



COPPER

(Critical Operations Preparedness and Procedures for Emergency Response)

MAIN FEATURES

COPPER is an integrated system for agencies, communities and companies operating in situations of emergency medical and environmental crisis and criticality, including storms, earthquakes and other natural disasters, major accidents, and intentional acts of threat or danger such as terrorism and social disruption.

COPPER provides **C**ritical **O**perations **P**reparedness and **P**rocedures for **E**mergency **R**esponse through a cohesive, fault-tolerant, rapidly-configurable integration of field and support personnel, light and heavy equipment, medical and life-support resources, CBRNE and Hazmat technology, and comprehensive information and communication systems.

COPPER provides for efficient, economical, resilient management, operational continuity, task optimization, safety assurance and project accuracy and reliability in the work that needs to be performed either in advance or deterrence of an emergent critical event such as a potential environmental disaster, or during in-process emergency response and relief, or during the often lengthy and complex post-event sequences of operations for relief and recovery.

COPPER is much more than a web-based, mobile-enabled information system that incorporates a network of computing and communication technologies. **COPPER** involves concrete physical and program/project managerial methodologies and practices, logistics (personnel, equipment, materials), training, financial and management coordination. One of its purposes and strengths is in providing proper, safe, healthy, efficient, and secure direction and use of resources and supplies spanning from heavy equipment to clinical and office supplies. **COPPER** concentrates upon and provides solutions for the types of problems that often emerge during emergency planning, preparedness and response operations, particularly with regard to optimal routing, placement and engagement of personnel, equipment and supplies, life-critical matters of water, food, medicine, field medical facilities, and the handling of matters involving CBRNE (chem-bio-rad-nuclear-explosive) threats, debris, infectious diseases and pestilence, and social infrastructure instability.

COPPER is designed to be utilized on either a per-unique-project basis (with distinctive modifications being made as required) or else in a more comprehensive manner for use on multiple projects that are undertaken by an organization or a consortium of entities, private and public. **COPPER** is designed in a manner that enables it to be tailored and customized easily for different types of events and projects. While initially focused on needs within the emergency response sector, **COPPER** is very much a powerful resource for prevention and deterrence, such as environmental remediation and adaptation, new construction, environmental enhancements and also a variety of energy-supportive, community-building and economy-enhancing developments.

Many features and functions enabled in **COPPER** are not required for different projects, situations (emergency or pre-emergency or after-the-fact). These can be easily removed or modified. Other specialized functions can be added as required by the job. Moreover, most of **COPPER** is about Action, Operation, and Live, Real-Time Use. For that there are demonstrations, the best of which are through actual field deployments on real projects serving real needs for people, companies and our society. **COPPER** may be used at any organizational and project level – and again, it is not only for managing an emergency or disaster that has occurred, but in enabling better, more efficient, more economical preparation and prevention of such events and their consequences for the communities and economies.

COPPER – Main Features 20.Sept.2011

With the **CUBIT** (Coordinated Unified Biothreat Intervention and Treatment) and specifically the **CRAIDO** (Community Rapid-Response for Infectious Disease Outbreaks) component-systems, including their mobile hardware and instruments accessible and manageable through **COPPER**, there is an efficient, economical, reliable and resilient way to prepare for and respond to the dangers of epidemics and pandemics involving a wide variety of biothreats, to biowarfare and terrorism, and to the dangers of pestilence and public health disasters from the consequences of earthquakes, floods, hurricanes, tornados, and other disruptions to the food and water supply-chains and their integrity.

COPPER also provides an extensive suite of tools for modeling, simulation, forecasting, prediction, and in both live-operational and advance-training modes. **COPPER** is also designed to address the needs and the opportunities for collaborative, integrated community-based relief processes - such as improving the supply and distribution of water, food, shelter, clothing, fuel and medicine – in concert with, in synchronization with, and in a minimization of disruption or confusion to or by various groups and forces operating in a crisis or emergency situation. There are many ways in which, for instance, debris removal and demolition can be organically coupled and linked to provide often badly-needed services and resources for the distribution of needs to a disaster-hit community.

COPPER is constantly growing and evolving to meet the needs of the world and those who work to make it a better and more safe, healthy and livable environment for our families and communities. There are new optimizations and improvements in development and coming on-line and these include some that are remarkable new or modified applications or re-use of existing, proven technologies and systems (e.g., for tracking, locating, routing, fuel/vehicle/staff optimization, hauling-load measurement and validation (debris or supplies), water quality, food safety, hazmat-avoidance, civilian danger minimization, and estimation/forecast tasks both in advance and after a major event such as an earthquake or mega-storm.

Thus, **COPPER** can employ, right now, such a complementary and collaborative diversity of techniques and tools as:

- Micro-helicopter (remote-operation, radio-controlled, wi-fi connected with the internet) surveillance and estimation of potential damage, debris concentrations and volumes, flooding, fire-threats, evacuation-route statuses, and more
- Bicycle-based performance of the same types of tasks (using both mountain-bikes and new wind-assisted “wikes”)
- Automated and AI (artificial intelligence) assisted tracking and locating and estimating of future position and timing for people, vehicles, special equipment, supplies
- Automated load calculation and verification of hauling-truck loads (debris and refuse, or material and supplies)
- Accurate and rapid field-tested deployments of sensors, detectors, monitors, and analytical instrumentation for identification and tracking of IDLH (immediate danger to life and health) chemicals, biological agents, and radioactive substances
- Effective suite of rapid-deployment shelters for emergency habitation, offices, storage of supplies including large machines and vehicles including oversize trucks and earth-moving equipment
- Seamless fault-tolerant messaging including fall-back and alternate team notifications, using SMS, voice, and video, for staff that need to be notified, redirected, placed out of danger, sent to new assignments

Contact TETRADYN for additional information, for access to the operational hands-on environment and to discuss customization, implementation, data-collection/entry, training and support.