Research Project Title

Drones and Other Technologies to Assist in Disaster Relief Efforts

Purpose of the Project

Tennessee faces many threats from natural disasters such as storm, flooding, landslide, and earthquake, which damage civil infrastructure and cause major service interruption. The overarching goal of this research is to expedite the use of emerging technologies at Tennessee Department of Transportation (TDOT) and Tennessee Emergency Management Agency (TEMA) for disaster preparedness, response, mitigation, and recovery. This research will identify and study technologies that can be used for disaster relief and develop use cases and best practices with inputs from TDOT and TEMA.

Scope and Significance

1. A clear understanding of the status quo of what technologies and how they are being used by TDOT and TEMA in disaster relief will establish a baseline to discuss the inclusion of other relevant and advanced techniques, the compatibility issues, costs, and benefits, and potential implementation in Tennessee.
2. An in-depth understanding of the available technologies and constraints for usage in disaster areas will help TDOT and TEMA safely, effectively, and efficiently operate the systems and avoid failures and accidents.
3. Consulting experts from TDOT and TEMA will help confirm the applicability of the identified technologies, and develop use cases and best practices for applying the emerging technologies in disaster relief.

Expected Outcomes

1. List of hardware and software systems that can be used for disaster relief.
2. Status quo of technology usage at TDOT and TEMA for disaster relief.
3. Uses cases, best practice, and workflow for using the identified emerging technologies.

Time Period

This research project will be 18 months, from September 01, 2020 to February 28, 2022.

Contact Information

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