



TECHNOLOGY / CAPABILITY OVERVIEW

Predictive Analytics



Digital Twin



Grid Interactive Optimization



Demand Side Management



Maplewell is leading efforts to decarbonize mission critical infrastructure and drives energy resiliency, reliability, and efficiency. With our AI, demand response technology, JANiiT, Maplewell is digitizing infrastructure and mission assets to deliver mission readiness. Backed by a team of application and energy system expertise, our solutions address the dynamic and unique needs of our military customers.

PAST PERFORMANCE OF TECHNOLOGY AND COMPANY

- US NAVY SBIR NAVSEA (current)- Developing Condition-Based and Reliability-Centered Maintenance program using Digital Twins, AI Optimization, and Reliability Functions.
- Southwest Research Institute – Process optimization for supercritical CO2 Brayton Cycle power plant. Coordinated process modeling, material balance, and energy models.
- University of Alaska, Fairbanks - Energy modeling and statistical analysis of financing an energy efficiency project into combined heat and power plant.
- Homer Electric Alaska—Evaluated feasibility, financial viability, and control scheme of integrating fuel heating for the gas turbine and HRSG duct burners. Conducted data modeling and techno-economic analysis to package and finance project.

RELEVANCE TO COMBATANT COMMAND OR OTHER NEED

Category: Autonomous Systems

- Efficient data management for condition based and reliability based maintenance
- Digitizing systems to build energy resilience on mission critical assets beyond current infrastructure
- Environmental harshness modeling to drive mission based maintenance
- Decreases the liability of electrification related to modernization
- Privatizes utilities and modernizes infrastructure
- Improves energy security and availability

MATURITY/SCALABILITY/COST/SCHEDULE

TRL: 4-5

Scaling Consideration: Technology is highly scalable. For example, the technology can be implemented throughout the entire US Navy Fleet, nuclear and non-nuclear

Timeline to Market WITHOUT Financial Assistance: Follows progress of current SBIR program. 3-4 years to Transition and with current raised capital from seed round.

Timeline to Market WITH Financial Assistance: 1 to 1.5 Years with capital injection of \$3M