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# PM Mobile Electric Power Systems

## Mobile Power Portfolio Overview Brief

# Mobile Electric Power Systems Portfolio

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**Advanced Medium Mobile Power Sources (AMMPS)**

**Small Tactical Electric Power (STEP)**

**Platoon Power Generation (PPG)**

**3kW Tactical Quiet Generator (TQG)**


**Power Distribution Illumination Systems Electrical (PDISE)**

**2kW MTG**

**5-60kW TQG**

## Portfolio Lifecycle Status

### Development:

- Small Tactical Electric Power (STEP) Lightweight 2kW (STEP-LW)
- STEP 3kW
- STEP Hybrid Augmentation
- Platoon Power Generator (PPG)

**LTC Tom Beyerl**
**Product Manager**

### Production:

- 5-60kW Advanced Medium Mobile Power Sources (AMMPS)
- AMMPS Microgrid
- 3kW Tactical Quiet Generator (TQG)
- Power Distribution Illumination Systems Electrical (PDISE)

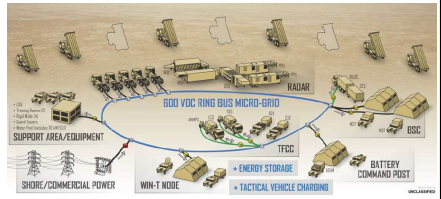
**AMMPS Microgrid**

### Sustainment:

- 2kW Military Tactical Generator (MTG)
- 5-60kW Tactical Quiet Generator (TQG)

### Future Capabilities:

- AMMPS Energy Storage
- Universal Power Gateway
- Mobile Modular Tactical Power Platform (M2TP2)
- Microgrid Expansion



# Power on the future battlefield

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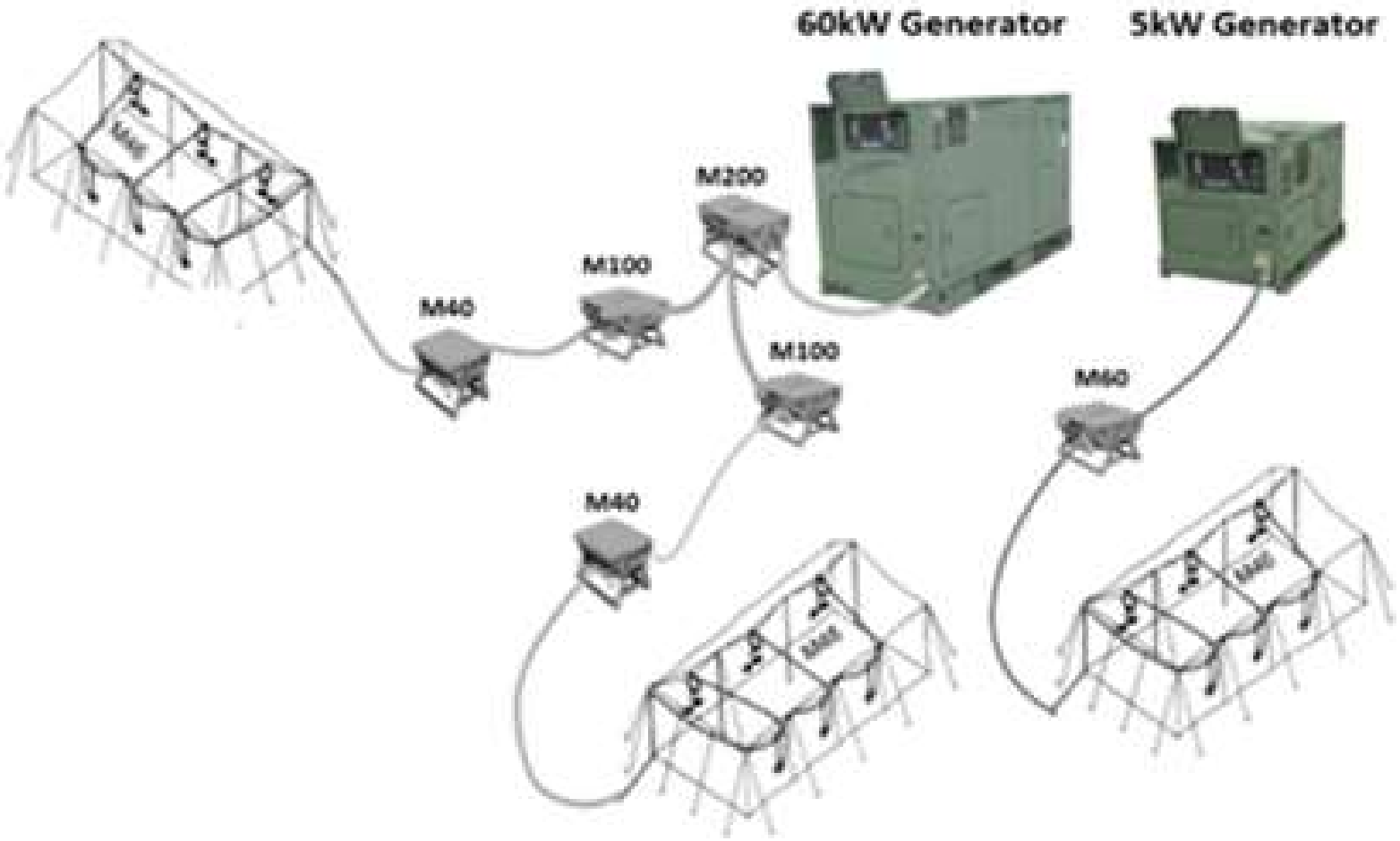
- **Power as a commodity in Contested Logistics**
  - All energy has to come from somewhere – it is hard to beat diesel/jet fuels for energy density and worldwide availability
  - Localized energy harvesting has a logistics tail, but it's different
  - Operational and tactical variables matter
- **An electrified tactical fleet will significantly change the power generation landscape**
  - How are we going to do that?
  - Are our vehicles consuming or producing electricity?
- **Commercial open systems architecture vs. military unique requirements**
  - When are we standing in our own way – why is it so hard?
  - Tactical Microgrid Standard (TMS: MIL-STD 3071)

**Where is our battlefield power really coming from?**

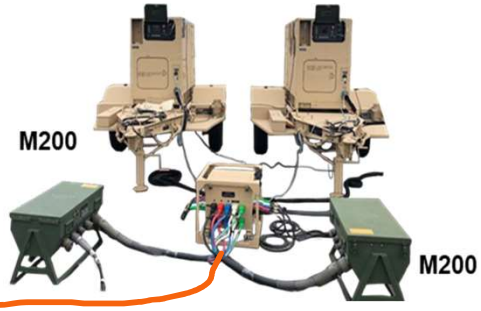
# How We Currently Distribute Power



# How We Will Distribute Power Through Phased Operations

FMTV w/ power interface

MicroGrid

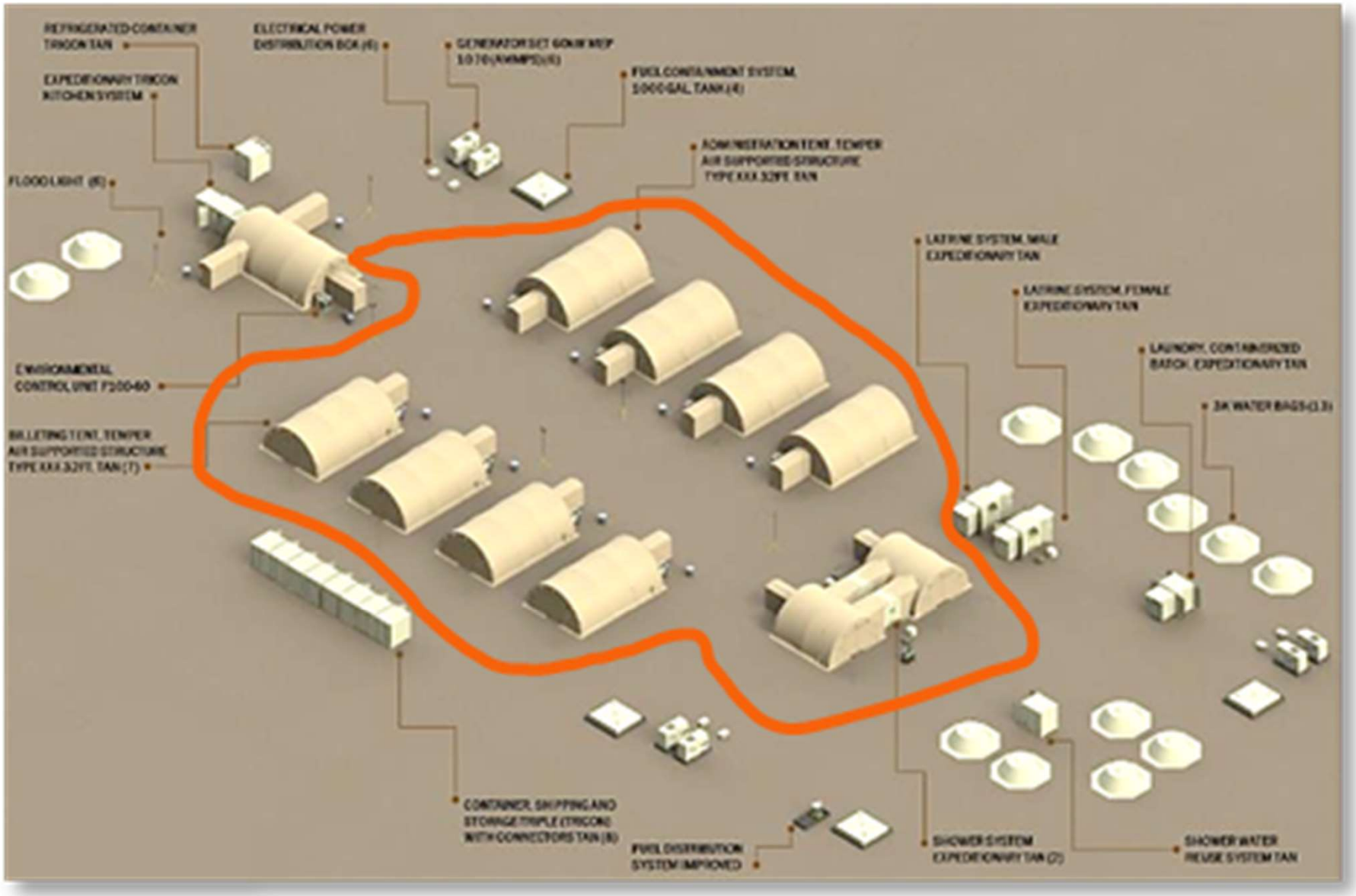



JLTV
with power interface

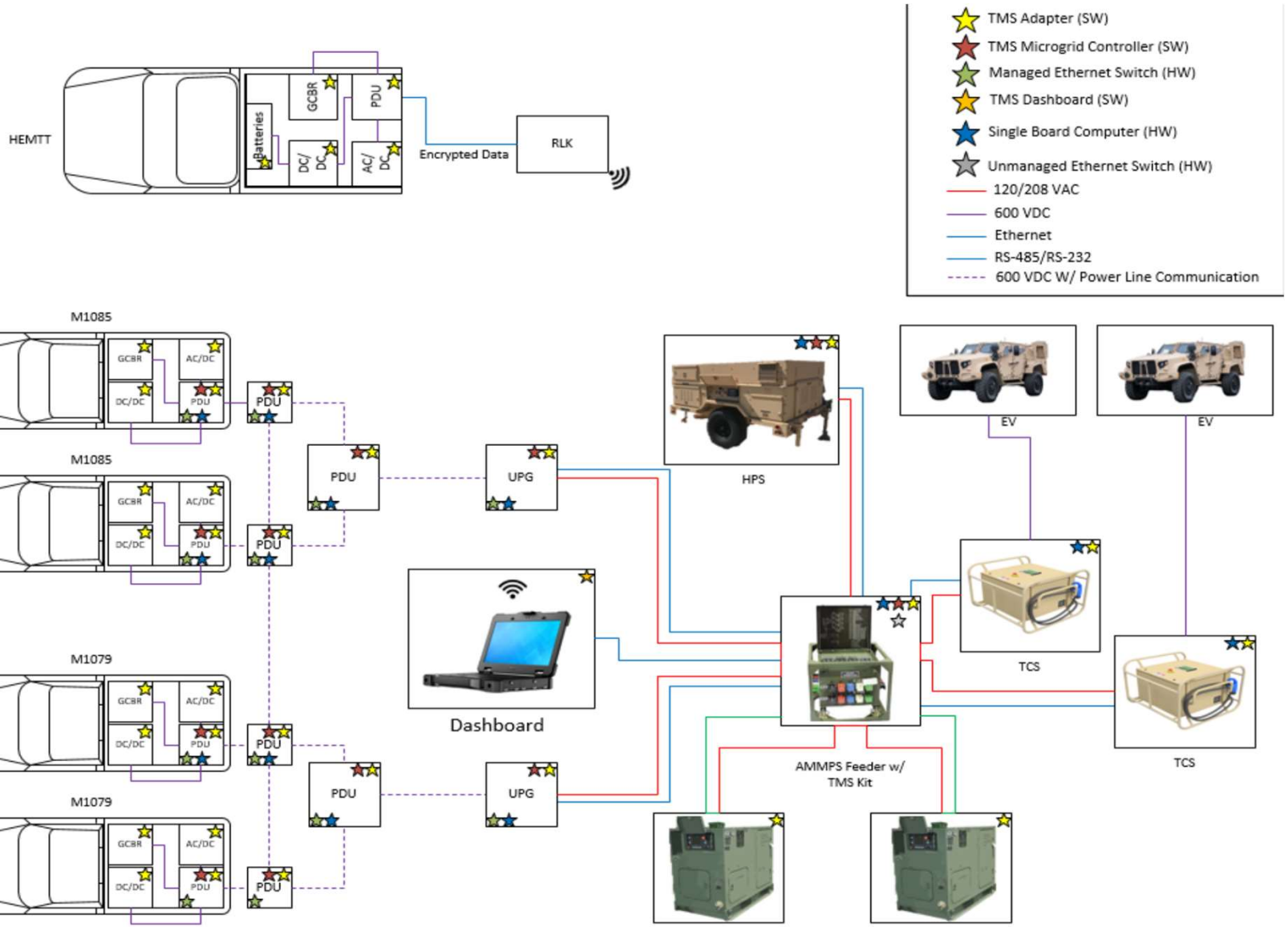
Energy Storage



# A Fully Developed Advanced Power Network



# An Advanced Power Network Systems View



# Energy Storage in Contested Logistics

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**General Assumptions:**

- Storage can yield variable 5-65% fuel savings (*Positive contested logistics impact*)
- Storage provides high-reliability, uninterruptable power through genset failure or changeover (*Positive operational impact*)
- Storage does not make power – It has diminishing returns on fuel savings when gensets are used with continuous loads (*Neutral contested logistics impact*)
- Storage equipment increases the setup time/complexity of legacy power systems (*Negative operational impact – Formal training Reqd.*)
- Storage is objective capability, not currently funded for development, integration, and fielding (*Negative program impact without requirements*)
- Energy storage capabilities are expected to cost 100%-300% of the gensets they augment, with 1/3 the expected service life. (*Negative program cost impact*)

# Contact Information

**PM MEPS Operations:**
**usarmy.belvoir.peo-cs-css.mbx.meps-actions@army.mil**

**PM MEPS: LTC Thomas Beyerl:**
**thomas.a.beyerl.mil@army.mil**

**PM E2S2 OPS Actions Mailbox:**
**usarmy.belvoir.peo-cs-css.mbx.actions-mailbox@army.mil**