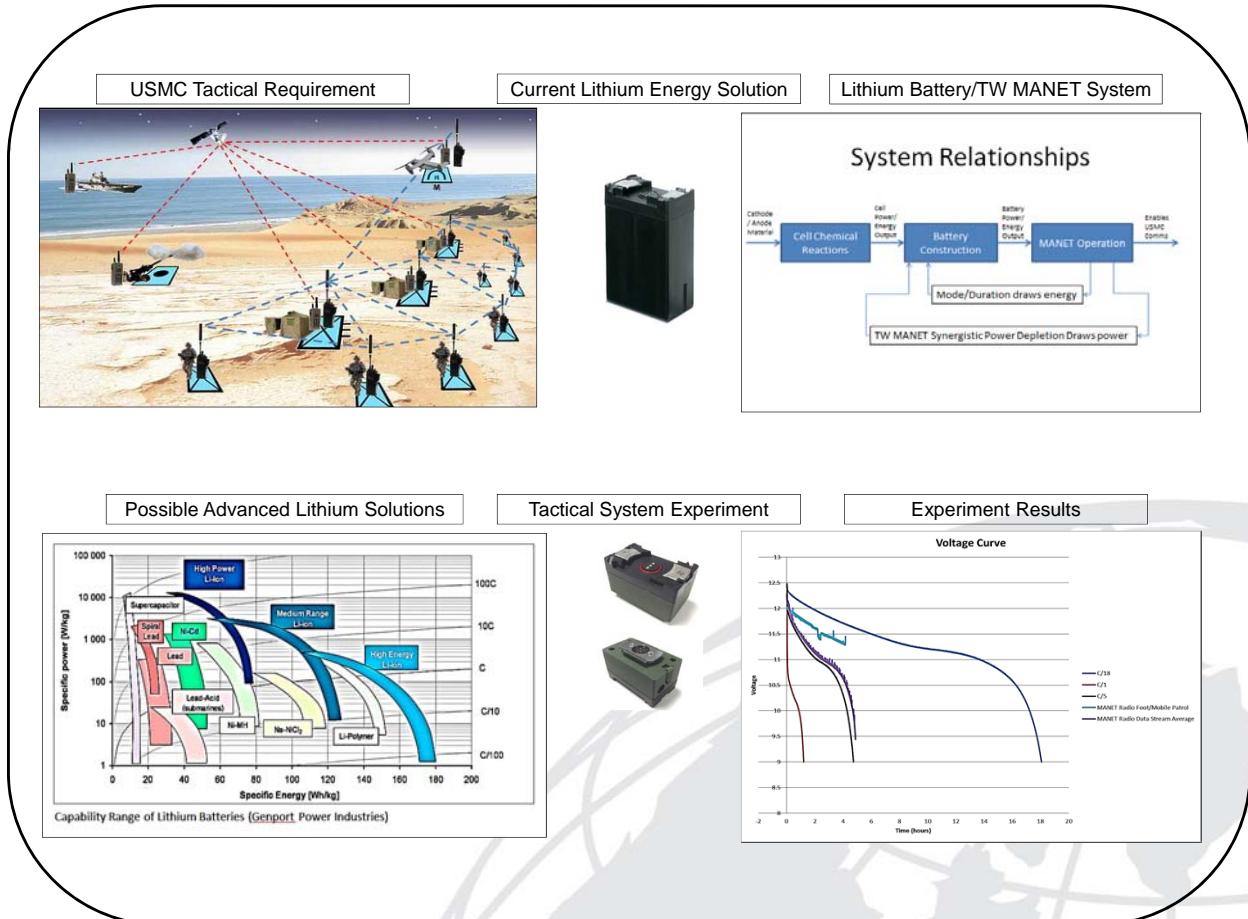


## Advanced Lithium Battery Technology Applied to MANET Radios

The United States Marine Corps current portable rechargeable energy storage solutions do not fulfill the USMC Expeditionary Energy Office intent and potential future operational requirements. Alternate power solutions for Marines conducting distributed operations in austere environments should be researched. This research explored advanced lithium technology applied to Mobile Ad Hoc Network radio system.



## Findings

- **High Energy Lithium Batteries are the preferred option for TW MANET operations**
- **Lithium Cobalt Oxide, Lithium Nickel Manganese Cobalt Oxide and Lithium Nickel Cobalt Aluminum Oxide chemistries should be considered for TW MANET energy storage solutions**
- **Graphite and Silicon should be considered as negative electrode materials for TW MANET energy storage solutions**
- **A defined method was established to match lithium chemistries to specific DoN/USMC energy requirements**