US demand for batteries is forecast to expand 4.4 percent per year to $17.7 billion in 2020, on par with the advances of the 2010-2015 period. Rechargeable batteries will post larger and faster market gains as the mainstream advent of more expensive, higher energy density rechargeable lithium products takes place.

Motor vehicle batteries to exhibit largest dollar gains

Motor vehicle batteries will register the largest demand increases in dollar terms, accounting for nearly half of the growth through 2020. A strong outlook for hydrogen/electric vehicle (H/EV) production will support overall value gains due to a greater preference among automakers for lighter, higher energy density lithium-ion (Li-Ion) batteries over lower-cost nickel-metal hydride (Ni-MH) types. The large existing stock of motor vehicles in the country will also support aftermarket replacement battery demand.

Strong market gains expected for primary, rechargeable lithium types

In a continuation of past trends, portable device battery demand will advance at a below-average rate through 2020, with strong market gains for primary and rechargeable lithium products offset by stagnant or falling demand for lower-value chemistries like alkaline, lead-acid, and Ni-MH. While sales of alkaline cells will edge up based on the large base of portable devices in use that utilize these batteries, the rising complexity and higher energy requirements of many portable devices will support an ongoing trend toward use of higher-value lithium chemistries.

Rising OEM motor vehicle battery demand to boost industrial market

Among end users, the industrial market offers the greatest growth potential in both dollar terms and in average annual advances. Industrial demand will be buoyed by rising original equipment manufacturing (OEM) motor vehicle battery demand, particularly for high-value lithium-ion products. Strong advances in nonresidential fixed investment spending will also support market gains for industrial motive power batteries, which find usage in electric lift trucks and underground mining equipment, as well as in electric wheelchairs and personal mobility devices, among others.

Study coverage

This study analyzes the US battery markets. It presents historical data (2005, 2010 and 2015) plus forecasts (2020 and 2025) in current dollars by application (e.g., motor vehicles, portable devices, others) and by end user (e.g., consumer, industrial, government, others). The study also considers key market environment factors, assesses the industry structure, evaluates company market share and identifies US industry competitors.
CONTENTS SUMMARY

Executive Summary

Market Environment

Overview
Battery Supply & Demand
Single-Use Batteries
Supply & Demand
Demand by Chemistry
Rechargeable Batteries
Supply & Demand
Demand by Chemistry
Battery Shipments
US Foreign Trade in Batteries
Imports
Exports
Pricing Trends

Applications
Battery Demand by Application
Motor Vehicles
OEM
Light Vehicles
Medium & Heavy Vehicles
Replacement
Light Vehicles
Medium & Heavy Vehicles
Portable Devices
Demand by Chemistry
Demand by Product
Computers
Entertainment Products
Lighting
Other Portable Devices
Other Applications
Motive Power
Backup Power Supply
All Other

End Users
Battery Demand by End User
Consumer
Demand by Chemistry
Demand by Application
Industrial
Demand by Chemistry
Demand by Application
Government
Demand by Chemistry
Demand by Application
Other End Users
Demand by Chemistry
Demand by Application

Industry Structure
Overview
Industry Composition
Market Share
Research & Product Development
Manufacturing
Marketing
Cooperative Agreements
Distribution
Financial Requirements
Mergers, Acquisitions, & Industry Restructuring
Industry Participants
Cooperative Agreements

TABLES & CHARTS

Executive Summary
1 Summary Table

Overview
1 Battery Supply & Demand
Cht Battery Demand by Type, 2015
Cht Battery Demand: Projected 2015-2020 Annual Rate of Growth by Type
2 Single-Use Battery Supply & Demand
3 Single-Use Battery Demand by Chemistry
Cht Single-Use Battery Demand by Chemistry, 2015
Cht Single-Use Battery Demand: Projected 2015-2020 Annual Rate of Growth by Chemistry
4 Rechargeable Battery Supply & Demand
5 Rechargeable Battery Demand by Chemistry
Cht Rechargeable Battery Demand by Chemistry, 2015
Cht Rechargeable Battery Demand: Projected 2015-2020 Annual Rate of Growth by Chemistry
6 Battery Shipments by Type
Cht Battery Shipments by Type
7 Battery Foreign Trade
Cht US Battery Imports by Source, 2015
Cht US Battery Exports by Destination, 2015
8 Battery Price Deflators
Cht Selected Battery Price Deflators, 2005-2025

Applications
1 Battery Demand by Application
Cht Battery Demand by Application, 2015
Cht Battery Demand: Projected 2015-2020 Annual Rate of Growth by Application
2 Motor Vehicle Battery Demand
3 Motor Vehicle Battery Demand by Vehicle Type & Source
Cht Motor Vehicle Battery Demand by Vehicle Type & Source
Cht Motor Vehicle Battery Demand: Projected 2015-2020 Annual Rate of Growth by Vehicle Type & Source
4 OEM Motor Vehicle Battery Demand
5 Replacement Motor Vehicle Battery Demand
6 Portable Device Battery Demand
Cht Portable Device Battery Demand: Projected 2015-2020 Annual Rate of Growth by Product
7 Portable Device Battery Demand by Product
Cht Portable Device Battery Demand by Product, 2015
Cht Portable Device Battery Demand by Chemistry, 2015
Cht Portable Device Battery Demand: Projected 2015-2020 Annual Rate of Growth by Chemistry
8 Battery Demand in Other Applications
Cht Battery Demand in Other Applications: Projected 2015-2020 Annual Rate of Growth by Product

End Users
1 Battery Demand by End User
Cht Battery Demand by End User, 2015
Cht Battery Demand: Projected 2015-2020 Annual Rate of Growth by End User
2 Consumer Battery Demand by Chemistry
Cht Consumer Battery Demand by Chemistry, 2015
Cht Consumer Battery Demand: Projected 2015-2020 Annual Rate of Growth by Chemistry
3 Consumer Battery Demand by Application
Cht Consumer Battery Demand by Application, 2015
Cht Consumer Battery Demand: Projected 2015-2020 Annual Rate of Growth by Application
4 Industrial Battery Demand by Chemistry
Cht Industrial Battery Demand by Chemistry, 2015
Cht Industrial Battery Demand: Projected 2015-2020 Annual Rate of Growth by Chemistry
5 Industrial Battery Demand by Application
Cht Industrial Battery Demand by Application, 2015
Cht Industrial Battery Demand: Projected 2015-2020 Annual Rate of Growth by Application
6 Government Battery Demand by Chemistry
Cht Government Battery Demand by Chemistry, 2015
Cht Government Battery Demand: Projected 2015-2020 Annual Rate of Growth by Chemistry
7 Government Battery Demand by Application
Cht Government Battery Demand by Application, 2015
Cht Government Battery Demand: Projected 2015-2020 Annual Rate of Growth by Application
8 Other End Users’ Battery Demand by Chemistry
Cht Other End Users’ Battery Demand by Chemistry, 2015
Cht Other End Users’ Battery Demand: Projected 2015-2020 Annual Rate of Growth by Chemistry
9 Other End Users’ Battery Demand by Application
Cht Other End Users’ Battery Demand by Application, 2015
Cht Other End Users’ Battery Demand: Projected 2015-2020 Annual Rate of Growth by Application

Industry Structure
1 US Battery Sales by Manufacturer, 2015
Cht US Battery Market Share, 2015
2 New Industry Participants
3 R&D Spending Patterns: Selected Battery Manufacturers, 2013-2015
4 Capital Spending Patterns: Selected Battery Manufacturers, 2013-2015
5 Selected Cooperative Agreements
6 Selected Acquisitions & Divestitures
APPLICATIONS

Demand by Chemistry

In 2015, single-use batteries comprised the largest share of portable device battery demand, accounting for 62 percent of total US portable device battery sales. Of these, alkaline batteries comprised the vast majority, totaling $1.9 billion in demand in that year. Nevertheless, rechargeable batteries have increased their share of portable device demand over the past decade, a trend that is anticipated to continue as high-drain products such as smartphones and personal computers, as well as trends toward lithium-ion cells in cordless electric power tools.

Through 2020, demand for rechargeable portable device batteries will rise 3.9 percent per annum to $2.0 billion. These advances will be driven by increased sales of lithium-based products, which will climb 5.4 percent per year to $1.7 billion in 2020, the fastest rate of increase among batteries used in portable devices. Rechargeable lithium will register the largest gains in this application through 2020 in absolute dollar terms. A wide array of portable devices -- including high-end products such as tablet computers and relatively lower-end products such as cordless power tools -- can be powered by secondary batteries. While nickel-cadmium (Ni-Cad) was once the chemistry of choice in portable applications, demand for Ni-Cad batteries has declined substantially in recent years as better-performing Ni-MH and, more recently, rechargeable lithium chemistries have emerged. An ongoing shift in the product mix toward more sophisticated, high-drain devices such as smartphones and tablets favors rechargeable lithium batteries, which have a higher energy density, lower weight, and can yield thin or flexible batteries, thereby allowing the fabrication of very thin, lightweight devices that can be used for extended periods before needing to be recharged. Lead-acid batteries account for a small share of portable device demand, in large part due to the heavy weight of these batteries.

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