MISSION STATEMENT:
To commercialize the world’s most powerful, efficient, reliable and affordable electric motors, generators and actuators.

TECHNOLOGIES:
QM Power has developed innovative, enabling hardware and controller solutions that improve performance and reliability, and reduce up-front and on-going costs of a variety of electro-magnetic devices for numerous applications. QM Power’s technologies have been described as “the biggest leap in motor and generator design logic in more than a hundred years” by Boeing Research and Technology’s Jamie Childress.

Parallel Path Magnetic TechnologyTM (PPMT): Unprecedented Power, Efficiency, Reliability and Cost (PERCs):
Unprecedented Power, Efficiency, Reliability and Cost (PERCs):

- For the same peak power as a conventional system, the average power output in a PPMT variable speed and/or load application is typically 30% or more greater.
- PPMT designs can also produce the same power density and efficiency as premium conventional designs without the need to use rare earth neodymium magnets, which are foreign sourced and cost significantly more.
- Higher efficiency and power density minimizes/eliminates cooling and gearing requirements allowing for the same or greater output in a smaller design envelope.
Application Areas, Product Range and Addressable Markets:

Motors, generators and actuators are used for a wide variety of applications. Initial research, development and commercialization efforts at QM Power are focusing on applications including fixed and variable speed motors, commercial refrigeration, HVAC, electric and hybrid-electric traction applications, robotics and power generation. These efforts have ranged from watts to megawatts.

Research & Development/Partners:

QM Power has worked with governmental agencies and corporate partners to adapt its core technologies for numerous applications by constructing prototypes to partners’ specifications and proving their superior performance compared to conventional alternatives currently available. Examples include:

- **NSF**: high power density, high efficiency actuation for robotic applications; high performance traction motors; and advanced portable power generators.
- **DOE**: advanced high power density permanent magnet wind generators and generators for hydropower systems; high efficiency commercial refrigeration motors; and an ARPA-E initiative for high power density and high efficiency electric motor solutions without rare earth magnets for electric vehicles.
- **NASA**: lightweight high efficiency electric motors and actuators for low temperature mobility and robotics applications.
- **US Army**: improved robot actuator motors for medical applications; and a 3kW high performance alternator without rare earth content for portable power generator sets.
- **US Navy**: advanced lightweight scalable marine generators for combat crafts.

Commercial and academic partners for these and other projects include: Boeing, Dell, Hill-Phoenix, Smith Electric Vehicles, Oak Ridge National Labs, National Renewable Energy Labs, University of Wisconsin and others.

Value Proposition/Sustainable Competitive Advantage:

The value proposition of QM Power’s technologies is significant as it reduces both up-front costs and also the operational costs through lower required energy use while delivering higher reliability and survivability.
Production:
QM Power’s research, development, prototyping and testing capabilities exceed that of most multi-billion dollar manufacturers of electric motors, generators and actuators. QM Power’s first fan motor products are moving to volume production runs in mid-2014.

COMPANY OVERVIEW:
QM Power is a small business (SBA) Delaware C Corporation founded in 2006 to capitalize on proprietary and patented advances in new electric motor, generator and actuator technologies including QSync™, Parallel Path Magnetic Technology, PPMT™ or Parallel Magnetic Circuit, PMC™, QSR™ and QTorq™.