



## Public Television Leading the Way on Mobile Digital TV Emergency Alert System

The Public Broadcasting Service and LG Electronics are conducting a groundbreaking one-year pilot project of a next-generation broadcast Mobile Emergency Alert System (M-EAS). Co-funded by the Corporation for Public Broadcasting and LG, the pilot project is assessing the potential of public and commercial television stations using mobile digital television to broadcast rich-media emergency messages to the public.

Building on its long history of broadcasting innovation, public television is leading the way in the development and testing of M-EAS. In addition to serving as test markets, APTS members Vegas PBS (KLVX), WGBH (Boston), and Alabama Public Television stations WBIQ (Birmingham) and WAIQ (Montgomery) are providing video, audio, data and photo content for the project. Seattle commercial station KOMO-TV (Fisher Communications) also developed a compelling tsunami video alert simulation. (No CPB funding has gone to Fisher or KOMO-TV). Examples of what could be transmitted by local stations:



### **Suspicious package in Las Vegas:**

A package is found at the front door of the convention center. Videos of the package, danger areas and evacuation routes are transmitted.



### **Tornado alert in Springfield, MA:**

A tornado is heading toward the city. The tornado's path is transmitted along with video of the tornado and instructions about what to do.



### **Missing person in Birmingham, AL:**

An elderly local man is missing. A description and photo of the man are transmitted.



### **Tsunami alert in Seattle, WA:**

An undersea earthquake has created a tsunami, and it's heading toward the coast. Alerts are transmitted, as are escape maps and videos.

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M-EAS has far-reaching public safety benefits. It can provide critical information – encrypted if necessary – to first responders who need to reserve other networks for two-way communications. For the general public, federal and state agencies can distribute messages instantly to millions of Americans with a single broadcast.

### **How M-EAS Works**

- M-EAS uses terrestrial TV broadcasting rather than cellular network connectivity (which often become overloaded in times of emergencies).
- Both local M-EAS alerts and those originated from the President are formatted initially as text messages using the same U.S. Government-approved standard that the cellular industry will use to deliver short text alerts, which in turn is based on the international Common Alerting Protocol (CAP), also approved by the U.S.
- Additional rich media resource files from servers, the cloud and weather radar are integrated at the local broadcast station with the national, state or local alerts. These rich media resources will be added automatically by secure servers, as prescribed by the CAP standard.
- The M-EAS messages, which can include video, audio, text, maps and photos, are transmitted over-the-air using another open standard, North America's ATSC Mobile DTV broadcast standard.
- Finally, the alerts are viewed and heard on Mobile DTV-equipped smartphones, tablets, and laptops with software that receives and displays the messages and their associated rich-media resources.

### **Key Pilot Project Factoids**

- Because M-EAS requires no additional bandwidth, it represents a “dual use” of existing transmitters and towers.
- The pilot project uses existing standards for implementation, including:
  - The U.S. broadcast standard for Mobile DTV, the A/153 MDTV standard, adopted by the Advanced Television Systems Committee, and
  - The international Common Alerting Protocol (CAP), which specifies how messages are structured, and the related Commercial Mobile Alert standard adopted by the cellular industry for text alerts.
- In addition to co-funding the project with CPB, LG Electronics and its Zenith R&D Lab developed prototype MDTV Android smartphones with M-EAS software.
- Harris Corporation and Roundbox are providing technical support at the local MDTV-enabled PBS stations involved in the pilot project.