



**US Army Corps  
of Engineers®**  
Engineer Research and  
Development Center

# TeleEngineering Operations Center (TEOC)

## Description

The TEOC provides a “reachback” engineering capability that allows Department of Defense (DoD) personnel deployed worldwide to talk directly with experts in the United States when a problem in the field needs quick resolution. Deployed troops can be linked to subject matter experts (SMEs) within the Corps of Engineers, private industry, and academia to obtain detailed analysis of complex problems that would be difficult to achieve with the limited expertise or computational capabilities available in the field.

## Capabilities

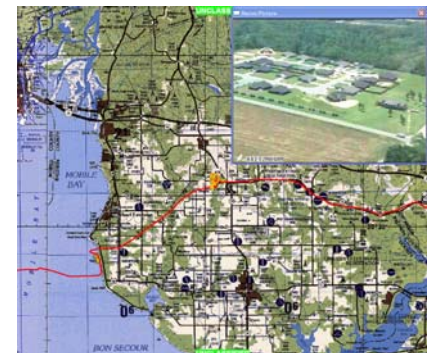
TEOC staff members respond to incoming information requests and provide detailed analyses of problems, such as flooding potential due to dam breaches, load carrying capacities of roads and bridges, field fortifications and force protection, and evaluation of transportation networks.



## Supporting Technology

TeleEngineering Communication Equipment (TCE) provides reachback capability using off-the-shelf communications equipment with encryption added. Video teleconferences and data transfers can be conducted from remote sites where other means of communications are nonexistent or unavailable.

The TeleEngineering Toolkit (TETK) is a software product that provides a valuable analysis tool to personnel on the ground or going into an area of operation. By annotating an area of interest, a small reference file can be sent back to the SMEs to provide requests for a variety of information, including cross-country mobility analysis, flood analysis, and vegetation information. The response can then be sent back and graphically displayed using the TETK.



The Automated Route Reconnaissance Kit combines the power of the TETK with a GPS, video camera, and 3-D accelerometers to provide automated route reconnaissance. This system is still in prototype stage but has been used in Operation Enduring Freedom and Operation Iraqi Freedom.

## Benefits

Coupling the active-duty engineer force with the most highly skilled DoD civil engineering practitioners and computational assets provides the support and state-of-the-art technology that is required for effective force projection and force protection. In addition, the availability of TEOC assistance reduces the need for forward staff.

## Success Stories

The TCE system has become one of the main components of TeleEngineering and is currently deployed with military units in Afghanistan and Iraq. Units responsible for restoring power and water to the Baghdad Airport were from the ERDC, USACE, and the 249th Prime Power, through TCE.

## ERDC POC(s)

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