Novel Integrated Solution of Operating a Fleet of Drones with Multiple Synchronized Missions for Disaster Responses – *ResponDrone*

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Introduction of Research

ResponDrone is an international project co-funded by the EU and Korean government, which is dedicated to developing and applying a situational awareness system in emergency situations, providing critical information and communication services to first responders.

Materials and Methods

ResponDrone consists of 15 work packages, which are
- Ethics requirements
- Risk Assessment & Management
- Multi Mission Planning & Operation
- Multi-drone Operation Optimization
- Video Analytics
- Integrated Data Processing for Risk-Based Decision Support
- General Architecture, Integration, Validation and Testing
- Ethical & Legal Issues of RESPONDRONE-enabled missions
- Integrating RESPONDRONE into First Responders' Processes & Operations
- Large Training Programs
- Large Scale Demo
- Innovation Management, Exploitation & Business Planning
- Dissemination, Communication and Visibility
- Project Management
- Studies of Disaster Response Operations

Results

The three-year **ResponDrone** project aims to develop an **integrated solution for first responders** to easily operate several drones with multiple synchronized missions to enhance their situation assessment capacity and own protection. It will enable emergency response teams to respond more rapidly, effectively and efficiently to an emergency or disaster and therefore save more lives. The fleet of drones will provide enhanced capabilities to support mission assessment, search and rescue operations, as well as forest fire fighting.

Current Projects

American University of Armenia (AUA) is leading two major research and quality assurance components of the **ResponDrone** project (WP 9 and WP 15). This includes analysis of existing best practices on drone use in disaster response. Also, in partnership with the French High Committee for Civil Defense (HCFDC), AUA will identify the requirements of first responders and the capabilities that they deem effective to have when using drones in disaster management.

Papers

Report on the Studies of Disaster Response Operations prepared by the **American University of Armenia** is in progress

References

The project includes 20 partner organizations such as American University of Armenia's Acopian Center for the Environment (Armenia), Ministry of Emergency Situations of the Republic of Armenia, German Aerospace Center (Germany), Israel Aerospace Industries (Israel), ALPHA Unmanned Systems (Spain), etc.

Acknowledgements

For more information about the project, please
visit: https://respondroneproject.com/
https://ace.aua.am/respondrone/