

GE Transportation  
Energy Storage



# Durathon™ Batteries

Energy Storage Solutions, Reinvented



Introducing GE's Durathon™ energy storage solutions, another milestone in our long heritage of solving the world's toughest challenges through innovation. Durathon's sodium nickel chloride chemistry represents a quantum leap forward: what started as a simple pursuit of a better battery has produced a long-lasting, highly reliable, and more durable energy storage solution. The world will never think about energy the same way again.

## Durathon Battery Applications

Durathon energy storage solutions deliver substantial value across a wide range of stationary and mobile applications.

### **Telecommunications: Bringing cell phone service to waves of new customers in remote areas**

Durathon batteries perform well in harsh conditions, making them uniquely suited for outdoor cell towers. Benefits include:

- Reduced operating expenses
  - Increased efficiency
  - less fuel consumption and lower emissions at sites where diesel generators are the primary power source
  - Fewer battery replacements
  - No air-conditioning required
- Decreased emissions
- Greater service reliability

### **Utilities: Making smart-grid solutions and residential energy storage a reality**

The family of Durathon energy storage systems can be tailored to your operational needs: enabling efficient and cost-effective storage, distribution, and utilization of energy where it's needed, when it's needed.

- Integration and utilization of photovoltaics and wind turbines
- Defer upgrades, relieve congestion, control voltage, provide reserves, ancillary services and improve reliability
- Smart devices and real-time communication with energy storage
- Demand-side management to take advantage of differential energy prices

### **Uninterruptible Power Supply (UPS): Offering unmatched service life**

Durathon batteries are designed to be integrated with modern UPS systems for mission-critical applications such as data and call centers, so there are minimal switchover costs. Its high-energy density makes Durathon ideally poised for data centers, such as those in large metropolitan areas, where space is limited. Key features include:

- Long service life – over 20 years
- High availability – parallel system design with hot swap enables easy scaling to match varying load requirements
- Minimal maintenance and operating cost – integrated battery management
- Compact footprint and low weight – half the size of an equivalent wet-cell battery
- Environmental friendly, with no toxic waste

### **Vehicle applications: Transforming operations through extended service times**

In applications with weight and volume constraints, Durathon batteries significantly increase operating ranges, and their extended-use and fast recharge times could deliver game-changing productivity in material-handling, commercial electric vehicles, and underground mining vehicles. Key functionality includes:

- High energy density and extended operation
- Effective recharge energy redeployment
- Fuel savings on hybrid platforms
- Reduced emissions
- Improved safety

# The Durathon Advantage



## High Performance at any Temperature

Durathon batteries deliver peak performance and long service life in extremely hot and cold climates (-40C to +65C) without the need and added expense of cooling or heating infrastructure.



## Smaller Footprint

With best-in-class energy density, Durathon batteries offer more energy in a smaller space and increases the runtime or range of almost any application.



## Higher Throughput / Productivity

Durathon batteries provide the ultimate in productivity. The flexibility to charge and discharge on demand enables the system to absorb energy when it is available and supply energy whenever it is required.



## Longer Life

Designed for decades of continued daily cycle performance and featuring a virtually unlimited shelf life, Durathon batteries are an asset, not an operating expense.



## Higher Reliability

Durathon systems are engineered to maintain power, and its integrated battery management system (BMS) is designed to optimize battery life and performance.



## Minimal Maintenance

Battery operating costs are a thing of the past because Durathon batteries need minimal onsite maintenance and with the integrated BMS provides remote monitoring and diagnostics.



## Seamless Integration

Durathon energy storage systems are designed to operate as an extension of your system, whether at a data center, cell tower, wind farm, substation or office building.



## Environmental Benefits

Ecomagination™ embodies GE's commitment to imagine and build innovative solutions to today's environmental challenges while driving economic growth. Durathon batteries, a product of ecomagination, are non-toxic and fabricated from abundantly available and fully recyclable materials.



# Durathon History

With more than 100 years at the vanguard of electrical innovation, no company can match GE's heritage, innovation, and engineering expertise. GE has committed its resources to develop, manufacture, and distribute Durathon energy storage systems on a global scale. Customers can tap into the full breadth of GE's knowledge, insight, and services, including financing options and implementation management.

The evolution of Durathon batteries began as a quest to build the next-generation hybrid locomotive – a tough application requiring a more durable and energy-dense battery. To meet the challenging requirements of rail applications, GE Global Research evaluated various battery technologies and identified sodium nickel chloride as the most viable solution.

To bring Durathon batteries to the market, GE established GE Energy Storage through the acquisition of Beta R&D, a UK-based pioneer that has demonstrated the durability of sodium nickel chloride through decades of research. The GE Energy Storage team draws on expertise from across GE, including high-volume manufacturing from GE lighting and quality systems from GE Aviation. GE Energy Storage constructed an advanced battery manufacturing facility in Schenectady, NY, to produce the Durathon battery as its flagship offering. Our global project management and fulfillment expertise offer customers on-time delivery and schedule certainty



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**For more information on Durathon energy storage systems, please visit our website at [geenergystorage.com](http://geenergystorage.com)**



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