

# Boletín VT COCHE ELÉCTRICO

2º trimestre 2016

26

## Vigilancia Tecnológica

### Noticias

La [Agencia Internacional de Energía](#) (AIE, IEA en inglés) ha publicado su informe anual sobre los más reciente avances y desarrollos en el mercado de los vehículos eléctricos, con especial enfoque en la evolución de las ventas de dichos vehículos así como en las políticas necesarias para promover una mayor implementación de la movilidad eléctrica en el mundo, en relación especialmente con el impacto en la disminución de emisiones.

[Iberdrola e Ingeteam](#) ponen en marcha el primer punto de carga rápida de Pamplona. El sistema permitirá recargar en apenas 15 o 20 minutos hasta el 80% de la batería de un vehículo eléctrico.

[Donostia-San Sebastián](#) ha puesto en circulación dos nuevos autobuses 100% eléctricos y dos híbridos, que se incorporan a la flota de la compañía dBus. Estos nuevos autobuses, junto con los que se añadirán a la flota antes de finales de año,

harán que el 25% de la flota de autobuses de 12 metros esté electrificada.

[Formentera](#) aspira a convertirse en la primera isla europea por la que solo circulen vehículos eléctricos: el Consejo Insular quiere poner en marcha un ambicioso plan de sostenibilidad, para lo que ha firmado un acuerdo con el fabricante francés Citroën para la cesión de seis vehículos eléctricos de un nuevo modelo que todavía no se comercializa en España. Esos primeros coches servirán de proyecto piloto para impulsar a partir de 2017 su estrategia de movilidad centrada en el transporte eléctrico.

Todos los boletines que publica periódicamente la OEPM están disponibles en el siguiente enlace:

### [BOLETINES OEPM](#)

NIPO: 073-15-016-6

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# Solicitudes de Patente Publicadas

Los datos que aparecen en la tabla corresponden a una selección de las solicitudes de patentes publicadas durante el trimestre. Se puede acceder al documento completo haciendo doble clic sobre el mismo.

## BATERÍAS

| Nº PUBLICACIÓN                | SOLICITANTE   | CONTENIDO TÉCNICO  |
|-------------------------------|---|--|
| <a href="#">WO 2016051662</a> | TOYOTA MOTOR CO LTD                                 | Non-aqueous electrolytic secondary battery and method of manufacturing the same  |
| <a href="#">WO 2016051907</a> | HITACHI AUTOMOTIVE SYSTEMS LTD                      | Lithium ion secondary battery  |
| <a href="#">WO 2016052098</a> | NEC CORP  | Material for negative electrode active material for lithium ion secondary battery, method for producing said material, negative electrode, and lithium ion secondary battery             |
| <a href="#">WO 2016052881</a> | LG CHEMICAL LTD                                     | Lithium secondary battery manufacturing method   |
| <a href="#">WO 2016052944</a> | LG CHEMICAL LTD                                     | Positive electrode active material and method for manufacturing same   |
| <a href="#">WO 2016053046</a> | IUCF HYU  | Lithium air secondary battery and method of manufacturing same   |
| <a href="#">WO 2016056586</a> | HITACHI CHEMICAL CO LTD                             | Positive-electrode active material for lithium ion secondary battery, and lithium ion secondary battery  |
| <a href="#">WO 2016077182</a> | DOW GLOBAL TECHNOLOGIES LLC                         | High volumetric energy density lithium battery with long cycle life  |
| <a href="#">WO 2016093100</a> | TOYOTA JIDOSHOKKI KK                                | Electric power storage device  |
| <a href="#">WO 2016093539</a> | KOKAM CO LTD  | Secondary battery module and secondary battery pack using same   |
| <a href="#">WO 2016052074</a> | NEC ENERGY DEVICES LTD                              | Lithium ion secondary battery and method for manufacturing same  |
| <a href="#">WO 2016052648</a> | GS YUASA INT LTD                                    | Negative electrode for nonaqueous electrolyte electricity storage elements, nonaqueous electrolyte electricity storage element, and electricity storage device                           |
| <a href="#">WO 2016052667</a> | MITSUI CHEMICALS INC                                | Electrode for lithium batteries, lithium battery and paste for electrochemical cells   |
| <a href="#">WO 2016052900</a> | LG CHEMICAL LTD                                     | Method and device for estimating discharge power of secondary battery  |
| <a href="#">WO 2016052996</a> | LG CHEMICAL LTD                                     | Lithium secondary battery comprising non-aqueous electrolyte   |
| <a href="#">WO 2016053054</a> | LG CHEMICAL LTD                                     | Positive electrode active material for lithium secondary battery, preparation method for same, and lithium secondary battery comprising same   |
| <a href="#">WO 2016053060</a> | LG CHEMICAL LTD                                     | Secondary battery laminating device and secondary battery laminating method  |
| <a href="#">WO 2016056373</a> | KOBAYASHI HIKARU KIT CO LTD<br>NISSHIN KASEI CO LTD | Negative electrode material of lithium ion battery, lithium ion battery, method and apparatus for manufacturing negative electrode or negative electrode material of lithium ion battery |
| <a href="#">WO 2016049836</a> | VOLKSWAGEN CHINA INVEST CO LTD                      | Energy storage system for vehicle  |
| <a href="#">WO 2016051688</a> | PANASONIC IP MAN CO LTD                             | Alloy powder for electrodes, negative electrode for nickel-metal hydride storage batteries using same, and nickel-metal hydride storage battery  |
| <a href="#">WO 2016052512</a> | HITACHI CHEMICAL CO LTD                             | Lead storage battery   |
| <a href="#">WO 2016053032</a> | LG CHEMICAL LTD                                     | Negative electrode active material for lithium secondary battery, method for preparing same, and lithium secondary battery comprising same   |
| <a href="#">WO 2016055910</a> | UMICORE NV<br>UMICORE KOREA LTD                     | Carbonate precursors for lithium nickel manganese cobalt oxide cathode material and the method of making same  |
| <a href="#">WO 2016056495</a> | SUMITOMO ELECTRIC INDUSTRIES                        | Electrolyte solution for sodium ion secondary battery, and sodium ion secondary battery  |
| <a href="#">WO 2016056768</a> | LG CHEMICAL LTD                                     | Battery cell balancing system and method using lc resonance  |
| <a href="#">WO 2016091187</a> | BYD CO LTD  | Automobile starting control system and automobile  |

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| <a href="#">WO 2016053056</a> | LG CHEMICAL LTD   | Positive electrode active material for lithium secondary battery, preparation method for same, and lithium secondary battery comprising same   |
| <a href="#">WO 2016053608</a> | MASSACHUSETTS INST TECHNOLOGY<br>LI MINGDA<br>WANG ZIQIANG<br>LI WENBIN | Sulfur nanospunge cathode for lithium-sulfur battery and methods of manufacture thereof  |
| <a href="#">WO 2016055908</a> | SEMICONDUCTOR ENERGY LAB  | Power storage device and electronic apparatus  |
| <a href="#">WO 2016056155</a> | SHINETSU CHEMICAL CO  | Negative electrode active substance for nonaqueous electrolyte secondary cell, negative electrode for nonaqueous electrolyte secondary cell, nonaqueous electrolyte secondary cell, and method for producing negative electrode material for nonaqueous electrolyte secondary cell |
| <a href="#">WO 2016056170</a> | TOYOTA MOTOR CO LTD   | Nonaqueous electrolyte secondary battery   |
| <a href="#">WO 2016056774</a> | LG CHEMICAL LTD   | Battery pack case having efficient cooling structure   |
| <a href="#">WO 2016056775</a> | LG CHEMICAL LTD   | Electrode comprising alternately arranged electrode mixture parts and irreversible parts, and secondary battery comprising same  |
| <a href="#">WO 2016056776</a> | LG CHEMICAL LTD   | Battery cell including battery case formed in shape corresponding to electrode assembly having step structure  |
| <a href="#">WO 2016093538</a> | KOKAM CO LTD  | Dual-sided cell cartridge for secondary battery module, and secondary battery module and pack using the dual-sided cell cartridge  |
| <a href="#">WO 2016052934</a> | LG CHEMICAL LTD   | Anode, lithium secondary battery comprising same, battery module comprising the lithium secondary battery, and method for manufacturing anode  |
| <a href="#">WO 2016056361</a> | SONY CORP   | Electrolyte for secondary cell, secondary cell, cell pack, electric vehicle, power storage system, electric power tool and electronic apparatus equipment  |
| <a href="#">WO 2016056493</a> | SUMITOMO ELECTRIC INDUSTRIES  | Electrolyte solution for sodium ion secondary battery, and sodium ion secondary battery  |
| <a href="#">WO 2016064254</a> | LS CABLE & SYSTEM LTD   | Wireless power transmission device and wireless power transmission system  |
| <a href="#">WO 2016090763</a> | ZTE CORP  | Terminal device battery and method for control of charge and discharge thereof   |
| <a href="#">WO 2016093522</a> | LG CHEMICAL LTD   | Apparatus and method for controlling battery rack relay  |
| <a href="#">WO 2016093590</a> | LG CHEMICAL LTD   | Secondary battery having improved output characteristics   |
| <a href="#">WO 2016050329</a> | TOYOTA MOTOR EUROPE NV SA<br>CONSEJO SUPERIOR INVESTIGACION             | Electrolytes for calcium-based secondary cell and calcium-based secondary cell comprising the same   |
| <a href="#">WO 2016051653</a> | SANYO ELECTRIC CO   | Positive electrode for nonaqueous electrolyte secondary batteries and nonaqueous electrolyte secondary battery using same  |
| <a href="#">WO 2016052932</a> | LG CHEMICAL LTD   | Anode, lithium secondary battery comprising same, battery module comprising the lithium secondary battery, and method for manufacturing anode  |
| <a href="#">WO 2016053053</a> | LG CHEMICAL LTD   | Cathode active material for lithium secondary battery, preparation method therefor and lithium secondary battery comprising same   |
| <a href="#">WO 2016056181</a> | TOYOTA MOTOR CO LTD   | Nonaqueous electrolyte secondary battery   |
| <a href="#">WO 2016056494</a> | SUMITOMO ELECTRIC INDUSTRIES  | Electrolyte solution for sodium ion secondary battery, and sodium ion secondary battery  |
| <a href="#">WO 2016056764</a> | LG CHEMICAL LTD   | Electrode assembly wound in both directions, and lithium secondary battery comprising same   |
| <a href="#">WO 2016051656</a> | SANYO ELECTRIC CO   | Nonaqueous electrolyte secondary battery   |
| <a href="#">WO 2016052850</a> | LG CHEMICAL LTD   | Negative electrode active material for lithium secondary battery, method for manufacturing same, negative electrode for lithium secondary battery comprising same, and lithium secondary battery   |
| <a href="#">WO 2016053031</a> | LG CHEMICAL LTD   | Anode active material for lithium secondary battery, method for manufacturing same, and lithium secondary battery comprising same  |

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| <a href="#">WO 2016053051</a> | LG CHEMICAL LTD  | Positive electrode active material for lithium secondary battery, manufacturing method therefor, and lithium secondary battery comprising same                         |
| <a href="#">WO 2016092811</a> | GS YUASA INT LTD   | Power storage element state estimation device and power storage element state estimation method  |
| <a href="#">WO 2016093170</a> | AUTONETWORKS TECHNOLOGIES LTD<br>SUMITOMO WIRING SYSTEMS<br>SUMITOMO ELECTRIC INDUSTRIES | Charging control circuit   |
| <a href="#">WO 2016051976</a> | FUJIFILM CORP  | Aluminum plate   |
| <a href="#">WO 2016052806</a> | KOREA ADVANCED INST SCI & TECH   | Wide area wireless power transmission apparatus and method using multiple synchronisation of magnetic fields   |
| <a href="#">WO 2016052910</a> | LG CHEMICAL LTD  | Anode active material for lithium secondary battery, manufacturing method therefor, anode for lithium secondary battery comprising same, and lithium secondary battery |
| <a href="#">WO 2016087716</a> | KELIBER OY   | Method of producing lithium metal phosphates   |
| <a href="#">WO 2016056846</a> | LG CHEMICAL LTD  | Battery module having improved safety and operational lifespan   |
| <a href="#">WO 2016057619</a> | UNIV WAYNE STATE   | Electrocatalysis of lithium polysulfides: current collectors as electrodes in li/s battery configuration   |
| <a href="#">WO 2016059126</a> | JAGUAR LAND ROVER LTD  | Battery condition monitoring   |
| <a href="#">WO 2016063434</a> | SANYO ELECTRIC CO  | Power supply device  |
| <a href="#">WO 2016063854</a> | AUTONETWORKS TECHNOLOGIES LTD<br>SUMITOMO WIRING SYSTEMS<br>SUMITOMO ELECTRIC INDUSTRIES | Power storage module   |
| <a href="#">WO 2016063967</a> | AISIN KEIKINZOKU CO LTD<br>TOYOTA MOTOR CO LTD   | Protective frame structure   |
| <a href="#">WO 2016064260</a> | LG CHEMICAL LTD  | Electrode manufacturing method for improving battery capacity and electrode manufactured thereby   |
| <a href="#">WO 2016064244</a> | LG CHEMICAL LTD  | Apparatus and method for detecting malfunction of task scheduler in battery management system  |
| <a href="#">WO 2016066843</a> | REPSOL SA  | Hierarchical composite structures based on graphene foam or graphene-like foam   |
| <a href="#">WO 2016067084</a> | TOYOTA MOTOR CO LTD  | Non-aqueous electrolyte secondary battery, electrode body used therefor, and method of manufacturing the electrode body  |
| <a href="#">WO 2016088775</a> | CS ENERGY MATERIALS LTD  | Nickel lithium metal composite oxide production method, nickel lithium metal composite oxide obtained by production method, and cathode active material including same |
| <a href="#">WO 2016089176</a> | LG CHEMICAL LTD  | Cathode active material, method for preparing same, and lithium secondary battery comprising same  |
| <a href="#">WO 2016057369</a> | XG SCIENCES INC  | Lif-embedded sig powder for lithium ion battery  |
| <a href="#">WO 2016059464</a> | TOYOTA MOTOR CO LTD  | Nonaqueous electrolyte secondary battery and manufacturing method therefor   |
| <a href="#">WO 2016060265</a> | TOYOTA JIDOSHOKKI KK   | Power storage device   |
| <a href="#">WO 2016064949</a> | SION POWER CORP<br>BASF SE   | Ion-conductive composite for electrochemical cells   |
| <a href="#">WO 2016083529</a> | ABB TECHNOLOGY AG  | Method of operating a battery in an electrically powered vehicle   |
| <a href="#">WO 2016089177</a> | LG CHEMICAL LTD  | Cathode active material, method for manufacturing same, and lithium secondary battery comprising same  |
| <a href="#">WO 2016059853</a> | SHARP KK   | Power control device and power control system provided with same   |
| <a href="#">WO 2016063175</a> | SEMICONDUCTOR ENERGY LAB   | Electrode and manufacturing method therefor, negative electrode and manufacturing method therefor, power storage device, and electronic apparatus                      |
| <a href="#">WO 2016063877</a> | UNIV OSAKA PREFECT PUBLIC CORP   | Positive electrode for all-solid secondary battery, method for manufacturing same, and all-solid secondary battery   |
| <a href="#">WO 2016064256</a> | LG CHEMICAL LTD  | Secondary battery separator comprising organic/inorganic composite porous layer, and manufacturing method therefor   |

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| <a href="#">WO 2016070923</a> | BAYERISCHE MOTOREN WERKE AG<br>TOYOTA MOTOR CORP   | Method and system for operating a metal air battery by a controlled supply of oxygen  |
| <a href="#">WO 2016088686</a> | NEC CORP   | Secondary battery, electric vehicle, and power storage system   |
| <a href="#">WO 2016059869</a> | TOSHIBA KK   | Secondary battery charge state estimation device and secondary battery charge state estimation method   |
| <a href="#">WO 2016088476</a> | HONDA MOTOR CO LTD   | Vehicular power supply device   |
| <a href="#">WO 2016088475</a> | HONDA MOTOR CO LTD   | Vehicular power supply device and cooling circuit   |
| <a href="#">WO 2016088891</a> | NAT INST OF TECHNOLOGY<br>TOYO TANSO CO  | Air cell positive electrode, air cell employing this positive electrode, and method for manufacturing said positive electrode                   |
| <a href="#">WO 2016088997</a> | UNIV DONGGUK IND ACAD COOP   | Manganese-based cathode active material for sodium secondary battery, and sodium secondary battery containing same                              |
| <a href="#">WO 2016057265</a> | BORGWARNER INC   | Control systems for hydraulically actuated transmissions of electric vehicles   |
| <a href="#">WO 2016060037</a> | FUJIFILM CORP  | Aluminum plate and method for producing aluminum plate  |
| <a href="#">WO 2016088474</a> | HONDA MOTOR CO LTD   | Vehicular power supply device and cooling circuit   |
| <a href="#">WO 2016089099</a> | LG CHEMICAL LTD  | Electrolyte solution for lithium secondary battery, with improved low temperature characteristic, and lithium secondary battery containing same |
| <a href="#">WO 2016059861</a> | SONY CORP  | Secondary battery, battery pack, electric vehicle, power storage system, power tool, and electronic apparatus                                   |
| <a href="#">WO 2016063472</a> | PANASONIC IP MAN CO LTD  | Battery pack  |
| <a href="#">WO 2016063964</a> | MITSUI CHEMICALS INC   | Lithium secondary battery   |
| <a href="#">WO 2016064187</a> | LG CHEMICAL LTD  | Multi-layer structured lithium metal electrode and method for manufacturing same  |
| <a href="#">WO 2016088506</a> | HITACHI AUTOMOTIVE SYSTEMS LTD   | Rectangular secondary battery   |
| <a href="#">WO 2016055846</a> | TOYOTA MOTOR CO LTD  | Nonaqueous electrolyte secondary battery and vehicle  |
| <a href="#">WO 2016057426</a> | UNIV MARYLAND  | Protection layers for metal anodes  |
| <a href="#">WO 2016076145</a> | NIPPON STEEL & SUMIKIN CHEM CO ADEKA CORP  | Nonaqueous electrolyte secondary battery  |
| <a href="#">WO 2016080213</a> | AUTONETWORKS TECHNOLOGIES LTD<br>SUMITOMO WIRING SYSTEMS<br>SUMITOMO ELECTRIC INDUSTRIES | Electrical storage module   |
| <a href="#">WO 2016080443</a> | NAT INST OF ADVANCED IND SCIEN   | Lithium-iron-phosphorus-sulfur-carbon composite body and method for producing same  |
| <a href="#">WO 2016080912</a> | UNIV SINGAPORE REPUBLIC POLYTECHNIC  | All-solid-state lithium-ion battery   |
| <a href="#">WO 2016084357</a> | SANYO ELECTRIC CO  | Non-aqueous electrolyte secondary cell  |
| <a href="#">WO 2016084858</a> | HITACHI CHEMICAL CO LTD  | Lead storage cell   |
| <a href="#">WO 2016084864</a> | TOYO TANSO CO  | Expanded graphite sheet and battery using same  |
| <a href="#">WO 2016085617</a> | TOYOTA ENG & MFG NORTH AMERICA   | In-situ magnesium-metal generated rechargeable magnesium battery  |
| <a href="#">WO 2016068684</a> | LG CHEMICAL LTD  | Multilayer cable-type secondary battery   |
| <a href="#">WO 2016074960</a> | BASF SE  | Electrode materials, their manufacture and use  |
| <a href="#">WO 2016075104</a> | BOSCH GMBH ROBERT  | Sensor housing  |
| <a href="#">WO 2016080177</a> | HITACHI AUTOMOTIVE SYSTEMS LTD   | Prismatic secondary battery   |
| <a href="#">WO 2016084273</a> | SANYO ELECTRIC CO  | Power source device   |
| <a href="#">WO 2016084573</a> | NIPPON ELECTRIC GLASS CO   | Method for manufacturing positive electrode material for electrical storage device  |

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| <a href="#">WO 2016068681</a> | LG CHEMICAL LTD  | Transition metal oxide precursor, method for preparing same, lithium composite transition metal oxide, positive electrode comprising same, and secondary battery   |
| <a href="#">WO 2016080027</a> | TOYO TIRE & RUBBER CO  | Method for manufacturing displacement detection sensor for sealed-type secondary battery   |
| <a href="#">WO 2016080456</a> | HITACHI CHEMICAL CO LTD  | Lithium-ion cell   |
| <a href="#">WO 2016082120</a> | GM GLOBAL TECH OPERATIONS INC YU ZHIQIANG  | Combination of plasma coating and spray coating for lithium battery electrode fabrication  |
| <a href="#">WO 2016084966</a> | SUMITOMO METAL MINING CO   | Positive electrode active material for nonaqueous electrolyte secondary cell, method for manufacturing same, and nonaqueous electrolyte secondary cell   |
| <a href="#">WO 2016085271</a> | LG CHEMICAL LTD  | Device and method for measuring thickness of secondary battery cell  |
| <a href="#">WO 2016068641</a> | LG CHEMICAL LTD  | Lithium sulfur battery and method for producing same   |
| <a href="#">WO 2016076327</a> | UBE INDUSTRIES   | Non-aqueous electrolyte solution, and power storage device in which non-aqueous electrolyte solution is used   |
| <a href="#">WO 2016080212</a> | AUTONETWORKS TECHNOLOGIES LTD<br>SUMITOMO WIRING SYSTEMS<br>SUMITOMO ELECTRIC INDUSTRIES | Electricity storage module   |
| <a href="#">WO 2016080320</a> | SUMITOMO METAL MINING CO   | Positive electrode active material for nonaqueous electrolyte secondary batteries, method for producing same and nonaqueous electrolyte secondary battery using same   |
| <a href="#">WO 2016084563</a> | TOYOTA JIDOSHKKI KK  | Power storage apparatus  |
| <a href="#">WO 2016051249</a> | TOYOTA MOTOR CO LTD  | Cooling device for battery   |
| <a href="#">WO 2016063176</a> | SEMICONDUCTOR ENERGY LAB   | Lithium-ion storage battery and fabricating method thereof   |
| <a href="#">WO 2016068142</a> | HITACHI CHEMICAL CO LTD  | Lithium ion battery  |
| <a href="#">WO 2016068263</a> | SUMITOMO METAL MINING CO   | Nickel-containing composite hydroxide and production process therefor, positive active material for nonaqueous-electrolyte secondary battery and production process therefor, and nonaqueous-electrolyte secondary battery |
| <a href="#">WO 2016075736</a> | TOSHIBA KK   | Cell module  |
| <a href="#">WO 2016078491</a> | DALIAN CHEMICAL PHYSICS INST   | Zinc-bromine flow battery having extended service life   |
| <a href="#">WO 2016080143</a> | ZEON CORP  | Double-sided tape for electrode constituent body immobilization, and secondary battery   |
| <a href="#">WO 2016080300</a> | UNIV NAGASAKI  | Secondary cell   |
| <a href="#">WO 2016084346</a> | SANYO ELECTRIC CO  | Positive electrode for nonaqueous electrolyte secondary batteries, and nonaqueous electrolyte secondary battery  |
| <a href="#">WO 2016084697</a> | SHOWA DENKO KK   | Method for manufacturing electroconductive paste, and electroconductive paste  |
| <a href="#">WO 2016084930</a> | SUMITOMO METAL MINING CO   | Positive electrode active material for non-aqueous electrolyte secondary battery and producing method therefor, and non-aqueous electrolyte secondary battery using said positive electrode active material                |
| <a href="#">WO 2016064171</a> | LG CHEMICAL LTD  | System and method for correcting soc of battery  |
| <a href="#">WO 2016068651</a> | LG CHEMICAL LTD  | Electrode for secondary battery, method for manufacturing same, secondary battery comprising same, and cable-type secondary battery  |
| <a href="#">WO 2016084112</a> | SWCC SHOWA CABLE SYS CO LTD  | Composite cable  |
| <a href="#">WO 2016084693</a> | TOYOTA JIDOSHKKI KK  | Power storage device   |
| <a href="#">WO 2016075916</a> | GS YUASA INT LTD   | Sulfur-carbon composite, nonaqueous electrolyte cell having electrode containing sulfur-carbon composite, and method for producing sulfur-carbon composite   |
| <a href="#">WO 2016080696</a> | LG CHEMICAL LTD  | Cooling plate for secondary battery, and secondary battery module having same  |

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| <a href="#">WO 2016067487</a> | SANYO ELECTRIC CO  | Power supply device  |
| <a href="#">WO 2016067959</a> | SUMITOMO METAL MINING CO   | Method for producing nickel cobalt aluminum composite hydroxide and method for producing positive electrode active material for nonaqueous electrolyte secondary batteries |
| <a href="#">WO 2016068040</a> | NAT INST OF ADVANCED IND SCIEN   | Lithium-containing garnet crystal and all-solid-state lithium ion secondary battery  |
| <a href="#">WO 2016072165</a> | HITACHI AUTOMOTIVE SYSTEMS LTD   | Travel control device  |
| <a href="#">WO 2016067402</a> | HITACHI LTD  | Lithium ion battery  |
| <a href="#">WO 2016068594</a> | LG CHEMICAL LTD  | Anode active material for lithium secondary battery, method for manufacturing same, and lithium secondary battery comprising anode active material                         |
| <a href="#">WO 2016068682</a> | LG CHEMICAL LTD  | Transition metal oxide precursor, lithium composite transition metal oxide, positive electrode comprising same, and secondary battery                                      |
| <a href="#">WO 2016072351</a> | IHI CORP   | Coil device, contactless power supply system, and auxiliary magnetic member  |
| <a href="#">WO 2016068516</a> | LG CHEMICAL LTD  | Negative electrode for secondary battery, electrode assembly comprising same, and secondary battery  |
| <a href="#">WO 2016068683</a> | LG CHEMICAL LTD  | Multilayer cable-type secondary battery  |
| <a href="#">WO 2016072328</a> | VALEO JAPAN CO LTD   | Battery temperature control unit, and battery pack using same  |
| <a href="#">WO 2016072594</a> | LG CHEMICAL LTD  | Cartridge frame having double side wall structure, and battery module comprising same  |
| <a href="#">WO 2016067522</a> | SANYO ELECTRIC CO  | Nonaqueous electrolyte secondary battery   |
| <a href="#">WO 2016066011</a> | BYD CO LTD   | Heat sink and power battery system   |
| <a href="#">WO 2016067586</a> | CALSONIC KANSEI CORP<br>UNIV KEIO  | Battery parameter estimation device  |
| <a href="#">WO 2016072054</a> | PANASONIC IP MAN CO LTD  | Electrode member, current collecting plate, and battery block  |
| <a href="#">WO 2016072315</a> | NAT UNIV CORP<br>NAGAOKA UNIV TEC<br>NIPPON ELECTRIC GLASS CO                            | Positive electrode active material for storage device and method for producing positive electrode active material for storage device                                       |
| <a href="#">WO 2016071941</a> | TOSHIBA KK<br>TOSHIBA SOLUTIONS CORP   | Prediction system, prediction program and prediction device  |
| <a href="#">WO 2016068329</a> | NAT INST OF ADVANCED IND SCIEN   | Lithium ion conductive crystal body and all-solid state lithium ion secondary battery  |
| <a href="#">WO 2016072822</a> | LEE JEONG YONG   | Battery for electric vehicle and the like  |
| <a href="#">WO 2016067960</a> | SUMITOMO METAL MINING CO   | Nickel composite hydroxide and method for preparing same   |
| <a href="#">WO 2016068534</a> | LG CHEMICAL LTD  | Lithium sulfur battery   |
| <a href="#">WO 2016072649</a> | LG CHEMICAL LTD  | Conductive material manufacturing method, conductive material manufactured therefrom, and lithium secondary battery including same   |
| <a href="#">WO 2016070801</a> | JOHNSON CONTROLS TECH CO<br>JOHNSON CONTROLS NEW ENERGY BATTERY RES AND DEV SHANGHAI LTD | Scalable modular design of 48-volt li-ion battery management system  |

[...volver a CONTENIDO](#)

## SUPERCONDENSADORES

| Nº PUBLICACIÓN                | SOLICITANTE          | CONTENIDO TÉCNICO  |
|-------------------------------|----------------------|--|
| <a href="#">WO 2016090617</a> | CHEN YINFANG         | Intelligent driving recording and monitoring power bank device based on Ite                                  |
| <a href="#">WO 2016064259</a> | LG CHEMICAL LTD      | Method for cutting separation membrane for battery, and separation membrane for battery manufactured thereby |
| <a href="#">WO 2016088535</a> | TOYOTA JIDOSHOKKI KK | Power storage device   |
| <a href="#">WO 2016068785</a> | SCANIA CV AB         | Method and system for pre-charging an electrical component   |

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## SISTEMAS DE RECUPERACIÓN DE ENERGÍA; FRENOS REGENERATIVOS

| Nº PUBLICACIÓN                | SOLICITANTE                                     | CONTENIDO TÉCNICO   |
|-------------------------------|---|---|
| <a href="#">WO 2016092586</a> | NISSAN MOTOR                                    | Braking/driving force control device and braking/driving force control method   |
| <a href="#">WO 2016055806</a> | ISIS INNOVATION                                 | Electrical energy storage device  |
| <a href="#">WO 2016059818</a> | NISSO CO LTD                                    | Permanent magnet rotation mechanism and permanent magnet power generator provided with said permanent magnet rotation mechanism |
| <a href="#">WO 2016088247</a> | YASKAWA DENKI SEISAKUSHO KK                     | Brake control system, vehicle, motor, and brake control method  |
| <a href="#">WO 2016089228</a> | EDDY CURRENT LTD PARTNERSHIP                    | Eddy current brake configurations   |
| <a href="#">WO 2016080224</a> | ISUZU MOTORS LTD                                | Hybrid vehicle control method   |
| <a href="#">WO 2016065672</a> | SHANGHAI HUITAI MULTIPLE NEW ENERGY TECH CO LTD | Driving system and method for battery electric vehicle  |

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## MÁQUINAS ELÉCTRICAS

| Nº PUBLICACIÓN                | SOLICITANTE   | CONTENIDO TÉCNICO   |
|-------------------------------|---|---|
| <a href="#">WO 2016051535</a> | NISSAN MOTOR  | Rotating electrical machine system  |
| <a href="#">WO 2016093174</a> | HITACHI METALS LTD  | Production method for r-t-b-based sintered magnet                                 |
| <a href="#">WO 2016093149</a> | NTN TOYO BEARING CO LTD   | Wiring structure of motor drive device for vehicle                                |
| <a href="#">WO 2016093327</a> | FCC KK  | Power transmitting device for hybrid vehicle                                      |
| <a href="#">WO 2016054068</a> | LIGHTENING ENERGY   | Electric vehicle battery thermal management system and method                     |
| <a href="#">WO 2016087924</a> | TOYOTA MOTOR CO LTD<br>DENSO CORP   | Hybrid automobile   |
| <a href="#">WO 2016093173</a> | HITACHI METALS LTD  | Production method for r-t-b-based sintered magnet                                 |
| <a href="#">WO 2016052040</a> | NTN TOYO BEARING CO LTD<br>SUZUKI KENICHI<br>UOZUMI TOMOHISA<br>HIRAI ISAO              | In-wheel motor drive device   |
| <a href="#">WO 2016088827</a> | HITACHI CONSTRUCTION MACHINERY  | Construction machine  |
| <a href="#">WO 2016076648</a> | POSCO   | Module for cooling heating element and motor including same                       |
| <a href="#">WO 2016060311</a> | KOREA ELECTRONICS TECHNOLOGY  | Stator of planar type motor, and planar type motor using same                     |
| <a href="#">WO 2016063674</a> | NTN TOYO BEARING CO LTD<br>TAMURA SHIRO<br>ISHIKAWA TAKANORI<br>TAIKOU SHINYA           | Casing structure for in-wheel motor drive device                                  |
| <a href="#">WO 2016084798</a> | YAMAHA MOTOR CO LTD   | Electric current supply system, electric power supply system, and control device  |
| <a href="#">WO 2016085951</a> | GEN ELECTRIC  | Integrated motor and axle apparatus and method                                    |
| <a href="#">WO 2016075739</a> | MITSUBISHI ELECTRIC CORP  | Rotating electrical machine   |
| <a href="#">WO 2016080216</a> | ISUZU MOTORS LTD  | Hybrid system, hybrid vehicle, and electric power supply method for hybrid system |
| <a href="#">WO 2016082629</a> | SCHAEFFLER TECHNOLOGIES AG<br>HUANG CHAO<br>GAO ZHICHUAN<br>CAI XIANGYANG<br>PAN HANGYI | Wheel hub drive assembly  |
| <a href="#">WO 2016080494</a> | NITTO DENKO CORP  | Drive device and ventilation member   |
| <a href="#">WO 2016066129</a> | CHEN QIXING<br>LUO QIYU   | Linear motor based on radial magnetic tube  |
| <a href="#">WO 2016084602</a> | HITACHI AUTOMOTIVE SYSTEMS LTD  | Rotor for rotating electric device, and rotating electric device using the rotor  |
| <a href="#">WO 2016084474</a> | AISIN AW CO   | Control device for vehicle drive device   |
| <a href="#">WO 2016068404</a> | LG ELECTRONICS INC  | Motor and automobile having same  |
| <a href="#">WO 2016072308</a> | NTN TOYO BEARING CO LTD   | In-wheel motor device and in-wheel motor control device therefor                  |
| <a href="#">WO 2016068470</a> | LG ELECTRONICS INC  | Driving module for vehicle  |

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## CONVERTIDORES, INVERSORES

| Nº PUBLICACIÓN                | SOLICITANTE  | CONTENIDO TÉCNICO   |
|-------------------------------|--|---|
| <a href="#">WO 2016051742</a> | PANASONIC IP MAN CO LTD  | Motor control device, motor unit including said motor control device, automobile including motor unit, and motor control method |
| <a href="#">WO 2016092985</a> | HITACHI AUTOMOTIVE SYSTEMS LTD   | Electric power converting device  |
| <a href="#">WO 2016060000</a> | AUTONETWORKS TECHNOLOGIES LTD<br>SUMITOMO WIRING SYSTEMS<br>SUMITOMO ELECTRIC INDUSTRIES | Reactor   |
| <a href="#">WO 2016060001</a> | AUTONETWORKS TECHNOLOGIES LTD<br>SUMITOMO WIRING SYSTEMS<br>SUMITOMO ELECTRIC INDUSTRIES | Reactor   |
| <a href="#">WO 2016088624</a> | NGK INSULATORS LTD   | Method for separating group 13 element nitride layer, and composite substrate   |
| <a href="#">WO 2016063678</a> | MITSUBISHI ELECTRIC CORP   | Electric power conversion device  |
| <a href="#">WO 2016080068</a> | HITACHI AUTOMOTIVE SYSTEMS LTD   | Power conversion device   |
| <a href="#">WO 2016079995</a> | DENSO CORP   | Semiconductor device and power module   |
| <a href="#">WO 2016076040</a> | HITACHI AUTOMOTIVE SYSTEMS LTD   | Power conversion device   |
| <a href="#">WO 2016067835</a> | ROHM CO LTD  | Power module and power circuit  |

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## RECARGA DE BATERÍAS

| Nº PUBLICACIÓN                | SOLICITANTE                       | CONTENIDO TÉCNICO   |
|-------------------------------|-----------------------------------|---|
| <a href="#">WO 2016052524</a> | TAKAOKA TOKO CO LTD               | Charging device for electric moving body  |
| <a href="#">WO 2016051684</a> | PANASONIC IP MAN CO LTD           | Storage cell control device and storage module management system  |
| <a href="#">WO 2016093118</a> | AYUDANTE INC                      | Timer management method and program for automobile charging stand   |
| <a href="#">WO 2016092151</a> | UNIV AALTO FOUNDATION             | Method and arrangement for charging of vehicle accumulators   |
| <a href="#">WO 2016051635</a> | SONY CORP                         | Electric power storage device, electronic device, electric vehicle, and electric power system   |
| <a href="#">WO 2016063966</a> | TOYOTA JIDOSHOKKI KK              | Charging device and charging method   |
| <a href="#">WO 2016064224</a> | LG CHEMICAL LTD                   | Apparatus and method for controlling electric currents  |
| <a href="#">WO 2016088537</a> | MITSUBISHI MOTORS CORP            | Charging and discharging current quantity display device for electric vehicle   |
| <a href="#">WO 2016060748</a> | QUALCOMM INC                      | Systems, methods, and apparatus for living object protection in wireless power transfer applications  |
| <a href="#">WO 2016063507</a> | PANASONIC IP MAN CO LTD           | Electric power supply device  |
| <a href="#">WO 2016059720</a> | MITSUBISHI ELECTRIC CORP          | Charge-discharge control device   |
| <a href="#">WO 2016084043</a> | HITACHI RAIL ITALY S P A          | Auxiliary system of power supply and energy harvesting for an electric vehicle, and method for operating the auxiliary system of power supply and energy harvesting |
| <a href="#">WO 2016059897</a> | SHARP KK                          | Power control device  |
| <a href="#">WO 2016089925</a> | AEROENVIRONMENT INC               | System for charging an electric vehicle (ev)  |
| <a href="#">WO 2016075797</a> | HITACHI LTD                       | Battery system  |
| <a href="#">WO 2016079964</a> | GS YUASA INT LTD                  | Secondary cell management device and secondary cell management method   |
| <a href="#">WO 2016082326</a> | ZHONGSHAN BROAD OCEAN MOTOR CO    | Electric automobile system integrating charging and driving functions, and control method therefor  |
| <a href="#">WO 2016080222</a> | MURATA MANUFACTURING CO           | On-vehicle battery, and on-vehicle power supply device  |
| <a href="#">WO 2016078801</a> | BOSCH GMBH ROBERT                 | Device for transferring energy by induction comprising a monitoring device  |
| <a href="#">WO 2016082208</a> | BOSCH GMBH ROBERT ZHANG MINGLIANG | Wireless network based battery management system  |
| <a href="#">WO 2016084503</a> | TOYOTA MOTOR CO LTD               | Charging/discharging control device for onboard secondary cell  |
| <a href="#">WO 2016067913</a> | TOYOTA JIDOSHOKKI KK              | Charging device   |
| <a href="#">WO 2016072091</a> | HONDA MOTOR CO LTD                | Charging control device and charging control method   |
| <a href="#">WO 2016071029</a> | BOSCH GMBH ROBERT                 | Transmission system, method and a vehicle arrangement   |

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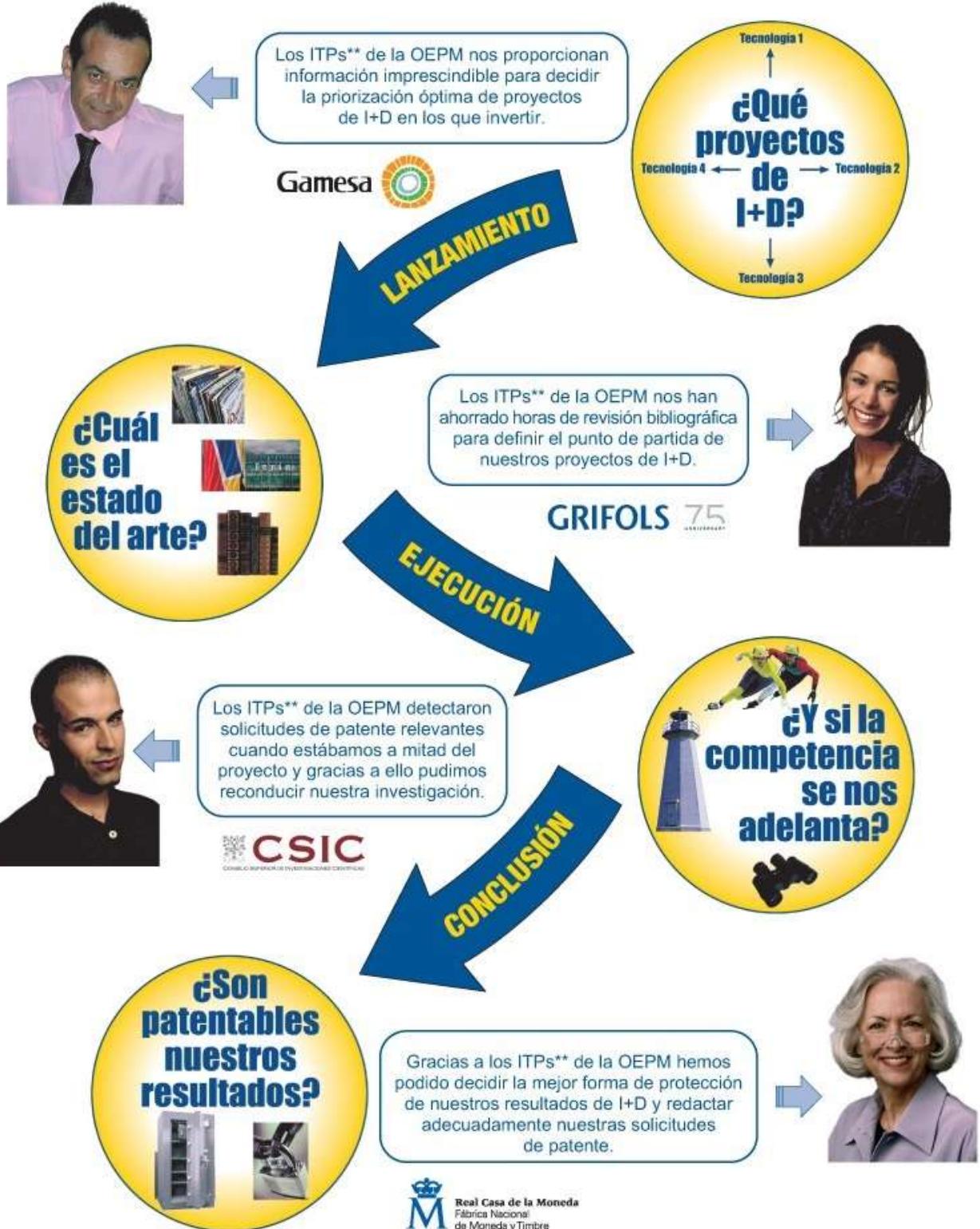
## CAMBIO DE BATERÍAS

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**NO SE HAN RECUPERADO DOCUMENTOS**

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