

# Enhanced Metal-Air Energy Storage System with Advanced Grid-Interoperable Power Electronics Enabling Scalability and Ultra-Low Cost



U.S. DEPARTMENT OF ENERGY



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Project Team:

<b>FLUIDICENERGY</b> AMES primary developer and project leader	
 <b>Satcon</b> <sup>®</sup> Integrated Bidirectional Power Conversion and Grid connectivity	 Commercialization/ product definition guidance and external system evaluator

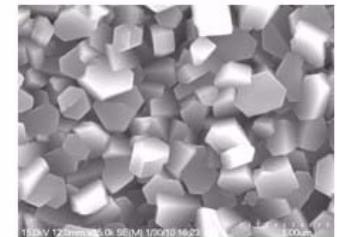
Project Scope: **\$3.75M Program, 24 months**  
**Fluidic Energy** (Scottsdale, AZ)

- Industry leading experience in Metal-Air electrochemistry
- Develop game-changing low cost, high power, and long cycle life
- Hybrid approach existing world-class battery architecture
- Resultant > Truly innovative Advanced Multi-function Energy Storage device



Key Challenges:

- Ensuring cathode lifetimes in excess of 10,000 discharge hours while operating at very high current densities
- Matching high output capability with paradigm-breaking anode metal storage densities
- Integrated multi-functional electrode operability and controls > both Metal-Air and Closed Cell modes.



Expected Main Benefits: Realize the Cost Goal of **< \$100/kWh** and obtain a **robust capability** to produce a **commercially viable** energy storage solution, while meeting or exceeding the other GRIDS objectives of cycle life, run time, response time, safety, and scalability.

