

# Components of Hybrid Electric Vehicles

<https://marketpublishers.com/r/CB7E20B7E37EN.html>

Date: August 2018

Pages: 139

Price: US\$ 1,375.00 (Single User License)

ID: CB7E20B7E37EN

## Abstracts

### Report Scope

Hybrid electric vehicles have become one of the most promising new markets for OEM's. An increasing number of functions that traditionally were performed by mechanical or electrical systems are now handled by electronics. Automobiles are experiencing a technological revolution. Global warming, climate change and air quality issues have combined with the dramatic fluctuation of oil prices to deliver an imperative for motor vehicle manufacturers to introduce radically more fuel-efficient vehicles to the market.

Toyota, Honda, Ford, Chevrolet, BMW, Volvo and BYD, among others, are leading the world in car innovations including the design of highly sophisticated hybrid electric vehicles.

Market data contained in this report quantifies opportunities for manufacturers of hybrid electric vehicle components. In addition to identification of mechanical and electrical component types, it also covers the many issues concerning the merits of and prospects for the hybrid electric vehicle business. This includes corporate strategies, emerging technologies and the means for providing low cost, high technology products. Also covered in detail are the economic and technological issues regarded by many as critical to the industry's current state of change. The report reviews the components industry related to hybrid electric vehicles and its structure and many companies involved in providing these products. Competitive positions of the major players in the market and the strategic options they face are also discussed in the report.

Values presented in the forecasted tables represent the values of components as purchased from the suppliers by OEM's companies, excluding the cost of marketing, assembling and distribution. In this report, the term "revenue" is equivalent to and is

used interchangeably with purchase, demand and sales.

#### Report Includes:

55 data tables and 38 additional tables

An overview of the global market for components of hybrid electric vehicles within the industry

Country specific data and analysis for United States, Mexico, France, Germany, U.K., China, India, Japan, Middle East and Africa

Key components assessments for full and mild hybrids and detailed analysis of original equipment manufacturers (OEMs) related to hybrid electric vehicles

Analyses of the components used in hybrid electric vehicles and production potential, and issues facing the sale and marketing of hybrid electric vehicles in end use markets

Market dynamics of thirteen types of major components of hybrid systems, including engines, batteries, traction motors, generators, regenerative braking, electric power steering, electrical compressors, high-voltage wiring, electronic control units, integrated power units, converters and inverters

Profiles of major companies in the hybrid electric vehicles market, including Aisin Seiki Co. Ltd., Blue Energy Company Ltd. (Gs Yuasa), Denso Corp, Hitachi Automotive Systems, Ltd., and Robert Bosch GmbH

## Contents

### **CHAPTER 1 INTRODUCTION**

Definition and Background  
Study Goals and Objectives  
Reasons for Doing the Study  
Scope  
Methodology  
Geographic Breakdown  
Analyst's Credentials  
BCC Custom Research  
Related BCC Research Reports

### **CHAPTER 2 SUMMARY AND HIGHLIGHTS**

### **CHAPTER 3 INDUSTRIAL OVERVIEW**

Introduction  
Hybrid Electric Vehicle Energy Concept  
Idle-off Capability  
Regenerative Braking Capacity  
Engine Downsizing  
Extended Battery-Electric Range  
Rate of Hybridization (ROH)  
Order of Hybridization  
Electric Hybridization Rate (HER)  
Benefits of Hybrid Electric Technology  
Hybrid Type  
Degrees of Hybridization  
Mild Hybrids  
Full Hybrid  
Plug-In Hybrid Electric Vehicle (PHEV)  
Power Train Configurations  
Hybrid Electric Drivetrains  
Series  
Parallel  
Combination  
Hybrid Electric Vehicle Component Analysis

## Key Points

### **CHAPTER 4 MARKET DYNAMICS**

#### Introduction

#### Key Market Growth Drivers

Rising Demand for Hybrid Electric Vehicles and Plug-In Hybrid Electric Vehicles

Tax Incentives and Regulatory Assistance for Plug in Hybrid Electric Vehicles (PHEV's)

Lower Fuel Consumption When Compared to Conventional ICE Vehicles

Lesser Emissions When Compared to Conventional ICE Vehicles

Dual Benefits of IC Engine and Electric Motor as Prime Mover

#### Key Market Growth Restraints

High Capital Cost When Compared to Conventional ICE Vehicles

Reduced Tax Benefits and Incentives for HEV's (Excluding PHEV's)

#### Key Market Growth Opportunity

State Targets to Minimize Use of Fossil Fuels and Stringent Emission Norms

#### Key Market Growth Challenge

Availability of Alternatives Such as Pure Electric Vehicles, Hydrogen Driven Vehicles, Fuel Cell Driven Vehicles

### **CHAPTER 5 GLOBAL COMPONENTS MARKET OF HYBRID ELECTRIC VEHICLES, BY COMPONENTS**

#### Introduction

Global Market for Components Used in Hybrid Electric Vehicles

#### Engines

Batteries and Battery Software

#### Motors

#### Generators

Continuously Variable Transmissions (CVT's)

#### Ultracapacitors

#### IGBT Inverters

Electronic Control Units

Integrated Power Units

High-Voltage Wiring

Electric Compressors for HVAC

Electric Power Steering

Regenerative Braking

Other Components of Hybrid Electric Vehicles

## **CHAPTER 6 GLOBAL COMPONENTS MARKET FOR HYBRID ELECTRIC VEHICLES, BY TYPE**

Overview

Mild Hybrids

Mild Hybrid Cars and SUV's

Full Hybrid

Full Hybrid Cars and SUV's

Plug-In Hybrid Electric Vehicle (PHEV)

Plug-in Hybrid Electric Cars and SUV's

## **CHAPTER 7 GLOBAL COMPONENTS MARKET FOR HYBRID ELECTRIC VEHICLES, BY REGION**

Introduction

North America

Asia-Pacific

Europe

Rest of the World

## **CHAPTER 8 COMPETITIVE LANDSCAPE**

Industry Overview

Component Manufacturers

OEM's

Market Share Analysis

Market Strategy Analysis

Key Market Developments

New Product Launch, 2015-2018

Contracts and Agreements, 2015-2018

Expansion, 2016-2018

Mergers and Acquisitions, 2017-2018

Other Developments, 2017-2018

## **CHAPTER 9 COMPANY PROFILES**

### **A123 SYSTEMS, LLC**

**AISIN SEIKI CO. LTD.**

Products Offered

Financials

Recent Developments

**APTIV PLC****BLUE ENERGY COMPANY LTD. (GS YUASA)****BORGWARNER INC.****BYD COMPANY LTD.****CHINA AUTOMOTIVE SYSTEMS INC.****CONTINENTAL AG**

Products Offered

Financials

Recent Developments

**DENSO CORP.**

Products Offered

Financials

Recent Developments

**EATON CORP. PLC**

Products Offered

Financials

**FUJI ELECTRIC CO. LTD.**

Recent Developments

**GS YUASA CORP.**

Products Offered  
Financials  
Recent Developments

## **HITACHI AUTOMOTIVE SYSTEMS, LTD.**

Products Offered  
Financials  
Recent Developments

## **JATCO LTD.**

Products Offered  
Financials  
Recent Developments

## **JOHNSON CONTROLS INC.**

## **KEIHIN CORP.**

Recent Developments

## **LG CHEM, LTD.**

## **MAGNA INTERNATIONAL INC.**

## **MAGNETI MARELLI S.P.A.**

## **MAXWELL TECHNOLOGIES INC.**

Products Offered  
Financials  
Recent Developments

## **NSK LTD.**

Recent Developments

## **PRIMEARTH EV ENERGY CO. LTD.**

*Components of Hybrid Electric Vehicles*

Recent Developments

## **ROBERT BOSCH GMBH**

Products Offered

Financials

Recent Developments

## **SAFT GROUPE SA**

## **SAMSUNG SDI CO., LTD.**

## **SIEMENS AG**

## **SCHAEFFLER AG**

Recent Developments

## **TOYOTA MOTOR CORP.**

Products Offered

Financials

Recent Developments

## **UQM TECHNOLOGIES INC.**

## **VALEO S.A.**

Overview

## **VISTEON CORP.**

## **YAZAKI CORP.**

## **ZF FRIEDRICHSHAFEN AG**

Recent Developments



## CHAPTER 10 APPENDIX

Abbreviations

Report Sources

## List Of Tables

### LIST OF TABLES

Summary Table: Global Market for Components of Hybrid Electric Vehicles, Through 2023

Table 1: Hybrid Type: Functions and Specifications

Table 2: Key Suppliers of Mild Hybrid Electric Vehicles

Table 3: Key Suppliers of Full Hybrid Electric Vehicles

Table 4: Key Suppliers of Plug-in Hybrid Electric Vehicles

Table 5: Federal Tax Incentives for Plug-in Hybrid Electric Vehicles

Table 6: Tax Incentives for Strong Hybrids, and Plug-in Hybrid Electric Vehicles, in India

Table 7: Comparative Fuel Economy of Hybrid and Conventional Versions of Vehicles from Different Manufacturers

Table 8: Annual Carbon Emissions by Different Vehicle Categories

Table 9: Cost Comparisons of Conventional IC Engine Vehicles and Hybrid Electric Vehicles, 2018

Table 10: Electric Vehicle Deployment Targets for Different Countries, 2020-2030

Table 11: Global Market for Components of Hybrid Electric Vehicles, Through 2023

Table 12: Global Market Share for Components of Hybrid Electric Vehicles, 2018 and 2023,

Table 13: Unit Costs of Engines for Hybrid Electric Vehicles, by Type, 2016-2023

Table 14: Global Market for Engines Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 15: Unit Costs of Batteries for Hybrid Electric Vehicles, by Type, 2016-2023

Table 16: Global Market for Batteries Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 17: Global Market for Motors Used in Hybrid Electric Vehicles, Through 2023

Table 18: Global Market for Generators Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 19: Global Market for CVT's Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 20: Global Market for Ultracapacitors Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 21: Global Market for IGBT Inverters Used in Hybrid Electric Vehicles, Through 2023

Table 22: Global Market for Electronic Control Units Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 23: Global Market for Integrated Power Units Used in Hybrid Electric Vehicles, by

Type, Through 2023

Table 24: Global Market for High Voltage Wiring Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 25: Global Market for Electric Compressors for HVAC Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 26: Global Market for Electric Power Steering Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 27: Global Market for Regenerative Braking Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 28: Global Market for Other Components Used in Hybrid Electric Vehicles, by Type, Through 2023

Table 29: Global Market Volume for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 30: Global Market for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 31: Global Market for Mild Hybrid Cars, by Component, Through 2023

Table 32: Global Market for Mild Hybrid SUV's, by Component, Through 2023

Table 33: Global Market for Full Hybrid Cars, by Component, Through 2023

Table 34: Global Market for Full Hybrid SUV's, by Component, Through 2023

Table 35: Global Market for Plug-In Hybrid Electric Cars, by Component, Through 2023

Table 36: Global Market for Plug-In Hybrid Electric SUV's, by Component, Through 2023

Table 37: Global Market Volume for Components of Hybrid Electric Vehicles, by Region, Through 2023

Table 38: Global Market for Components of Hybrid Electric Vehicles, by Region, Through 2023

Table 39: North American Market Volume for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 40: North American Market for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 41: U.S. Market Volume for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 42: U.S. Market for Components of Hybrid Electric Vehicles, by Type, Through 2023,

Table 43: Asia-Pacific Market Volume for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 44: Asia-Pacific Market for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 45: Japanese Market for Components of Hybrid Electric Vehicles, by Type,

Through 2023

Table 46: Japanese Market for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 47: European Market for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 48: European Market for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 49: Rest of the World Market for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 50: Rest of the World Market for Components of Hybrid Electric Vehicles, by Type, Through 2023

Table 51: New Product Launches in the Hybrid Electric Vehicles Component Market, 2015-2018

Table 52: List of Contracts and Agreements of the Hybrid Electric Vehicles Component Market, 2015-2018

Table 53: Market Developments Related to Expansion Activities of the Hybrid Electric Vehicles Component Market, 2016-2018

Table 54: Market Developments Related to Mergers and Acquisitions of the Hybrid Electric Vehicles Component Market, 2017-2018

Table 55: Other Developments in the Hybrid Electric Vehicles Component Market, 2017-2018

Table 56: Aisin Seiki Co. Ltd.: Products Offered

Table 57: Aisin Seiki Co. Ltd.: Company Financials, 2015-2018

Table 58: Aisin Seiki Co. Ltd.: Recent Developments, 2017

Table 59: Continental AG: Products Offered

Table 60: Continental AG: Company Financials, 2015-2017

Table 61: Continental AG: Recent Developments, 2017-2018

Table 62: Denso Corp.: Products Offered

Table 63: Denso Corp.: Company Financials, 2015-2018

Table 64: Denso Corp.: Recent Developments, 2017-2018

Table 65: Eaton Corp. Plc.: Products Offered

Table 66: Eaton Corp. Plc.: Company Financials, 2015-2017

Table 67: Fuji Electric Co. Ltd.: Recent Developments, 2015

Table 68: GS Yuasa Corp.: Products Offered

Table 69: GS Yuasa Corp.: Company Financials, 2015-2018

Table 70: GS Yuasa Corp.: Recent Developments, 2016-2017

Table 71: Hitachi Automotive Systems, Ltd.: Products Offered

Table 72: Hitachi Automotive Systems, Ltd.: Company Financials, 2015-2017

Table 73: Hitachi Automotive Systems, Ltd.: Recent Developments, 2015-2017

Table 74: JATCO Ltd.: Products Offered

Table 75: JATCO Ltd.: Company Financials, 2014-2016

Table 76: JATCO Ltd.: Recent Developments, 2015-2018

Table 77: Keihin Corp: Recent Developments, 2017

Table 78: Maxwell Technologies Inc.: Products Offered

Table 79: Maxwell Technologies Inc.: Company Financials, 2015-2017

Table 80: Maxwell Technologies Inc.: Recent Developments, 2016-2018

Table 81: NSK Ltd.: Recent Developments, 2016

Table 82: Primearth EV Energy Co., Ltd.: Recent Developments, 2017-2018

Table 83: Robert Bosch GmbH: Products Offered

Table 84: Robert Bosch GmbH: Company Financials, 2015-2017

Table 85: Robert Bosch GmbH: Recent Developments, 2015-2018

Table 86: Schaeffler Ag: Recent Developments, 2017-2018

Table 87: Toyota Motor Corp.: Products Offered

Table 88: Toyota Motor Corp.: Company Financials, 2015-2018

Table 89: Toyota Motor Corp: Recent Developments, 2016-2018

Table 90: ZF Friedrichshafen Ag: Recent Developments, 2015-2018

Table 91: Abbreviations Used in Components of Hybrid Electric Vehicles

Table 92: Report Sources

## List Of Figures

### LIST OF FIGURES

Summary Figure: Global Market for Components of Hybrid Electric Vehicles, 2016-2023

Figure 1: Global Market for Components of Hybrid Electric Vehicles, by Type, 2018 and 2023

Figure 2: Global Market for Hybrid Electric Vehicles, by Region, 2018 and 2023

Figure 3: North American Market for Components of Hybrid Electric Vehicles, by Type, 2018 and 2023

Figure 4: U.S. Market for Components of Hybrid Electric Vehicles, by Type, 2018 and 2023

Figure 5: Asia-Pacific Market for Components of Hybrid Electric Vehicles, by Type, 2018 and 2023

Figure 6: Japanese Market for Components of Hybrid Electric Vehicles, by Type, 2018-2023

Figure 7: European Market for Components of Hybrid Electric Vehicles, by Type, 2018 and 2023

Figure 8: Rest of the World Market for Components of Hybrid Electric Vehicles, by Type, 2018-2023

Figure 9: Global Market Share Analysis of Key Players of the Hybrid Electric Vehicles Component, 2017

Figure 10: Share of Key Market Strategies Adopted, by Companies, 2014-2018

Figure 11: Aisin Seiki Co. Ltd: Revenue Share, by Business Segment, 2017-2018

Figure 12: Aisin Seiki Co., Ltd.: Revenue Share, by Region, 2017-2018

Figure 13: Continental AG: Revenue Share, by Business Segment, 2017

Figure 14: Continental AG: Revenue Share, by Region, 2017

Figure 15: Denso Corp.: Revenue Share, by Business, Segment, 2017-2018

Figure 16: Denso Corp.: Revenue Share, by Region, 2017-2018

Figure 17: Eaton Corp. Plc.: Revenue Share, by Business Segment, 2017

Figure 18: Eaton Corp. Plc.: Revenue Share, by Region, 2017

Figure 19: GS Yuasa Corp.: Revenue Share, by Business Segment, 2017-2018

Figure 20: Maxwell Technologies Inc.: Revenue Share, by Business Segment, 2017

Figure 21: Maxwell Technologies Inc.: Revenue Share, by Region, 2017

Figure 22: Robert Bosch GmbH: Revenue Share, by Business Segment, 2017

Figure 23: Robert Bosch GmbH: Revenue Share, by Region, 2017

Figure 24: Toyota Motor Corp.: Revenue Share, by Business Segment, 2017-2018

Figure 25: Toyota Motor Corp.: Revenue Share, by Region, 2017-2018

## I would like to order

Product name: Components of Hybrid Electric Vehicles

Product link: <https://marketpublishers.com/r/CB7E20B7E37EN.html>

Price: US\$ 1,375.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/CB7E20B7E37EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970