ETC UAS Coordination Model

Implementation in emergency operations

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Emergency Telecommunications Cluster (ETC)

www.ETCluster.org

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About this document

This document outlines the Emergency Telecommunications Cluster (ETC) coordination model for the use of Unmanned Aircraft Systems (UAS) in emergencies. It can be used by the ETC coordination team and others in the response community to support the timely, effective and efficient deployment of UAS services in an emergency operation. This document acts as a high-level guide and only covers the coordination of UAS services in emergency operations.

UAS services in emergency operations

UAS, commonly known as drones, can be used for a large number of applications, including search and rescue, imagery, transport and connectivity. Humanitarian responders are increasingly deploying drones during emergencies for these applications.

While the use of drones during humanitarian responses bring many benefits, they also present a variety of challenges. Without appropriate coordination, the activities of numerous independent organisations can result in increased safety risks and redundancy of efforts. The ETC, as a technology-driven cluster and coordination body, can ensure that the use of drones during emergencies are coordinated, thereby reducing safety risks and avoiding the duplication of efforts.

At the ETC plenary meeting held in 2018, ETC partners endorsed the development of the ETC UAS Coordination model which shall be used for coordination of UAS during emergencies. Under the UAS Coordination model, the Global ETC team is not expected to build its own dedicated drone fleet and capacity. Instead, it will coordinate UAS services provided by local actors and call upon global partners to deliver specific services and fill identified gaps.

Overview of the ETC UAS Coordination Model

Through this model, the ETC will facilitate the use of drones among humanitarian organizations on the ground by engaging with local regulators, advocate for the ethical use of drones in the humanitarian context and ensure safety and compliance measures.

Furthermore, the ETC will enable the efficient delivery of UAS services by identifying needs and documenting requests while at the same time mapping the available capacity on ground. Depending on the requirements, this may include requesting drone flights to identified locations, capturing data and then analyzing and sharing that data/information with relevant stakeholders and in line with privacy regulations/protocols.

If required, the ETC may also mobilize UAS services by calling upon partner organizations who could fill specific gaps and therefore complement, not duplicate, capacity already in-country.

Coordination of such activities will aim at maximizing resources, mitigating duplication of efforts and providing relevant services and information to the response community effectively.

UAS Coordination Model

Activation of ETC UAS Coordination services

Prior to activating the UAS coordination mechanisms, it is important to confirm whether the operation of UAS is legal and possible by consulting the country's aviation rules and regulations. This information is available through various channels, such as official government portals and focal points. The Global ETC team can support obtaining such information through its network of partners. If the operation of UAS is not legal or possible within a country but there is a requirement for UAS, the ETC coordination team will engage with the authorities and the Humanitarian Country Team (HCT) to advocate for lifting of any such restrictions in order to support humanitarian operations.

Activation and de-activation of ETC UAS Coordination services will occur as per any other ETC service. It shall be activated following an assessment that identifies a gap that needs to be filled in the humanitarian context to support the emergency operation. Once the gap is filled, services shall be transitioned and ultimately phased out.

Activation of UAS coordination is done by assigning the UAS coordination function. Depending on the size of the operation this can either be an additional responsibility of the ETC coordinator or assigned to a dedicated staff member. In emergencies where deployment of UAS is highly likely, a UAS coordinator may be deployed alongside the ETC coordinator at the onset of the emergency.

Initiating and chairing the UAS Working Group (UAS WG)

To support effective coordination, the ETC or UAS coordinator will engage with the response community and initiate a forum that could be referred to as the UAS Working Group which will convene UAS service providers with the capacity to deploy UAS services in the operation. The UAS service providers must fulfil certain criteria before they can engage with the ETC. The UAS coordinator should ensure that the service providers are in compliance with local regulations and follow relevant procedures such as liaison with air traffic control before undertaking any flights. The UAS WG will be chaired by the ETC or UAS coordinator. Internal communication within the group can be organized as needed and as best fits within existing ETC practices on the ground.

The UAS Working Group remains engaged during the entire process of UAS coordination, including assessments, gap analysis, coordination, service delivery and capacity building.

Sharing information on UAS regulations and safety

UAS regulations tend to be complex and strict as due to safety and security reasons. To avoid UAS operations being negatively affected, it is important to make sure all UAS operations adhere to local regulations.

Safety is a key component of all UAS operations. Due to the potential risk to people and property, a robust set of safety measures will have to be put in place to ensure safe and secure UAS operations.

In practice, most countries have established a framework of regulations and permissions that need to be obtained before flight operations can commence. To assist UAS service providers with this, the Global ETC can provide information on which local regulations are in place, how they relate to UAS operations and where to obtain the necessary documentation and permissions.

UAS needs assessment and gap analysis

Once deployed, the priority of the ETC or UAS coordinator will be to conduct a needs assessment or gap analysis for UAS services in a given operation.

Gathering information regarding needs for UAS services will be combined with the overall ETC needs assessment and shall reflect engagement with stakeholders to get information like existing and planned Common Operational Areas, locations and size of existing and planned operations and which UAS data products are needed or could possibly support the humanitarian operation effectively.

Furthermore, the ETC or UAS coordinator will conduct an inventory of UAS service providers, showing which service providers are available in which location and their capacity to collect, process, store and share UAS data. Once this information is collected, the analysis can determine the gaps that need to be covered.

Coordination and implementation of UAS activities and services

The outcome of the needs assessment and gap analysis will determine the need for UAS activities as well as the available resources on the ground.

Through linking/bridging identified gaps and available resources, the ETC or UAS coordinator will enable local service delivery on ground, filling gaps while also avoiding duplication of efforts.

To be able to implement this, the ETC or UAS coordinator needs to act as a point of contact for both the response community and UAS service providers. UAS services in an emergency operation shall support the joint humanitarian efforts and strategic objectives highlighted in country Humanitarian Response Plans (HRP).

Any request for UAS data products will be considered based on location, type of data needed and timeframe. Existing data may be reused and processed to meet some organizations' requests. If no data is available, the ETC may consider asking the UAS service provider(s) to conduct flights to obtain the data and deliver the end-product as requested.

Due to limitations on resources (staff, equipment, processing and storage capacity), a prioritization process may need to be put in place by the ETC.

All ETC UAS activities shall be included in the ETC ConOps along with possible funding needs and Monitoring and Evaluation (M&E) can be implemented based on established Key Performance Indicators (KPIs). Before implementing UAS operations, a risk assessment must be done to ensure data protection safeguards are in place (see section "Implementing data protection guidelines" below). At the same time, procedures for Information Management (IM) and reporting should be put in place to streamline the coordination mechanism.

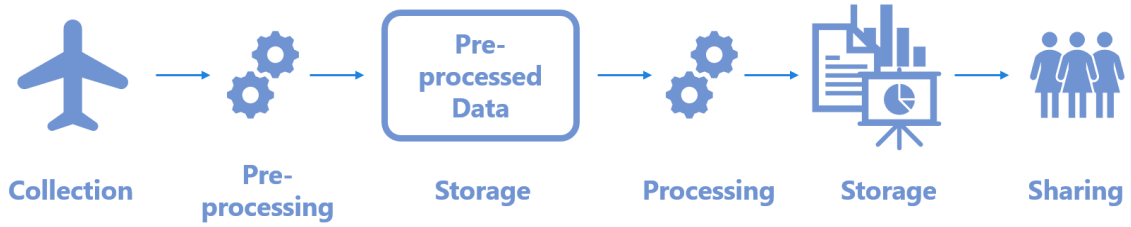
Mobilization of additional resources

If the gap analysis indicates additional UAS resources are needed, the ETC or UAS coordinator can assist in mobilizing additional resources. This is expected to be supported by partners that contribute staff and/or technology on the ground.

Once resources are being mobilized, the ETC or UAS coordinator can assist with (pre-)clearance of equipment, customs procedures and staff entry.

Implementing data protection guidelines

The ETC UAS coordination model will adhere to the UAS Data Protection guidelines which will be put in place to establish safeguards for data collected, processed, stored and shared during UAS operations. Data protection must be incorporated in UAS operations from the planning stage and carefully considered in each phase of the operation to ensure the data collected is necessary and proportionate to the needs.



Simplified flow of UAS data

Initiating local UAS capacity building

An important part of any response operation is building local capacity. This involves building and strengthening the local response community through training, localizing technology and other preparedness activities. Where possible, the ETC or UAS Coordinator and through the UAS WG will engage in these activities and identify organizations, donors, local entities that can support in providing training and support to the local response community as part of preparedness activities.

De-activation of UAS coordination

Once the criteria to activate the UAS coordination mechanism no longer apply, the UAS coordination mechanisms can be deactivated. This would generally be the case if the humanitarian situation improves significantly which reduces the humanitarian needs or if the local response community acquires enough capacity to meet any remaining humanitarian needs.

The Global ETC

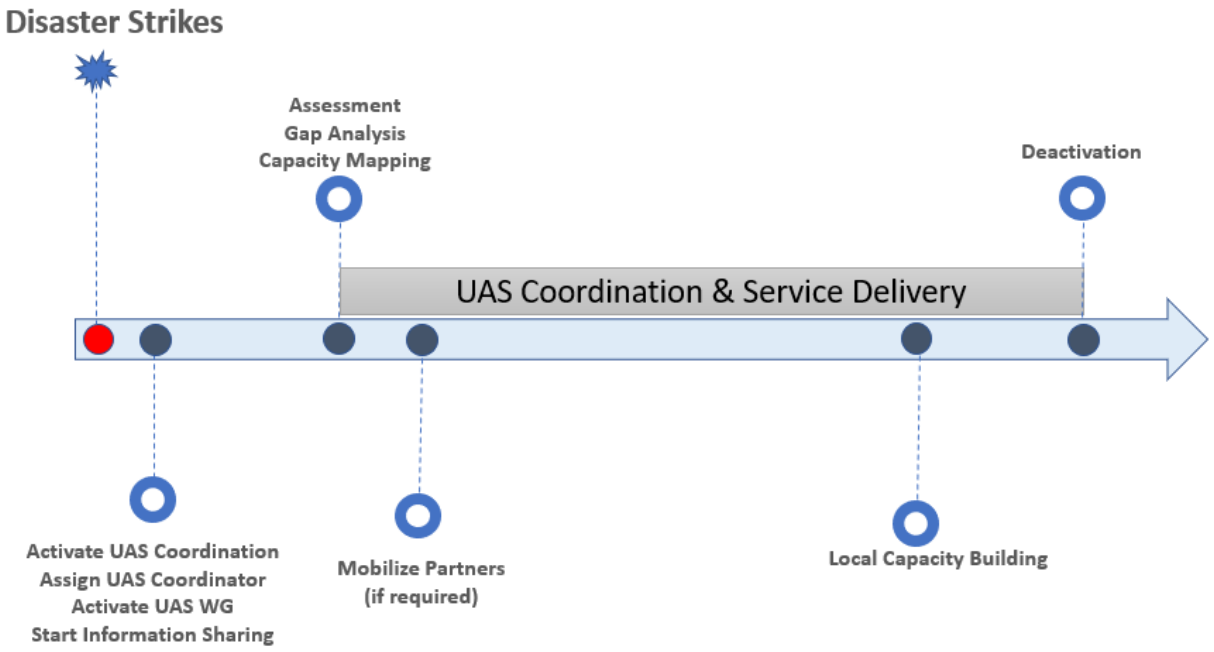
The Global ETC team provides operational, technical, and policy support to country operations. The team engages closely with its network of partners and maintains active rosters of pre-qualified staff as well as prepositioned equipment. The United Nations World Food Programme (WFP) is the global lead of the ETC and hosts the Global ETC in Rome and Dubai.

Annex A - Diagram of the ETC UAS coordination model

Annex B - Checklist for implementation of the ETC UAS coordination model

Annex C - Acronyms related to ETC UAS operations

Annex A – Diagram of the ETC UAS coordination model



Annex B – Checklist for implementing the ETC UAS coordination model

Action	Check
Activation of UAS coordination	
Check legality of UAS operations in the country / operational area	
Can UAS fill a gap or add value to operation? Activation criteria met?	
Assign the ETC UAS coordinator function – UAS coordination activated	
Initiating and chairing the UAS Working Group (UAS WG)	
List of UAS service providers available	
Initiate the UAS Working Group through kick-off meeting	
Communication mechanism decided (point of contact, meeting schedule, etc.)	
Sharing information on UAS regulations and safety	
Identify point-of-Contact in the local organization(s) dealing with UAS operations regarding regulations, operational matters and safety	
UAS safety guidelines established and shared with the UAS working group	
Information about local regulations available and shared with the UAS WG	
UAS needs assessment and GAP analysis	
Needs assessment done through the regular ETC coordination mechanisms, including existing and planned Common Operational Areas, locations of existing and planned operations and UAS data products needed in the different locations	
Inventory of existing and planned UAS service providers, including their location(s) and collection, processing, storage and sharing capabilities	
GAP analysis done and shared with the UAS WG	
Coordination and implementation of UAS activities	
Necessary UAS activities identified, planned and included in the ETC ConOps	
UAS coordinator established as point-of-contact for the response community and UAS service providers	
Procedures in place for tracking requests for UAS products	
Prioritization process in place for UAS tasks	
IM and reporting procedures implemented	
Communications and advocacy activities planned	
Mobilization of additional resources	
Additional resources identified (if needed) and requested / called forward	
Information about customs (pre-clearance) and immigration procedures communicated	
Implementing data protection guidelines	
UAS data protection guidelines shared with the UAS WG	
UAS data protection guidelines implemented in all stages of the UAS data flow	
Initiating local UAS capacity building	
Capacity building activities identified	
Funding (if required) for capacity building activities secured	
Training and support providers for capacity building activities identified	
Capacity building activities implemented	

Deactivation of UAS coordination	
Deactivation criteria are met	
Exit strategy planned and implemented	
Handover done	
UAS coordination deactivated	

Annex C – Acronyms related to ETC UAS operations

Acronym	Description
ETC	Emergency Telecommunications Cluster
IM	Information Management
UAS	Unmanned Aircraft Systems
KPIs	Key Performance Indicators
ConOps	Concept of Operations
WG	Working Group
WFP	The United Nations World Food Programme