Natural disasters have claimed the lives of more than 5,000 people and affected more than 5 million worldwide in 2019. The number one cause of the death toll was water - in the form of floods, Tsunamis from earthquakes, and hurricanes. While science and technology continually improve to try to predict these events in order to minimize their effect, they cannot eliminate the cause or impact. When disaster strikes, first responders and the agencies they work for answer the call no matter what, no matter where, no matter when, and no matter how dangerous.

When disaster strikes, first responders must answer the call. Access to critical data is essential for mission success but almost impossible to obtain and share when communications are disrupted. Public safety agencies (such as law enforcement, emergency medical services, and fire services) must be able to provide and maintain communications before, during, and after a disaster or emergency.

Disasters often require resources beyond what local and state authorities can manage and are generally provided by dispersed detachments and a pre-positioned fleet of mobile communications assets and personnel. These systems, and equipment can be driven or airlifted by a military cargo aircraft depending on the distance to the disaster location and the availability of the airlift and often require significant time that can be otherwise be used to save lives.

To minimize this challenge and to support this important mission area, the engineers at Tyto Athene, a leader in IT solutions development and support, have developed a solution. Acuity is designed to allow first responders access to critical data almost instantaneously from the moment responders hit the ground through recovery operations and restoration.

Time saves lives and the ability to obtain and share data quickly and efficiently can mean the difference between life and death for the victims of a disaster.

Responders need quick access to vital information and communications capabilities that simply may not be available because traditional means of communication are not functional or are overloaded and traditional rapid response systems take too long to become operational.

Acuity helps to solve problems by enabling critical communications by and between all elements involved in the response effort. Unlike most portable solutions that offer either compute or communications or some variant of these capabilities, ACUITY was designed from the ground up to solve the compute and communicate problem.

We started with an understanding of responders needs by focusing on the following objectives:
- Create a lightweight/portable data center with interoperable voice, video, and information systems functionality
- Create a solution that operates in a connected or disconnected mode
- The solution supports both secure and non-secure communications
- It must support between 50-100 users and must be scalable to support multi-mission area operations
- Build a solution that can be clustered for greater amounts of storage and compute capabilities
- Adopt best-of-breed technology
- Provide redundant LTE, Wi-Fi and optional satellite communications capability
- Create a solution with superior compute capabilities
- Package these capabilities in a ruggedized briefcase style case.

ACUITY: A rapid response, survivable computing and communications platform that helps first responders do what they do best – save lives!