

# Intelligent Hybrid Power Systems for a High-Demand World

Delivering stable, efficient, and scalable energy for industrial operations, data centres, and remote infrastructure.

- 👉 Modular systems from 5kW to 500kW
- 👉 Scalable to multi-megawatt deployments
- 👉 Engineered for performance, resilience, and efficiency

## What is MAG-GEN™

MAG-GEN™ is a next-generation hybrid power generation and energy optimisation platform that integrates advanced generation technology with kinetic and electrical energy storage.

Designed for modern energy demands, MAG-GEN™ delivers high-efficiency power conversion, load stability, and reduced operating costs across a wide range of applications.

## How It Works

At the core of MAG-GEN™ is the Permanent Magnet Generator (PMG), operating on the principles of Electromagnetic Induction.

 **Kinetic Energy Storage (Flywheel)**

- Instantaneous energy response
- Load smoothing and stabilisation

 **Battery Storage**

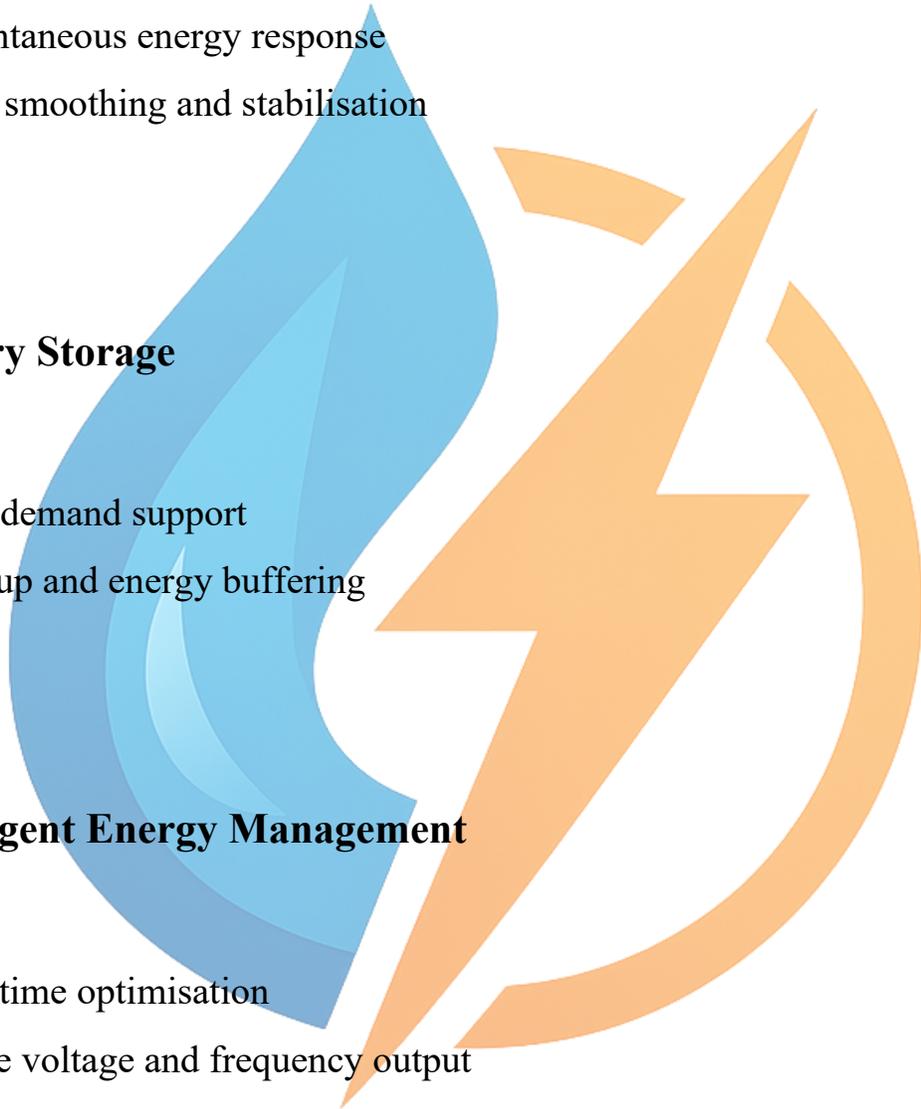
- Peak demand support
- Backup and energy buffering

 **Intelligent Energy Management**

- Real-time optimisation
- Stable voltage and frequency output

The System Integrates: High-Efficiency Generation

- Permanent magnet-based architecture
- Reduced energy losses
- High power density



## Operating Principle

MAG-GEN™ systems are initiated via an external input source and operate through:

1. Energy Conversion via PMG
2. Dynamic Energy Storage (flywheel + battery)
3. Load Balancing & Output Stabilisation

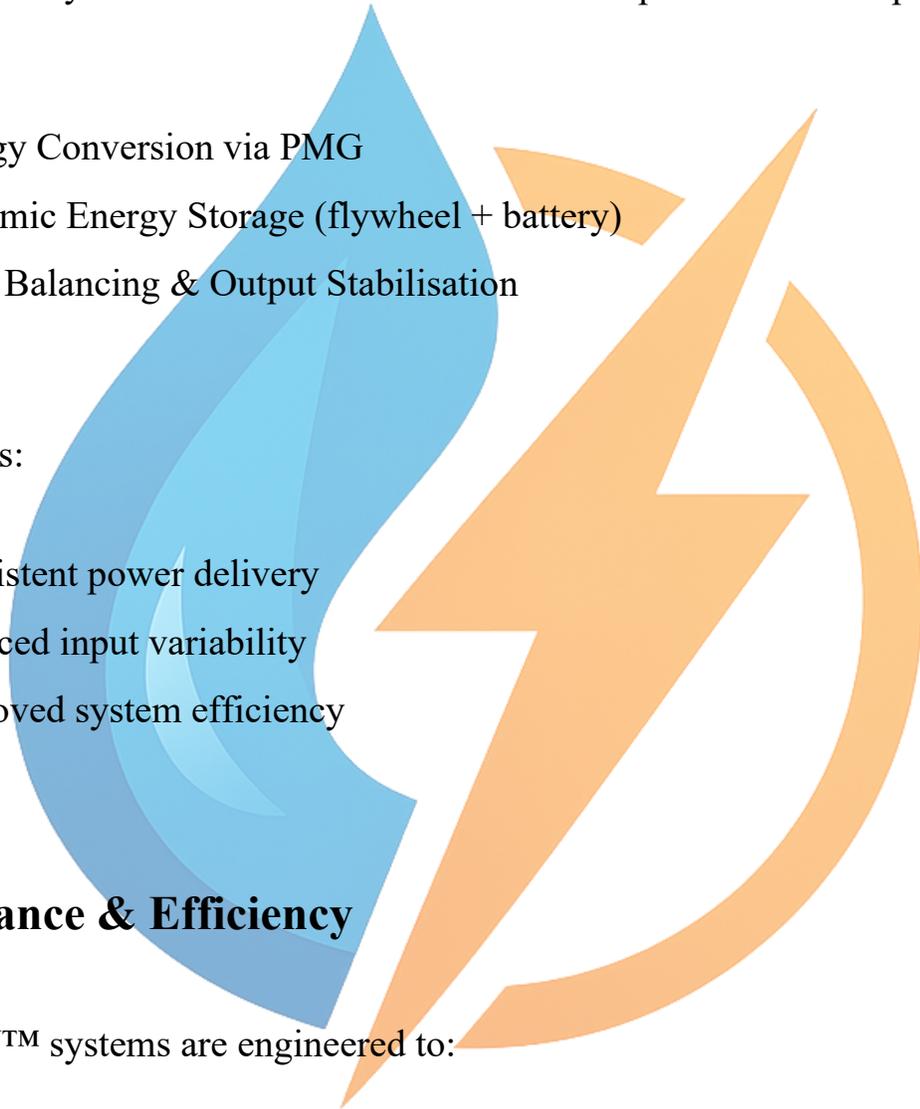
This enables:

- Consistent power delivery
- Reduced input variability
- Improved system efficiency

## Performance & Efficiency

MAG-GEN™ systems are engineered to:

- Maximise usable output from input energy
- Deliver stable performance under dynamic loads
- Provide short-term output above instantaneous input through energy buffering



All performance aligns with the First Law of Thermodynamics, with gains achieved through efficiency optimisation and intelligent energy management.

## **Product Range**

### **Modular Systems Available:**

- 5kW – 50kW → Residential / Commercial
- 50kW – 500kW → Industrial / Infrastructure
- Multi-MW Systems → Data Centres / Utilities

### **Pricing**

- From ~\$1,500 USD per kW
- Volume and configuration dependent



# Applications

## **Industrial & Manufacturing**

- Energy cost optimisation
- Load stabilisation
- Peak demand management

## **Data Centres & Critical Infrastructure**

- High uptime power stability
- Reduced diesel dependency
- Improved energy efficiency per MW

## **Remote & Off-Grid Locations**

- Reliable standalone or hybrid systems
- Reduced fuel logistics
- Ideal for remote infrastructure and communities

## **Residential & Commercial**

- Backup power and resilience
- Energy cost reduction
- Renewable system integration



## **DATA CENTRE APPLICATIONS**



### **MAG-GEN™ for Data Centres**

**Reducing Cost per MW. Increasing Uptime.**

Modern data centres require:

- Continuous power availability
- High efficiency
- Reduced environmental impact

MAG-GEN™ delivers a hybrid energy optimisation layer that enhances existing infrastructure.



### **System Role**

- Power conditioning and stabilisation
- Dynamic load balancing
- Backup bridging during outages
- Reduced diesel generator runtime

 **ROI Snapshot (Asia)****10 MW Data Centre Deployment** **CapEx:**

- ~\$15M

 **Annual Savings:**

- Singapore: \$3.0M – \$3.75M
- Indonesia: \$4.0M – \$5.2M

 **Investment Metrics:**

- Payback: 3 – 5 years
- IRR: 18% – 32%

 **Hyperscale Deployment (50 MW)**

- CapEx: ~\$75M
- Annual savings: \$15M – \$26M

👉 Strong alignment with infrastructure and institutional investment targets

## 🧠 Strategic Advantages

- Improved Power Usage Effectiveness (PUE)
- Reduced battery degradation
- Lower diesel consumption
- Faster deployment in grid-constrained regions

## Why MAG-GEN™

### **The Future of Energy is Optimised, Not Just Generated**

MAG-GEN™ is positioned as a:

High-efficiency energy optimisation and delivery platform

Rather than a standalone energy source, it enhances how energy is:

- Generated
- Stored
- Distributed
- Utilised

 **Key Benefits** **Efficiency Gains**

Reduced system losses through advanced generator design

 **Cost Reduction**

Lower effective energy cost per kWh

 **Power Stability**

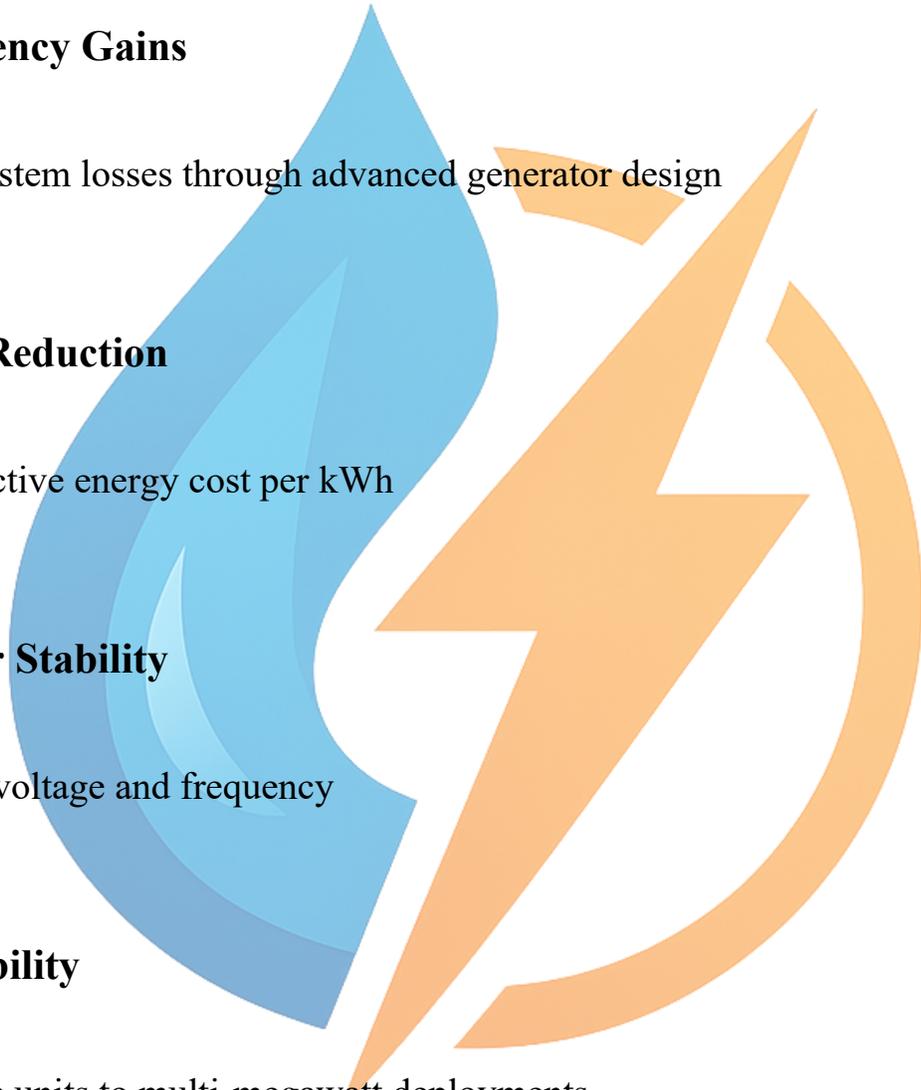
Consistent voltage and frequency

 **Scalability**

From single units to multi-megawatt deployments

 **Resilience**

Reliable power in unstable or remote environments



# Technical Integrity

MAG-GEN™ systems operate fully within established physical principles, including:

- First Law of Thermodynamics
- Electromagnetic Induction

Performance gains are achieved through:

- High-efficiency conversion
- Energy storage integration
- Intelligent load management

👉 No reliance on over-unity or non-physical claims

 **CALL TO ACTION**

## Powering the Next Generation of Infrastructure

MAG-GEN™ is actively expanding across:

- Data centre infrastructure
- Industrial energy systems
- Remote and off-grid deployments