# FUTURE APPLICATIONS OF MICRO BATTERY POWER SOURCES


## ABSTRACT

Innovation in extended range electronic platforms, such as unmanned vehicles, has been spearheaded by the miniaturization of microelectronics and high density energy sources through space claim reduction and microstructure resolved electrochemical simulations.[1,2] The next evolution of micro lithium-ion batteries features high capacity, quick charging power sources in a lightweight, compact envelope that are compatible with MEMS fabrication.[3] Mass production of these micro batteries will support the DoD's ability to maximize mission durations of unmanned vehicles with increasingly smaller radar cross sections. This work will present future applications of micro battery power sources in support of battery powered microelectronic platforms in the defense industry.


## REFERENCES


1. Arthur, T. S. et al. Three-dimensional electrodes and battery architectures. *MRS Bulletin,* 2011, *36.*

2. Adam, Alexander et al. "Development of an innovative workflow to optimize the fast-charge capability of lithium-ion battery cells." *Journal of Power* Sources, 2021, *512.*

3. Toor, Anju et al. Stencil-printed Lithium-ion micro batteries for IOT applications. *Nano Energy,* 2021, *82*.