

Increased Power Supply Without Adding Extra Load

Feb 14, 2018

This post is also available in: עברית (Hebrew)

The proliferation of radios, handheld smart devices, GPS, and other personal electronic devices supporting the "future soldier"'s operation has been prompting the examination of ways to meet the demand for power supply and energy at the soldier level. The mission duration for any soldier or squad is directly dependent on their ability to power all of their devices and how long they can operate dismounted.

The US Army Communications-Electronics Research, Development and Engineering Center (CERDEC) research and development is not only exploring ways to provide longer run times for the devices soldiers carry but how to do that without increasing the load on soldiers, reports janes.com. Research focuses on several technological solutions:

Producing energy through the soldier's movement, e.g. via a device installed in the shoes (when each step produces energy) or in the backpack (energy through movement).

Another development consists of an energetic improvement/fuel saving solution on the level of units, command stations etc. – Energy Informed Operations (EIO). The project includes generators that have been adapted to the specific mission, the smart management of the energy supply and availability of energy sources.

The US Army has been also testing an app-based mission planning tool that enables soldiers to optimize their energy supplies for deployments, taking into account the configuration of the equipment that they are carrying as well as the expected environmental conditions. The iPower developed by the NRL was designed to give soldiers a tool that will recommend which equipment the soldiers will need to take – batteries, solar panels, energy harvester, etc., computing the requirements basing on some knowledge of the environment.