

Mobile Mapping for Disaster Recovery in Large Telephony Networks

Bentley's Mobile Mapping Tool

Mobile Mapping Tool for Disaster Recovery

Implementing Bentley's Mobile Mapping Tool (MMT) for emergency preparedness and service restoration efforts addresses many of the challenges that face communications companies in the event of disasters. Bentley® technology makes first responders self-reliant and able to perform their work in day-to-day operations or in an emergency, whether connected or disconnected from the network.

Enabling Disaster Recovery Workflows and Aiding First Responders

First responders often do not have all the information or tools they needed to do their jobs effectively. After a catastrophic event, existing network equipment and landmarks may be unidentifiable, causing increased delays in restoration efforts, substantial rework increases, and subsequent increases in service restoration costs. Better collaboration is needed between all utility companies, government agencies, and restoration efforts, particularly in relation to the sequencing or prioritization of crews entering an area, such as bulldozer crews, tree crews, power crews, gas crews, and communications network operator crews. Management also needs accurate time estimates for service restoration to communicate to customers and municipalities.

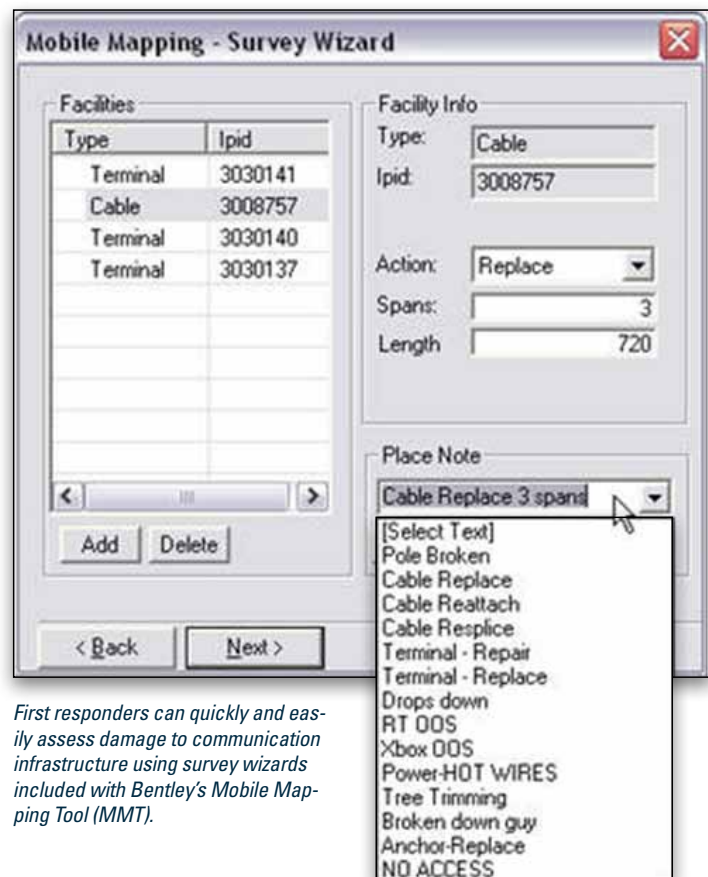
Bentley's Mobile Mapping Tool aids communications companies that need to prepare for and respond to catastrophic events. Crews that arrive first to a disaster area need technology to quickly assess the damage and accurately document and communicate to others the work and materials needed for service restoration. The responders must be self-reliant and have all the tools and information they need to perform their work. These include the means to navigate when network plant and local landmarks have been destroyed. They need to locate specific plant, navigate to this plant, and identify locations that need restoration work to others. Lastly, engineers and construction crews need tools to analyze the network, capabilities to compile bills of materials, and to output data in formats compatible with corporate systems. They need these tools for day-to-day operations, but most importantly in the event of a disaster recovery initiative.

First Responder Mobile Independence

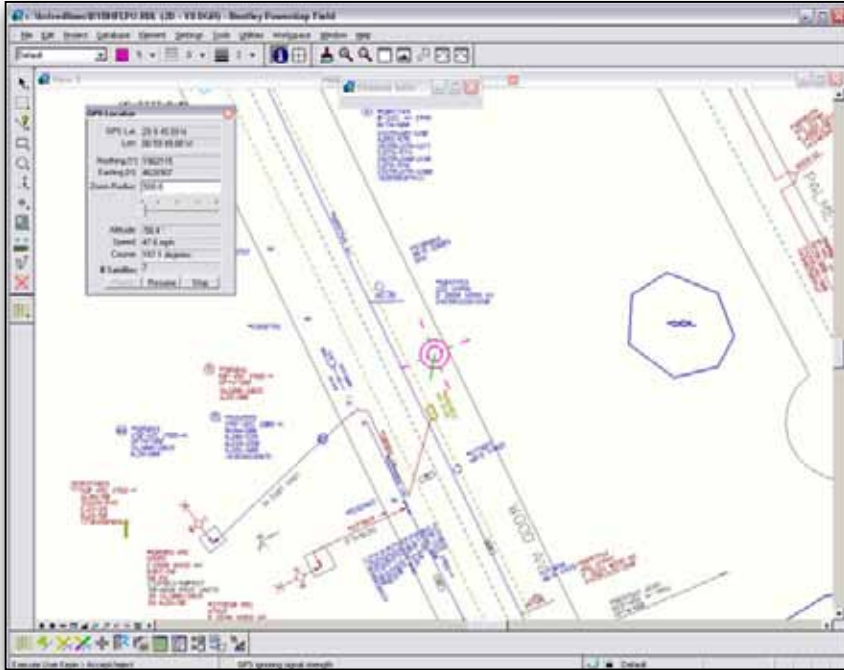
During catastrophic emergencies, electrical power may be as scarce as communications network access. How can first responders obtain network information and analysis tools to perform their restoration surveys and work? Network or web access solutions do not meet the requirements for true disasters. Bentley's MMT was designed to work stand alone with disconnected portable data sets, which can be connected to the network when available. This disconnected/connected architecture also works well with day-to-day operations when crews go in and out of areas with limited reception for network access.

Navigation, Location, and Identification

MMT provides GPS integration for latitude and longitude location when extraordinary damage is widespread and landmarks, road signs, and existing plant may all be missing. Having the x, y position in the survey is also critical so that the location is unique and identifiable to other crews, companies, and agencies participating in the restoration efforts. When a first responder uses the GPS device to navigate to an assigned area, being able to view available records on a screen is critical. MMT also performs on-the-fly coordinate transformations to allow easy importation of data sets from the different land-base systems used by other utilities.



First responders can quickly and easily assess damage to communication infrastructure using survey wizards included with Bentley's Mobile Mapping Tool (MMT).



Restoration crews using Bentley's Mobile Mapping Tool (MMT) integrated with GPS, can quickly visualize their geographic location as well as the communication infrastructure using a dynamic mapping interface.

Fast, Accurate Damage Assessment

A field optimized Survey Wizard captures safety hazards and other road blocks that must be cleared before restoration can begin. Clicking on a street centerline picks up GPS coordinates, CLLI codes and other required information. Items to be replaced or repaired are captured by clicking on the graphical view, and damaged items can be color-coded by repair need.

Network Analysis and Reporting

Graphical network analysis and reporting tools include a color-themed loop makeup that shows different distances (accounting for resistance) from the serving interface. A color-coded bill of materials spreadsheet shows items that need construction work before they can be serviceable. A survey package contains a PDF file that can be utilized by a variety of stakeholders, including other utilities. A redlined DGN file can be imported directly into Bentley Telco to produce the engineering work authorization and work prints. In addition, a value delimited data file is produced that can be uploaded to corporate systems for survey aggregation.