



# **EnerSys**

*Power/Full Solutions*

**ADVANCED ENERGY  
STORAGE SOLUTIONS  
FOR A CHANGING WORLD**





# Vision

Be the global leader in our chosen markets for stored energy solutions by providing extraordinary Customer service and meeting or exceeding our Customers' expectations 100% of the time. We shall be the best in the industry by being easy to do business with, while supplying the highest quality products and services on time and in the most cost-effective manner. We will do this in a culture that demonstrates respect for our Customers, our fellow associates, our suppliers and our communities while focusing upon maximizing shareholder value.

## Key Markets & Company Highlights

- **Motive Power** Industrial batteries, chargers, systems, and service for forklift trucks, floor care machines, automated guided vehicles, mining, airport ground service equipment, and other specialty equipment.
- **Reserve Power** Batteries for telecom, UPS, utilities, renewable & specialty applications, power for aerospace & defense for land, sea & air applications
- **Technologies** Advanced lead (Pb), nickel (Ni) and lithium (Li) based energy storage batteries and related smart systems and chargers.
- **Sales** \$ 2 billion across Americas, Europe, Middle East, Africa & Asia
- **Employment** Over 7,000 employees worldwide, 16 major factories (see last page)
- **Website/Listing** www.enersys.com & Stock Exchange Listing "ENS" on New York Stock Exchange

Global Market Leader with 29% share for Industrial Energy Storage



**Markets:**

Material handling equipment, ranging from small walk-behind trucks in food stores, to massive narrow aisle equipment in the most advanced logistics hubs, represents a large and growing industry.

These markets are supported by global trade, advanced supply chains, and further migration from internal combustion engine trucks to electric or battery powered trucks. The shift towards more electric trucks is supported by further expansion with AC drives and battery developments like Low Maintenance designs, fast-charge technology, and unique energy packs like XFC FLEX™.

EnerSys is the world's largest producer of batteries and chargers for material handling equipment, with leading market share positions in North America and Europe, and fast growing positions in Asia, Russia and the Middle East.

**Products:**

**Hawker, Ironclad, General, Fiamm Motive Power**

As the industry's leading manufacturer of industrial batteries and chargers, our expertise extends to full system solutions for material handling equipment. Only EnerSys offers an extensive preventative maintenance program through worldwide ser-

vice networks. The variety of battery and charger systems offered by EnerSys can be customized to meet the evolving requirements of today's marketplace. These systems will meet the diversity of application requirements including:

- Reduced maintenance and operational costs
- System reliability
- Increased productivity
- Maximize use of floor space
- Extreme operational conditions
- Unique equipment requirements including floor-care machines, Automatic Guided Vehicles, access platforms, personnel shuttles, etc....

EnerSys battery designs meet most global size requirements from European "DIN" and British Standard, to North American and Asian specifications. Battery technologies range from heavy duty, high-capacity designs to maintenance-free, VRLA designs. Innovative charging technologies help contain operational costs by extending battery cycle life and reducing electricity costs. Fast chargers and opportunity chargers help increase productivity by eliminating battery changes in many applications.

EnerSys can help you design the power system that best meets your unique requirements no matter where in the world you may be.





**Markets:**

Dependence on continuous power has never been more important with integrated networks and systems, yet worldwide power generation and distribution investments continue to lag behind the growing demand.

EnerSys is the global leader in supplying reserve power batteries, which cover the full range of standby power applications including:

- Wireline and wireless telecommunications
- Uninterruptible Power Supplies (UPS) for computer systems, security, etc.
- Protection power for utility switchgear

**Products: PowerSafe, DataSafe and Odyssey**

With globally leading brands, EnerSys has the reputation, technology and product range to comprehensively cover all applications.

The industry's largest demand is for a range of lead acid-based offerings due to the reliability, cost and recyclable features. EnerSys' range of lead acid-based products is complete up to 12,000 Ah:

- Flooded or classic (flat plate, tubular & plante)
- VRLA – gel and AGM large 2V cells
- High power discharge UPS bloc products
- Industry leading front termination AGM blocs
- Advanced technology "TPPL or SBS" pure lead designs

- EON: In response to ever-evolving telecommunication networks' technologies and ever-challenging operating conditions, EnerSys has launched the ground-breaking EON Technology™. This technology dramatically enhances the cyclic performance without any detrimental effect on product life.

In addition to lead acid technology, we offer a wide range of Nickel based product lines (capacities from 10 to 1,500 Ah) which was expanded with the acquisition of GAZ GmbH in October 2005.

EnerSys has pioneered the development of both large format and redundant array format rechargeable lithium-ion batteries ranging from 11 to 400 V and 50 to 1,000 Ampere-hours. Their unique electronically controlled battery architecture delivers energy storage solutions that are flexible, reliable, inherently safe and cost effective for a wide range of reserve power applications.

EnerSys has led the industry in providing advanced stored power solutions featuring long life, energy density, cyclic performance, and high temperature resistant designs.

EnerSys provides battery designs made in North America, Europe and Asia to afford our global leading customers compatible, highly-reliable components that integrate seamlessly into their global supply chains.



With the rapidly developing need for storage in the renewable market EnerSys has a tailored range of products providing reliability, performance and long service life. The EcoSafe™ range has been

specially developed for the renewable energy industry. We offer different capacities and a choice of technologies, so that renewable power generators can specify a battery that meets their precise

requirements. The EcoSafe product family includes batteries using lead, nickel and lithium technologies. From a single supplier you can select the technology and the product that delivers the best performance for your application.

EcoSafe batteries are designed and optimised for specific applications and cycling duties so that you can manage your stored energy effectively. With EnerSys there is no compromise on quality or performance, which means you get the best energy storage solution from the world's largest manufacturer of industrial batteries.

Our design and manufacturing experience is your guarantee of satisfaction. On-going investment in research and development ensures that EcoSafe batteries keep pace with the evolving renewable technologies of Solar, Wind and Water power generation. Close cooperation with end users is critical in this rapidly changing market. Understanding customer needs and aspirations is at the heart of our business. It defines our products and shapes future developments. By working in partnership with customers, we help them to achieve their goals.



## Specialty Solutions



### Railways:

Whatever the need, whether for rolling stock or for standby applications, EnerSys can provide standard batteries or tailored solutions in accordance with local standards and designs.

### Mining:

The Oldham® range of safety lamps has been tailored to meet the requirements of silver mines in the High Andes to coal mines in Central Queensland. This robust, totally reliable, safety product is also used industrially by fire brigades, railways, utility companies, oil and chemical industries.



### Odyssey®:

This range offers an extraordinary set of added values: long service life, superior

cranking and fast charge capability, flexibility, worry free shipping, long storage life, deep discharge recovery, permitting a wide field of applications for industrial and domestic use: automotive, commercial, RV, marine, motorcycle, watercraft, etc.



### Lithium:

Rechargeable, large and small format lithium-ion batteries serve aerospace and defense applications and also specialized applications in standby power and commercial mar-

kets (telecoms, UPS, robotics, renewable energy systems ...) where space and weight constraints are tight and ambient temperatures are low (-30 °C).



# Latest developments



**Defense & Aerospace**  
New ARMASAFE AGM TPPL\* batteries for defense applications.

\*TPPL = Thin Plate Pure Lead



**oerlikon**  
batteries

**Acquisition, November 2009**  
Swiss market leader  
Global provider of high integrity solution



**Motive Power**  
Launch of XFC FLEX range: reduces electrical costs & carbon footprint



**Acquisition**  
Keystone Montaineer (USA): mining products



**Reserve Power**  
Datasafe 12HX380 monobloc: best-in-class power density for UPS applications

## Global Manufacturing Capability



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