

INERGY



POWER UP ENERGY EXPO

Oct. 22-23, 2024

Tyndall Air Force Base, Florida

PRESENTED BY:

SEAN LUANGRATH

CEO, INERGY SOLAR



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POWER+ 96%
1152W EST. 5:35 8:26
SOLAR 8H. 49M BATT
343M 11.6V



FLEX 1500

INERGY

FLEX BATTERY



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/FLEX 1500 & FLEX DC

- Commercially Deployed
- TRL 9
- Differentiation:
 - ▶ Modular and expandable
 - ▶ Plug-and-play instant power
 - ▶ Over 10,000 systems deployed
 - ▶ 26 Pounds (as shown)



/FLEX TACTICAL

- Commercially Deployed
- TRL 9
- Differentiation:
 - ▶ Modular and expandable
 - ▶ Plug-and-play instant power
 - ▶ Austere and degraded environments
 - ▶ Ideal for DSCA situations
 - ▶ 41 Pounds (as shown)



/FLEX P3

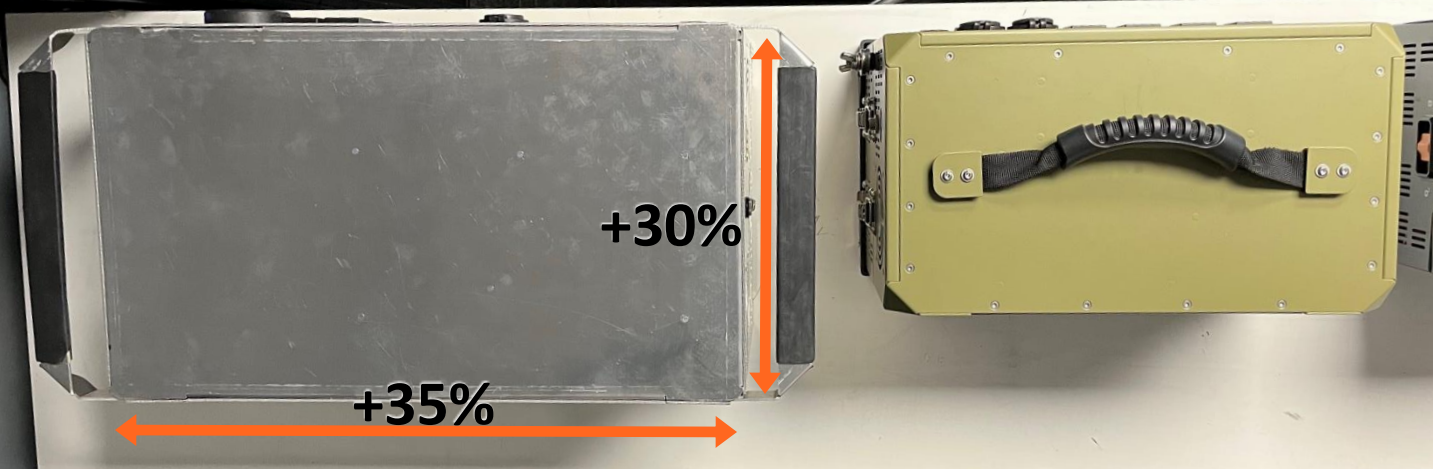
- Final Development
- TRL 7
- Differentiation:
 - ▶ 7.2KW Split-phased GaN Inverter
 - ▶ Modular expandable batteries system
 - ▶ Built-in micro-grid (DOE & INL)
 - ▶ 65 Pounds (as shown)



/SPECIAL M.I.S.S.I.O.N.

- M** Military-Grade Reliability: US-designed (with over \$4M from DoD funding) and built hardware/software that exceeds industry standards.
- I** Input Flexibility: Accepts diverse energy sources (solar, wind, hydro etc.) for adaptability and future expansion.
- S** Storage Innovation: Unmatched modular design that safely scales (100X) and supports multiple chemistries.
- S** Software Intelligence: Patented-pending Inergy IQ™ optimizes generation and usage and provides valuable insights.
- I** Innovation Driven: Committed to pushing the boundaries of renewable energy solutions with over 5 issued and pending patents.
- O** Output Versatility: Offers combined AC/DC options, DC-only in various configurations (multi-phase, high/low voltage...etc), with expandable inverters.
- N** Nano Grid Ready: The only integrated microgrid solution in collaboration with INL and DOE, enabling power pooling and sharing.



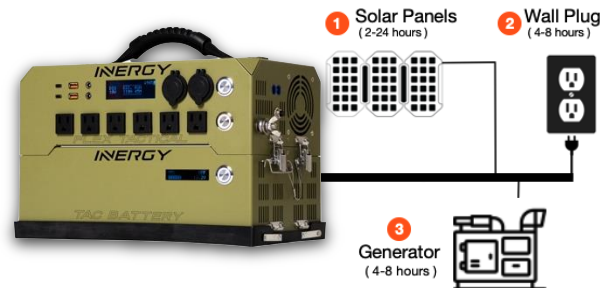


Primary AF Customer: AFSOC's 1st Special Operation Wing's Mission Sustainment Team

TACFI Funding: \$1,839,412



AI/ML Enabled Modular Solar Generation to Increase Readiness and Survivability of Rapid Small Team Deployments



Problem/Opportunity

The Air Force's emphasis on Agile Combat Employment (ACE) and sustainability drives the need for resilient, portable, renewable energy solutions in austere environments. AFSOC requires dependable power systems to support its Mission Sustainment Teams (MST), ensuring continuous operations and reducing reliance on conventional fuels. This aligns with the USAF Science & Technology Strategy 2030, the Air Force Climate Campaign Action Plan, and AFSOC's 2023 Strategic Guidance.

Proposed Solution

Inergy proposes the Flex Tactical—a ruggedized, MIL-STD certified, solar-powered generator system tailored for expeditionary use. Building on our successful Phase II project at Ellsworth Air Force Base, this TACFI project will focus on obtaining MIL-STD certification through the Department of the Air Force's verification, validation, and accreditation (VV&A) processes. We will also integrate new capabilities identified by AFSOC's MSTs, ensuring the Flex Tactical meets the specific operational needs of the 1st Special Operations Wing (SOW).

Impact

This TACFI project will boost AFSOC's mission readiness by delivering five certified Flex Tactical systems, ensuring reliable renewable energy in demanding environments. The Flex Tactical will reduce dependency on conventional generators, increase energy resilience, and support ACE operations with a modular, plug-and-play system adaptable to future upgrades. Outcomes include comprehensive testing, a U.S. manufacturing plan, and a transition strategy for broader integration of renewable energy technologies across AFSOC, aligning with the Air Force's sustainability and technological goals.

Phase II End
[10/25/2023]

TACFI Start
[06/03/2024]

TACFI End
[02/03/2026]

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Ruggedized and Modular Power Generation System to Enable Contingency Basing Operations

Phase 2 Contract: \$1.72M

Primary Army Customer: Mobile Electric Power Systems (MEPS) – Expeditionary Energy Sustainment Systems (E2S2)



Primary AF Customer: 28th Mission Support Group

Phase II Funding: \$1,239,956



Unmanned Asset - Portable Charging Stations to Increase and Enhance Autonomy of Robotic Platforms



Problem/Opportunity

Inergy aims to address the growing demand for reliable and sustainable charging stations for military autonomous and semi-autonomous assets. By developing an Unmanned Asset-Portable Charging Station (UA-PCS), they seek to increase operational autonomy, reduce reliance on fuel-based generators, provide continuous renewable energy and improve mission readiness and efficiency.

Proposed Solution

The Unmanned Asset-Portable Charging Station (UA-PCS), the off-grid “dog and mower house” developed by Inergy will greatly benefit robotic dogs and drone lawn mowers. These autonomous assets require reliable and sustainable power sources to operate effectively. The UA-PCS will provide continuous renewable energy, allowing these assets to operate with minimal disruptions and extended mission durations. It will enhance their autonomy, reduce the need for human intervention, and maximize their operational efficiency in various remote and austere environments.

Impact

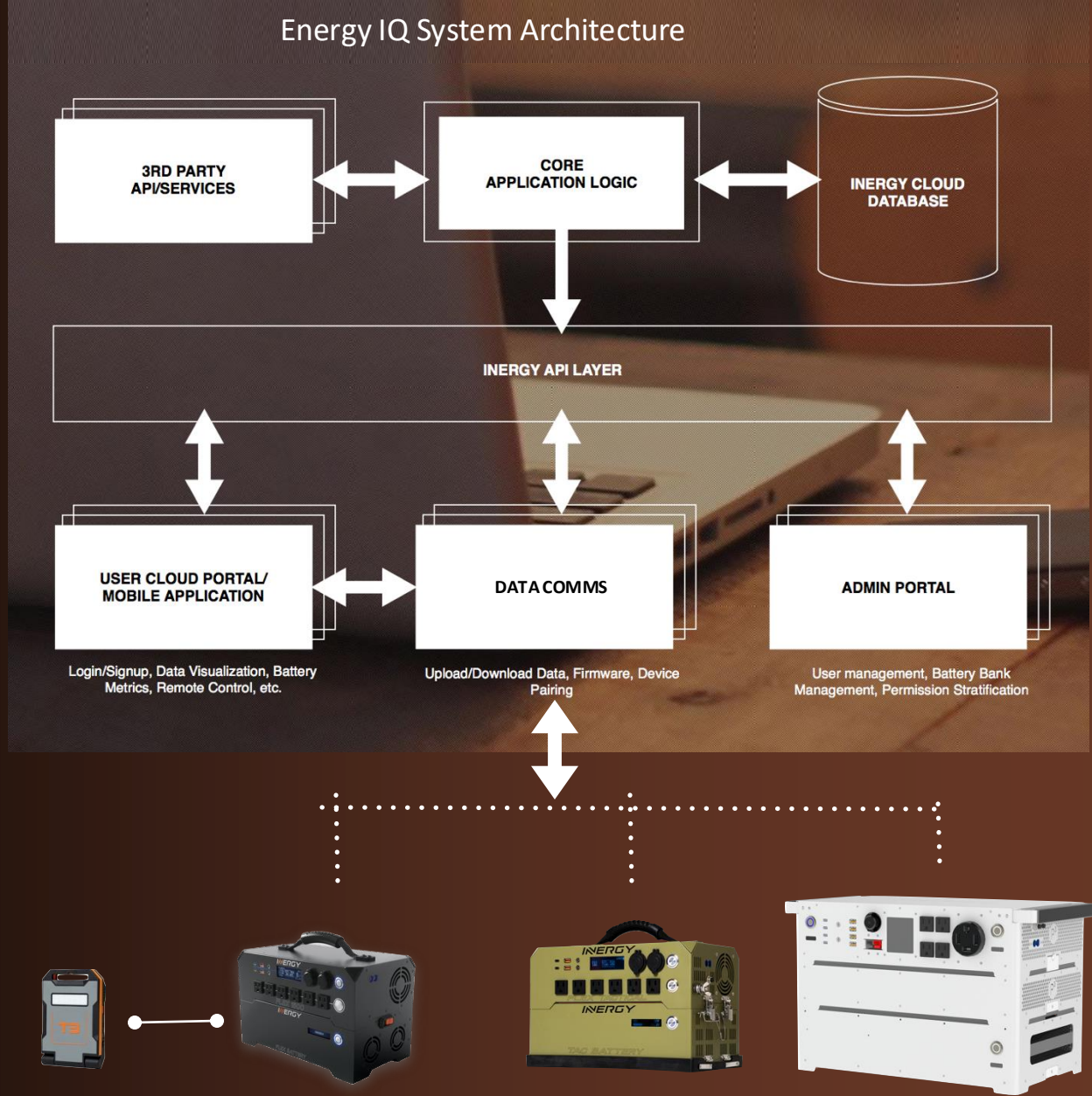
This project will deliver a renewable energy-powered portable charging station that enhances the capabilities of the Army’s autonomous assets. It will enhance operational autonomy, extend range capabilities, reduce dependence on fuel-based generators, and improve mission readiness in remote and challenging environments. This solution will have a significant positive impact on military operations, benefiting autonomous assets such as robotic dogs and drone lawn mowers, UAV’s and other powered solutions.

Phase I End
[10/25/2023]

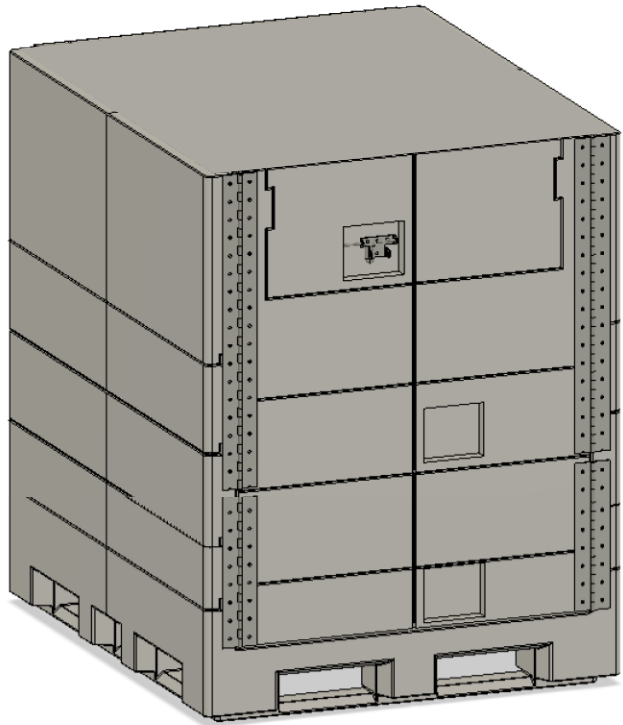
Phase II Start
[02/01/2024]

Phase II End
[10/25/2025]

Energy IQ™ Platform



Rapid Power Inergy Deployment (RaPiD) aka "Inergy-in-a-Box"



Container

4 kWh
X2



Inergy Flex P3

1 kWh
x8



Inergy Flex

1 kWh
x2



Flex Battery

100 Watts
x10



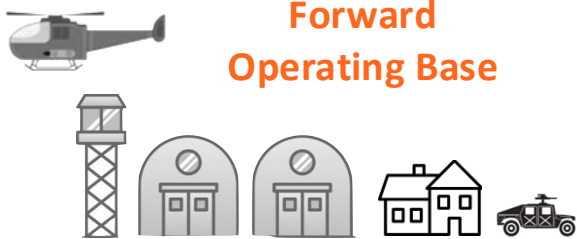
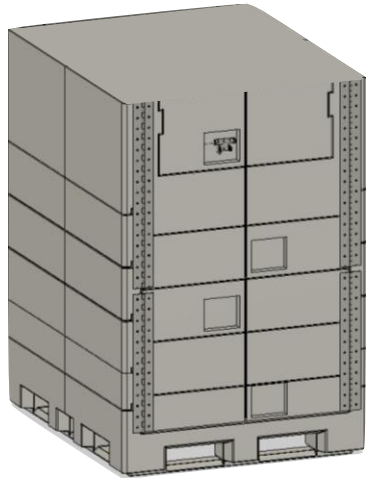
Solar Panel



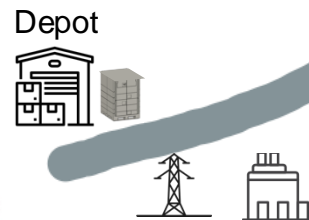
/Transport Options



/RaPiD Pilot

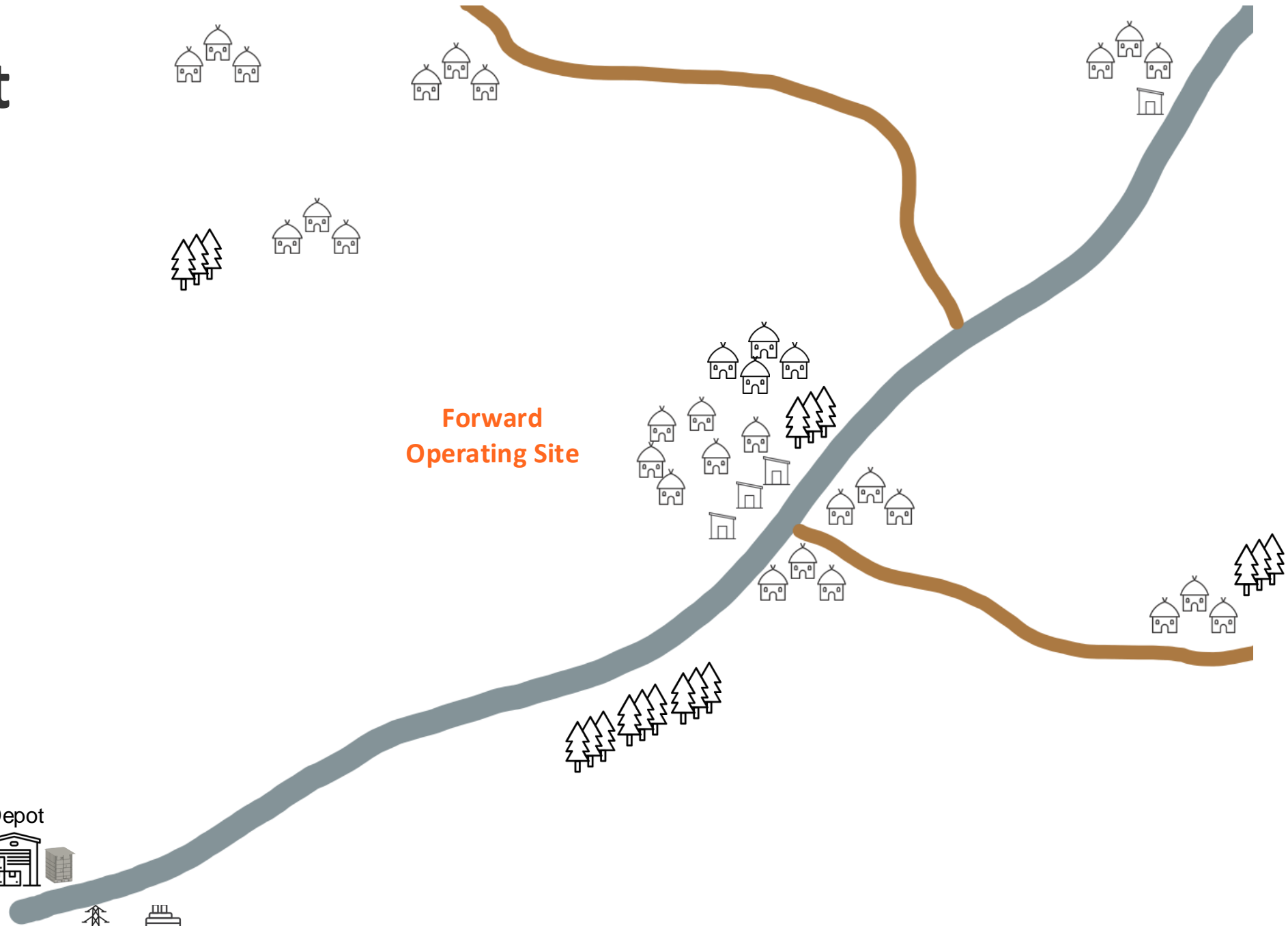


**Forward
Operating Base**



Depot

**Forward
Operating Site**





**Forward
Operating Site**



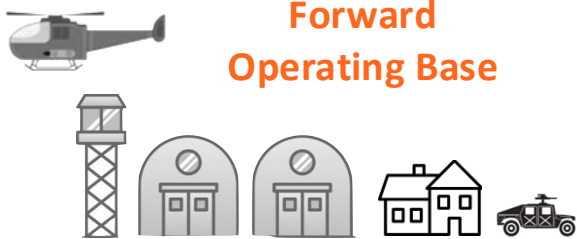
**Forward
Operating Base**

Depot





Contingency Power



**Forward
Operating Base**



Depot



**Forward
Operating Site**





Mission Completed

Forward Operating Site

Forward Operating Base

Depot





Inergy ASK

- Development funding for next-gen systems to help the DoD be energy resilient
- Purchase Order today via WAWF contract or single trial purchase via Purchase Card (GPC)





THANK YOU