ICT has developed an adaptive virtual environment for assessment and rehabilitation of neurocognitive and affective functioning. This project brings together a team of researchers to incorporate cutting-edge neuropsychological and psychological assessment into state of the art interactive virtual Iraqi/Afghani scenarios, including a simulated city, checkpoint, and Humvee.

**The Army’s Needs:** An Adaptive VRCPAT based upon individual Soldier differences can be used to greatly enhance assessment and training:

1. Assess Soldier’s performance within VRCPAT allows for the establishment of a baseline that is reflective of individual differences.
2. Neurocognitive and psychophysiological profile data may be used for real-time adaptation of the VRCPAT.
3. Evolution of these profiles developed for use in VRCPAT could lead to direct training of military operations in the real world.

**How ICT Met Those Needs:** Findings from our research have provided the military with the following:

1. A neurocognitive and psychophysiological interface modeled off of trainees interacting in a virtual environment that mimics Iraqi and Afghan environments, for modeling a trainee’s adaptive responses to environmental situations.
2. A system for military trainers to develop more reliable and valid measures of training performance.
3. Civilian dual-use capability in conditions involving psychophysiological correlates to neurocognitive function and emotion regulation in persons immersed within a virtual environment.

**Future**
ICT is extending the VRCPAT findings by examining performance not simply by a user, but teams of Soldiers.

**Facts and Figures**
- VRCPAT is being used to run subjects at Tripler Army Medical Center, Ft. Lewis, Madigan Army Medical Center, West Point, USC and UCSD.
- VRCPAT has been used in studies with over 400 subjects, including both Soldiers and civilians.