



News Release

Defense Advanced Research Projects Agency

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IMMEDIATE RELEASE

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DARPA SPONSORS PILOT-SCALE PROCESS TECHNOLOGIES FOR VERY HIGH EFFICIENCY SOLAR CELLS

The Defense Advanced Research Projects Agency (DARPA) today initiated a three-year effort with the newly formed DuPont-University of Delaware Very High Efficiency Solar Cell (VHESC) Consortium to drive the efficiency of a new class of solar cell modules to over 50 percent and develop a pilot-scale process technologies to produce them at a cost of less than \$1,000 per square meter, which is the current price for today's commercially available solar cells.

The solar cell to be developed by the VHESC team uses a novel lateral optical concentrating system that splits solar light into three different energy bins of high, medium, and low, and directs them onto cells of various light sensitive materials to cover the solar spectrum. In addition, the VHESC solar cell includes a wide acceptance angle optical system that captures large amounts of light and eliminates the need for complicated tracking devices.

DARPA and the U.S. military are pursuing solar cell technology due to the considerable logistical burden of supplying batteries to the soldier in the field and the fundamental mission limitations that are imposed if resupply is not possible. A three-day soldier battery load may weigh as much as 20 pounds. Resupply of primary batteries is currently the third largest logistics pipeline burden for the military, behind only fuel and water.

The DARPA VHESC program aims to dramatically reduce the battery logistics pipeline and provide the soldier with more power at reduced weight, thus improving mobility, survivability and the availability of advanced electronic technologies on the battlefield.

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