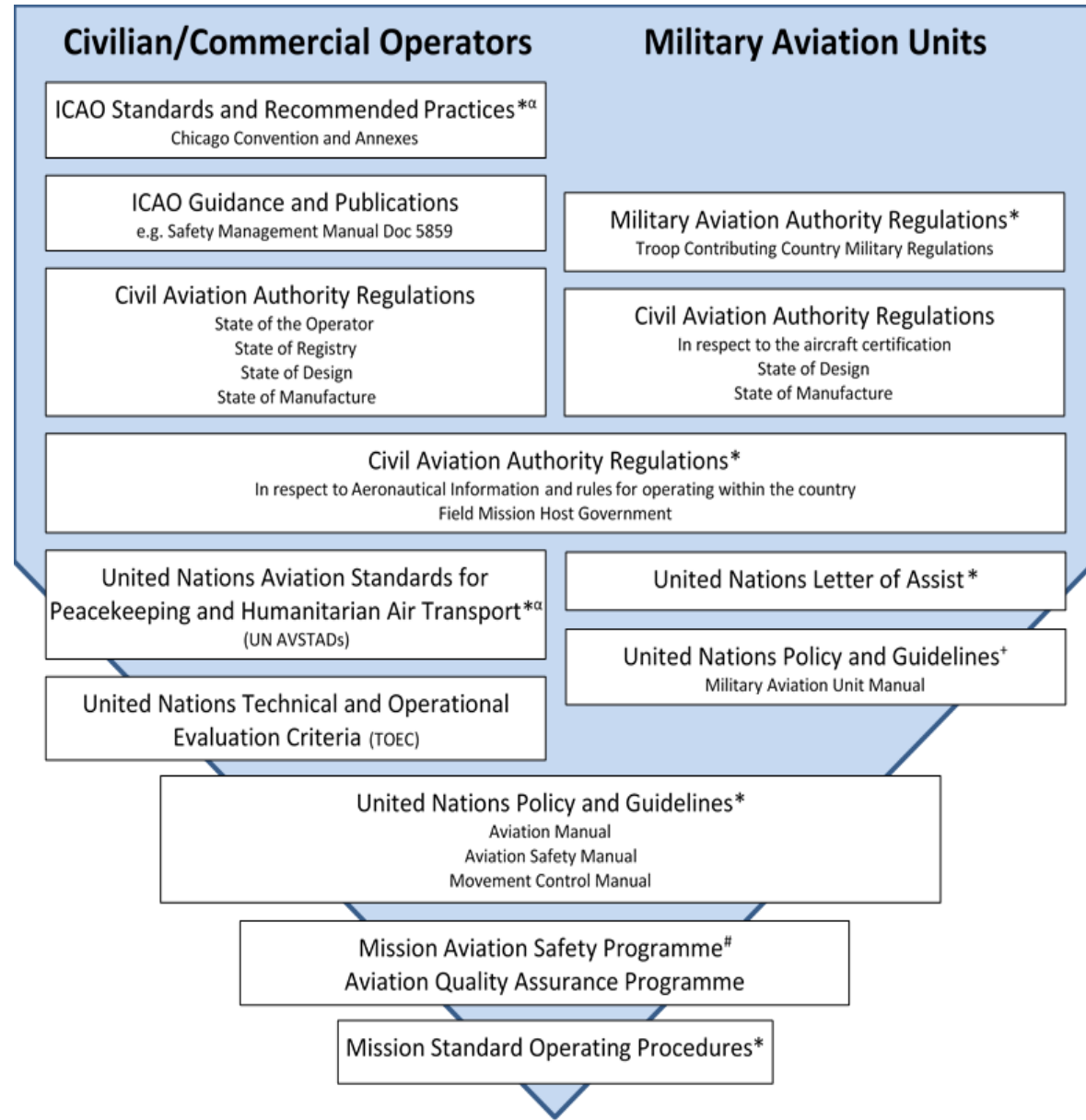




# UN Secretariat Charter Pillars



# UN Secretariat Aviation Regulatory Pillars



## 14 Missions include aviation assets

9 in Africa

3 in Middle East

1 in Latin America

1 in Europe

Fixed-wing

Rotary

UAS

### Type of Contracts

LTCA

STCA

SACA

Stand-by

LOA

MOU

# UN Secretariat United Nations Aviation Component

**Safety Oversight**  
Aviation Safety Programme  
Safety Management System

**Regulatory compliance and management policy**

**Planning**

**Human  
resources**

**Quality assurance and standards**

**Aircraft/ equipment/ services contracts and  
management**

Strategic operational  
management

Strategic Air  
Operations Centre

Movement Integrated  
Coordination Centre

# Early Adoption

2013–2019



## First Deployments

2013 first deployments in MONUSCO in the Democratic Republic of Congo, follow-up by MINUSMA in Mali



## Key Lessons Learned

Uniformed Systems and Standards  
Training and Capacity Building  
Airspace and Operational Coordination  
Sustainable Logistics and Infrastructure  
Contracts and Procurement Agility  
Political and Strategic Engagement



## Partnerships & Challenge

Regulatory alignment at HQ and Missions  
Uniformed Training approach  
Funding sustainability

2013

Early Adoption

2019

Integration

2024

Harmonization

2025

Way Forward

First deployment  
in MONUSCO

# Evolution Toward Integration

2020 Onwards

## Key pillars

Regulatory framework

Operations and Capacity  
building

Generation and sourcing

AVSEC, SMS and  
Compliance

Partnership



Continue implementing and developing UN regulatory framework **in compliance** with **ICAO SARPS and Guidance**, and **international best practices**

Supporting our clients on the **definition of Operational requirements**, providing **professional and qualified support and tools** for the **safe and effective** conduct of Aviation Operations

Support our clients and partners with a **variety of responsible sourcing** options to providing **timely, efficient and cost-effective specific E2E SCM** solutions driven by data.

Providing a **robust and flexible** risk management system in all applicable areas to support our clients in the safe and efficient implementation of their **mandates**.

Promote **partnerships** with actors and **stakeholders within and outside UN** to increase and benefit from **collective knowledge**, test ideas, and expand **collaboration** in support of mandates in line with **the UN SDG 2030**

## Key Commitments

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December 2021



# UAS/ RPAS Fleet Register

Class I			Class II	Class III	ISR	Total
Micro	Mini	Small	Tactical	MALE	Manned ISR	
						
445	49	0	6	3	0	503



**Class I mini and micro UAVs**

**Unmanned Aerial Vehicle Standalone Insurance Policy**

since

**28 April 2023**

valid until

**27 April 2026**



# UN Secretariat UAS Standards

Where  
we  
are?

DOS.2025.XX UN Aviation Manual (2025): Unmanned Aircraft System/ Remotely Piloted Aircraft Systems and Airborne ISR (**Pending Approval**).

DOS.2022.03 Policy on UAS Class 1 Training (**Active**).

DOS/2025.04 SOP on Verification Inspections of UAS Class I (**Active**).

DOS/2026.XX Guidelines on SOP development of UAS Class I operations in Field Missions (**Drafting**).

DOS UAS Training Programme (**Drafting**).

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# Towards Harmonization

2024-2025

Launch of UN-wide  
harmonized framework & UN  
UAS Forum

1

UNAVSTADS UAS addition,  
TOEC UAS annex  
amendment.

2



4

Additional UN operational  
guidance coming soon:

- UN DOS Aviation Manual
- Guidelines on UAS Class I SOP Development
- COE Manual Revision

3

Regulatory alignment with ICAO SARPs,  
safety/compliance culture:

- UAS Class I Training Policy
- Standalone Insurance renewal
- UAS registration
- SOP on Verification Inspections
- Capacity Building

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# UN Secretariat UAS **Coordination**, Monitoring and Employment

## Authorization and Deconfliction

- All UAS Class I operations must coordinate with Mission Air Operations Centre (MAOC).
- Coordination with U3/S3 or U2 cells for military.
- Direct MAOC coordination for civilian/police UAS.

## Decentralized Control

- Centralized command by Force Commander.
- Tactical control delegated as needed.

## Mission SOP

- Must clearly define roles, responsibilities and communication protocols.

## Stakeholder Awareness

- Communicate times, locations and operational parameters of flights to all stakeholders (uniformed, civilian, national).

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# UN Secretariat UAS Coordination, **Monitoring** and Employment

## Flight Tracking

- All UAS activities tracked by MAOC and/or Regional Air Operations Centers.
- Daily coordination of flights with aviation authorities.

## Incident and Compliance Reporting

- Immediate reporting of any accidents/incidents.
- Mission Aviation Safety Officer (MASO) oversees aviation safety monitoring.

## Log and Record Management

- Flight logs maintained for 5 years.
- Monthly reporting of UAS fleet lists for insurance coverage.

## Data Security

- Sensitive data encrypted and securely transmitted.
- UAS operators responsible for secure handling of images, videos and mission data.

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# UN Secretariat UAS Coordination, Monitoring and Employment

## Types of Operations

- Pre-Planned: GIS/Engineering mapping, training, PKISR tasks.
- Immediate: Battle Damage Assessment (BDA), personnel recovery, convoy support.

## Operational Guidelines

- Flights under 120m AGL in Class G airspace.
- Visual Line of Sight (VLOS) maintained at all times.

## Data Utilization

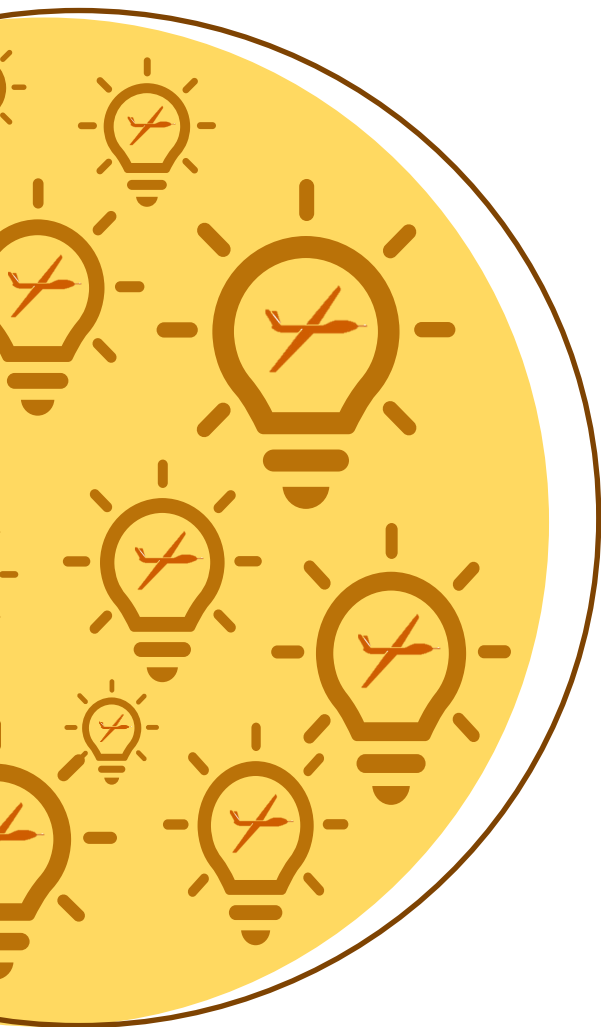
- UAS Activity Reports completed after each flight.
- Data supports situational awareness, tactical reconnaissance and PKISR.

## Operator Training

- UAS operators must complete UN-certified training.
- Mandatory monthly flight for maintaining proficiency.



# Way Forward



## Expansion

Expanding CoP (Community of Practice) to external partners and MS.



## Training and capacity-building pipeline

24 Training courses being established and implemented



## Innovation:

- UAS cargo
- UAS medical logistics
- UAS emergency response
- Mission support
- C-UAS integration

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# UN Secretariat Community of Practice

## UAS/RPAS and Airborne ISR

Private group

★ Following English ▾

13 members

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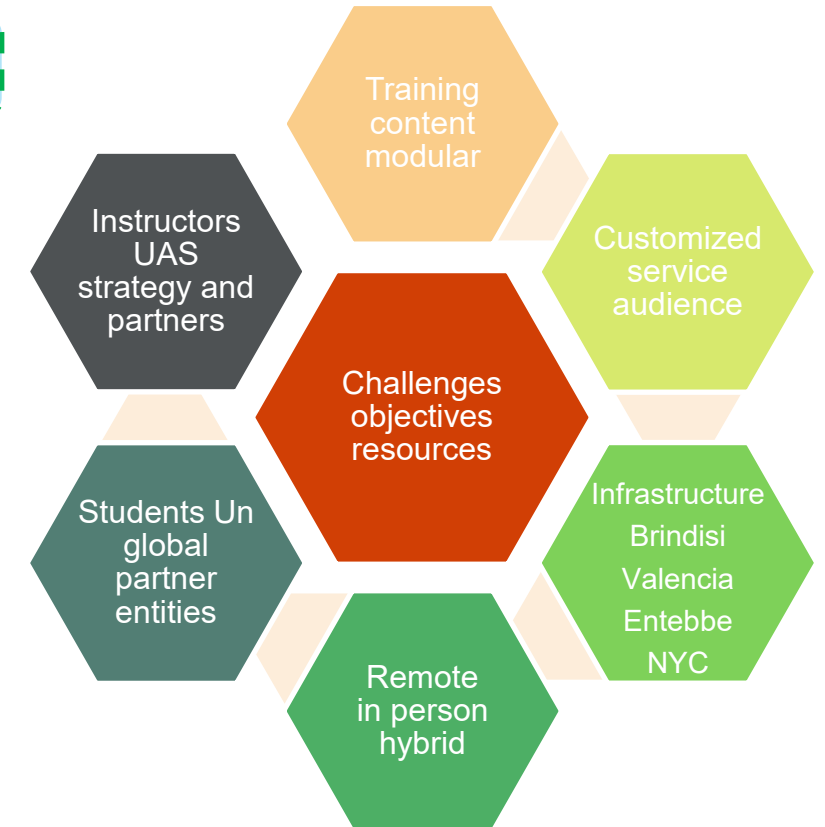
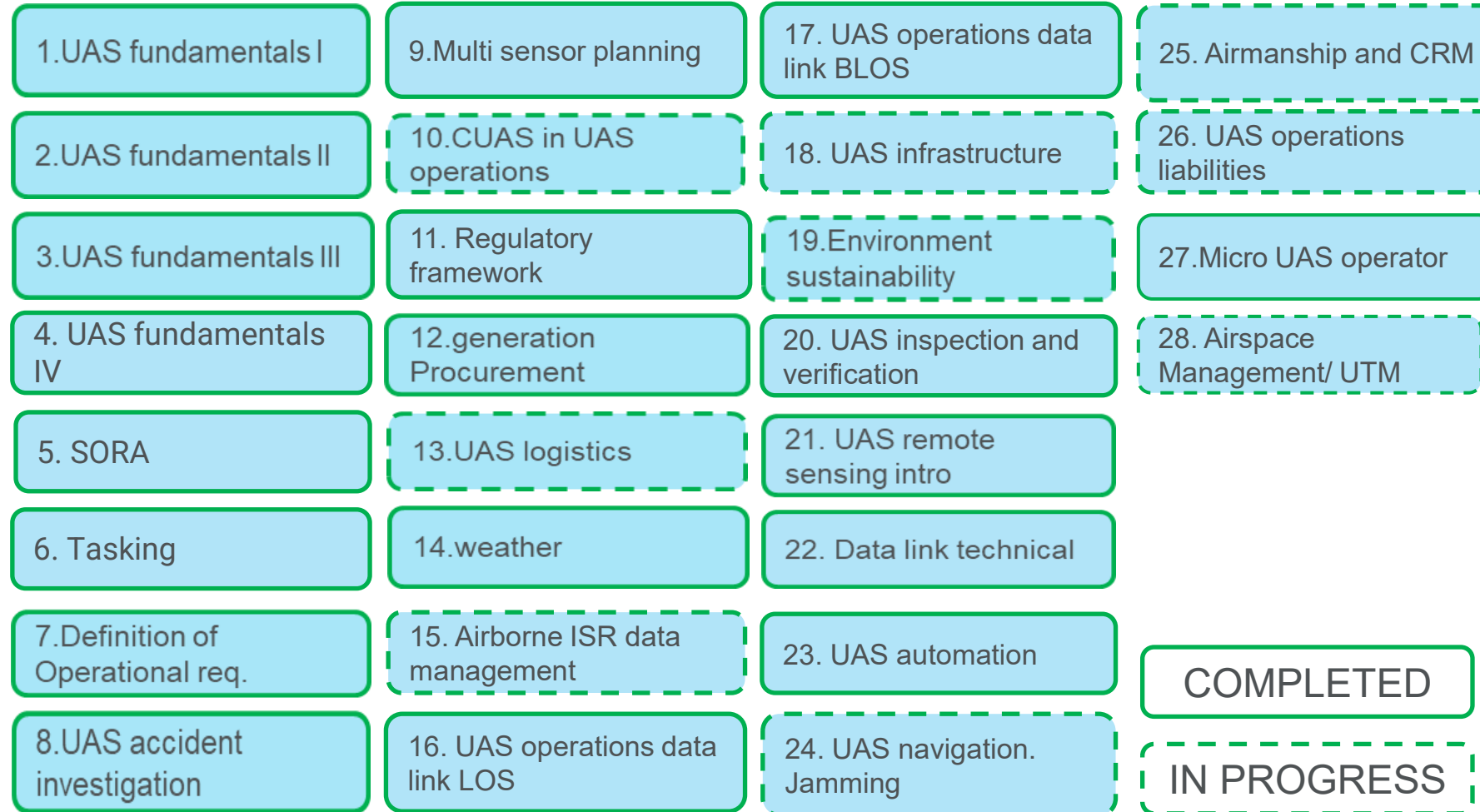
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# UN Secretariat UAS Training Programme



# UN Secretariat UAS Training Programme: Challenges

1. Standardization Across Missions: Developing a single training programme that is flexible yet standardized enough to fit all operational contexts is complex.
2. Regulatory and Legal Compliance: Training must cover a constantly shifting legal landscape, including national sovereignty issues and ICAO guidelines.
3. Technological Diversity: Pilots/operators and experts must be trained on multiple platforms and applications, requiring modular and equipment-specific training blocks.
4. Capacity and Resources: Delivering high-quality, consistent training with limited resources (e.g., simulators, airspace access) across missions is difficult.
5. Security and Safety Concerns: Training needs a strong emphasis on cybersecurity, counter-UAS threats, flight safety and risk mitigation — not just flying skills.
6. Ethical and Data Privacy Issues: Training must include ethical use, data handling, privacy protection, and Rules of Engagement related to UAS operations.
7. Coordination Between Stakeholders: Harmonizing training standards and operational procedures among military, police and civilian contractors is politically and logistically tough.

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# UN Secretariat UAS Concerns

## Airspace Integration

We need global standards for integrating UAS into controlled and uncontrolled airspace, ensuring safe co-existence with manned aviation.

## Operator and Pilot Certification recognition

A framework for the mutual recognition of remote pilot certificates and operator authorizations is needed to facilitate rapid deployment — particularly for UN peacekeeping and humanitarian missions.

## Airworthiness and Certification

Harmonized airworthiness standards will ensure that UAS platforms, especially those operating across multiple countries, meet minimum safety and reliability benchmarks.

## Safety and Risk Management

Tailored Safety Management Systems (SMS) for UAS operators is critical for scaling operations responsibly.

## Cybersecurity and Data Governance

With UAS systems increasingly connected, we need coherent global policies on cybersecurity, data integrity, and privacy—especially when operating in fragile contexts. This is not just a technical issue, but a matter of trust and security.

## Cross-Border Operations

We must address regulatory bottlenecks in cross-border UAS deployment.

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# UN Secretariat Future Capabilities

## UAS Cargo:

- 15-50kg (phase 1)
- 50-200kg (phase 2)
- Dangerous Goods
- Sling/ Air drop
- Target 2 tons (not included in Phase 1 & 2)

## Medical UAS support:

- Emergency response (MEDEVAC)
- Blood
- Vaccines
- Medical supply
- Telemedicine/remote triage

## UAS Mission Support:

- Engineering Aerial Surveillance
- 3D mapping/ Precision LIDAR
- Precision Agriculture/ spray/ seedlings
- UTM/ Airspace management
- IED/ mines Detection



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# A Decade of Progress: Shaping the Future Together

A decade-long journey toward a UN  
“Centre of Excellence”

From pioneers → structured management →  
harmonized system

UN as trusted global leader in  
unmanned aviation

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