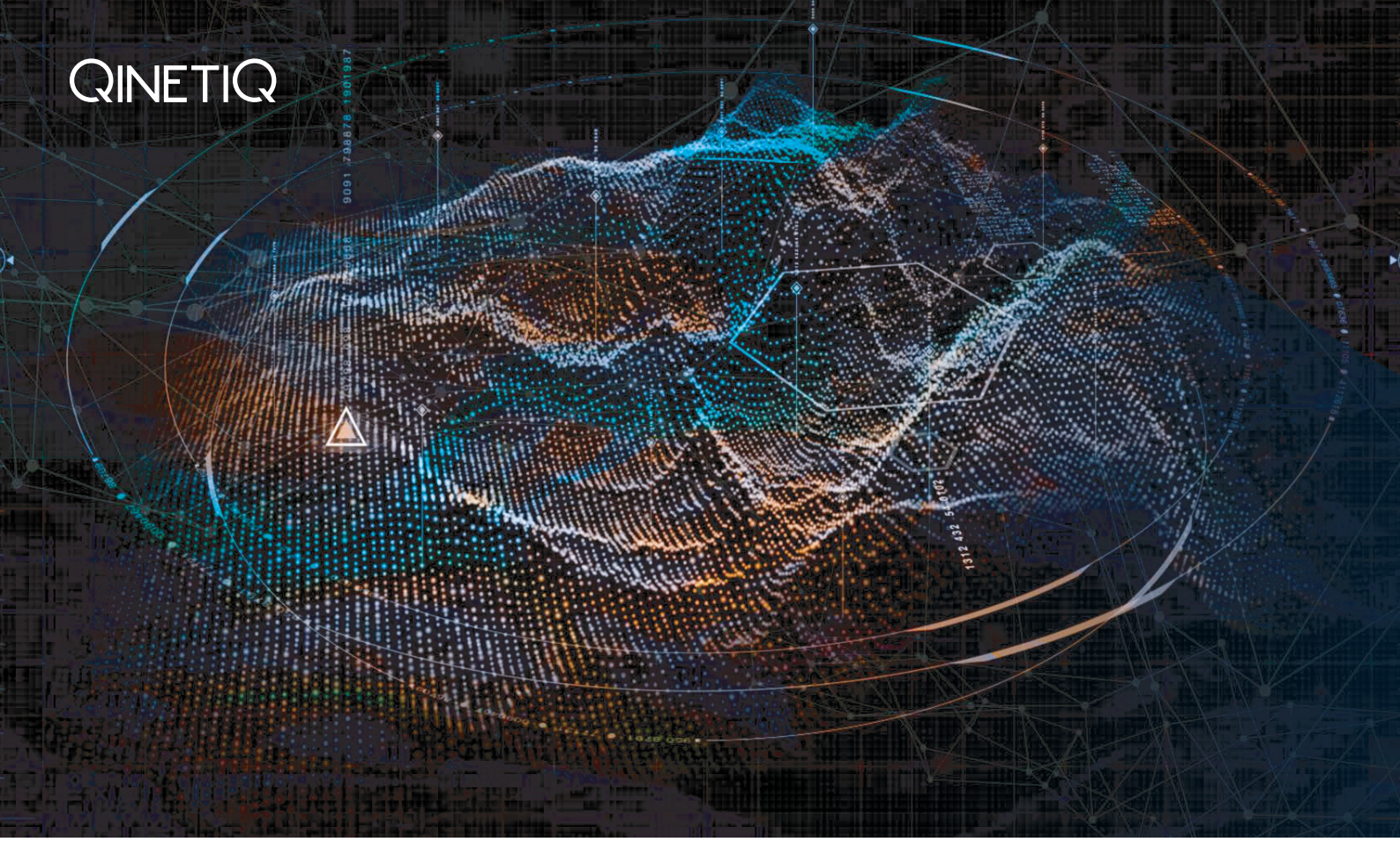


Field Power Storage and Management System

A deployable, energy efficient field power storage and management system for the future battlefield.

QinetiQ has designed an Australian made, Military Standard, Field Power Storage and Management System (FPSMS) to meet defence requirements for reliable high quality power.

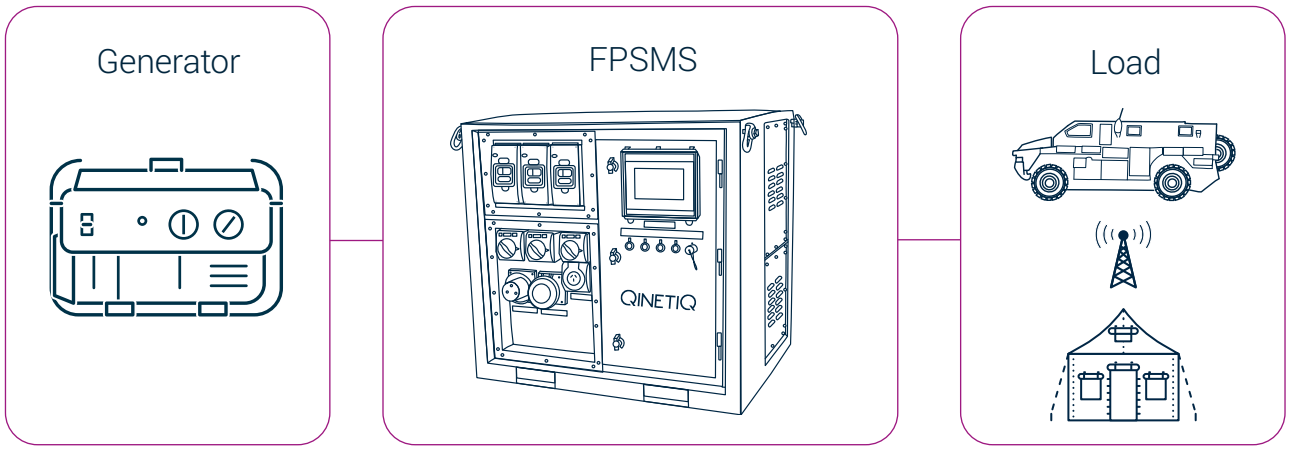
The FPSMS is designed to fit between a smart generator and the load. When deployed QinetiQ's FPSMS benefits include:

- Improved power reliability
- Improved power quality for modern battlefield electronic systems
- Surge protection
- Sustained silent operating periods
- Reduced supply chain pressure through:
  - Reduced diesel consumption
  - Reduced generator run time, maintenance liability and spare parts
  - Potential to combine three systems for a three phase supply
  - Simplifying the addition of renewables such as solar panels

The fundamental enabler for all future warfare is electric power. A wave of electrically powered technologies promises to transform the way in which wars are fought. But will this electrical revolution be sabotaged by underdeveloped battlefield power infrastructure?

QinetiQ,
Powering the Electrified Battlespace,
2019

100% Australian product.



The FPSMS is designed to fit between a smart generator and the load.

The need

Land operations are increasingly energy-intensive. Studies have shown that up to half of all fuel delivered into an operational area can be consumed in diesel generators to supply electricity. Diesel generators are inherently inefficient, heavy, noisy and maintenance intensive.

Supplying diesel is a significant vulnerability; it exposes soldiers to risk, reduces operational agility and imposes a significant financial burden on Government.

- The Fully Burdened Cost of Fuel (FBCF) in a hostile operational area is estimated to be between A$26.00 - A$158.00 per litre[1].
- In Afghanistan the personnel cost of fuel was one casualty for every 24 fuel convoys[2].
- Estimates of fuel consumption for electricity generation in an Australian forward operating base (FOB) are between 6 -10 litres per soldier per day, or up to 15,000 litres per day in a Battle Group sized FOB[3].
- Every litre of fuel used at the front line takes up to seven litres to deliver[4].

The FPSMS is designed to meet the power requirements of a small deployable command post or other deployed force infrastructure that requires up to 5kW of sustained high quality power. Its design is based on numerous engagements with Army units and research conducted over several years.

1. www.navy.mil/navydata/people/secnav/Mabus/Speech/SECNAV%20Energy%20Forum%2014%20Oct%2009%20Rel1.pdf
2. www.army-technology.com/features/feature77200/
3. RPDE QL075 Forward Operating Base Energy Sources Report, 2012
4. http://e2s2.ndia.org/pastmeetings/2010/tracks/Documents/9874.pdf

Performance Features

When connected to a 5 kVA generator the FPSMS will supply:

- 5 kW continuously
- 12 kW for 30 seconds
- 8.7 kW for 1 minute
- 7.0 kW for 30 minutes

When the generator is off line the FPSMS will supply 5 kW for 45 minutes.

Collaborating with QinetiQ

At QinetiQ we bring organisations and people together to provide innovative solutions to real world problems, creating customer advantage. Working with our partners and customers, we collaborate widely, working in partnership, listening hard and thinking through what customers need. Building trusted partnerships, we are helping customers anticipate and shape future requirements, adding value and future advantage.

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