

#### Noticias

El pasado 2 de enero de 2011, se publicó en el BOE la segunda convocatoria del Programa de Ayudas del IDAE para la adquisición y uso de vehículos eléctricos, en el marco del Proyecto Piloto de Movilidad Eléctrica (MOVELE), que supuso la ampliación del plazo de solicitud de ayudas hasta el 31 de marzo de 2011.

El Proyecto MOVELE, gestionado y coordinado por el IDAE, consiste en la introducción, dentro de entornos urbanos, de 2.000 vehículos eléctricos de diversas categorías, prestaciones y tecnologías, en un colectivo amplio de empresas, instituciones y particulares, así como en la instalación de 500 puntos de recarga para estos vehículos

Por otra parte, la Oficina Española de Patentes y Marcas estuvo presente en la Feria de las Energías EGETICA - EXPOENERGETICA que se celebró entre el 16 y el 18 de febrero de 2011 en la Feria de Valencia. El coche eléctrico tuvo un lugar destacado en la feria, con propuestas concretas de empresas como IBERDOLA, que firmó un convenio con la Generalitat

Valenciana para promover el uso del vehículo eléctrico. Los ayuntamientos de Valencia y Castellón han sido los primeros en sumarse a esta iniciativa, y han acordado establecer más de 100 puntos de recarga de acceso público, además de adquirir una flota de vehículos eléctricos. También se presentó el proyecto financiado por el MITyC denominado E-SHARING. Se trata de una experiencia piloto de CAR SHARING con vehículos eléctricos en la localidad de Sagunto,

Por último, mencionar que los vehículos eléctricos, híbridos e híbridos enchufables estuvieron presentes en el pasado Salón del Automóvil de Ginebra, celebrado en marzo de 2011. El denominado "Pabellón Verde" acogió la presentación de 17 primicias mundiales, con 36 expositores presentes. Las propuestas cubrieron desde los vehículos de lujo (Rolls-Royce 102EX) y los deportivos (Nissan Esflow), pasando por las berlinas (Ford Focus Electric Drive), conceptos biplaza (Smart Forspeed) o el rediseño de los modelos clásicos (Volkswagen Bulli).

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- **TECNOLOGÍAS VEHICULARES**
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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="#">WO2011028168 A1</a>	ELECTROENGINE IN SWEDEN AB	Battery pack for e.g. electric vehicle, has battery control circuit that receives operation control signal and allows feeding of electric energy from battery cell to load in response to the operation control signal
<a href="#">WO2011028160 A1</a>	AUTOLIV DEV AB	Safety arrangement for motor vehicle e.g. hybrid vehicle, has control unit operable to provide actuating command to actuator to activate occupant safety device in response to signal from crash sensor
<a href="#">WO2011030041 A1</a>	PEUGEOT CITROEN AUTOMOBILES SA	Hybrid motor vehicle, has battery arranged on floor of rear boot side passenger compartment, and protection vat whose vertical surface covers rear side face of battery and flat surface covers inverter
<a href="#">WO2011030010 A1</a>	COMMISSARIAT ENERGIE ATOMIQUE	Stand-alone system utilizing method for electric vehicle, involves determining normal and degraded operating modes, and reducing current furnished by battery when activator is activated during passing from normal mode to degraded mode
<a href="#">WO2011026575 A2</a>	VOLKSWAGEN AG	Battery system e.g. high volt battery system, for use in e.g. electrical vehicle, has resistors and switches, where series circuit of resistors and switches are connected parallel to battery cells, and switches are mutually switched
<a href="#">WO2011023654 A1</a>	CONTINENTAL AUTOMOTIVE GMBH	Energy storage cell useful for electric and hybrid vehicle, comprises a housing, an electrolyte and two electrodes, each of which is disposed in the housing and is in contact with the electrolyte
<a href="#">WO2011026596 A2</a>	LI-TEC BATTERY GMBH	Protective device for galvanic cells of battery e.g. traction battery for electrical vehicle, has activation device activated by signal produced by sensor that measures physical dimension indicating operating conditions of galvanic cells
<a href="#">WO2011026984 A1</a>	BEHR GMBH&CO	Module support for holding e.g. nickel metal hydride battery of electric vehicle, has carrier-lateral element connected with module-lateral element such that carrier-lateral connections are connected with module-lateral connections
<a href="#">WO2011024250 A1</a>	TOYOTA JIDOSHA KK	Manufacture of lithium-ion secondary battery used for vehicles, involves aging assembled battery having nonaqueous electrolyte solution, positive electrode and negative electrode, after charging for certain voltage
<a href="#">WO2011024251 A1</a>	TOYOTA JIDOSHA KK	Lithium ion secondary battery used as power supply for vehicle, has electrolyte solution containing lithium salt, dicarboxylic acid(s), and vinylene carbonate, vinyl ethylene carbonate, ethylene sulfite and/or fluoroethylene carbonate
<a href="#">WO2011026087 A2</a>	POROUS POWER TECHNOLOGIES LLC	Battery manufacturing method for e.g. cellular telephone, involves attaching battery components to continuous separator membrane, and cutting membrane into laminate subassemblies, and forming battery from laminate subassemblies
<a href="#">WO2011024283 A1</a>	TOYOTA JIDOSHA KK	Method for evaluating positive electrode active material for lithium ion secondary battery, involves determining intensity ratio between manganese-oxygen peak intensity and manganese-metal peak intensity
<a href="#">WO2011024414 A1</a>	PANASONIC CORP	Lithium secondary battery used for e.g. hybrid vehicle, has electrode group formed by laminating positive and negative electrode plates with collector containing metal particles scattered in mixture layer of negative electrode plate
<a href="#">WO2011021481 A1</a>	NISSHIN ENG CO LTD	Manufacture of positive electrode material for secondary battery, involves mixing powder of lithium compound and metallic compound, and baking and reacting mixed powder
<a href="#">WO2011021843 A2</a>	LG CHEM LTD	Battery pack for vehicle e.g. electromobile, has battery cell and unit cell set in pack case, refrigerant inlet portion allowing refrigerant to pass through battery modules, and refrigerant inlet and outlet positioned at sides of pack case
<a href="#">WO2011021718 A1</a>	JFE ENG CORP	Quick charging device mounted in electric vehicle of movable charging system, has storage battery made into charging object, such that storage battery with high power density and high energy density are provided
<a href="#">WO2011021253 A1</a>	TOYOTA JIDOSHA KK	Electrical storage apparatus e.g. battery pack mounted in vehicle, has opening section that moves edge portion of electrical storage element approach into guide section formed in end of each guide section
<a href="#">WO2011031546 A2</a>	ENVIA SYSTEMS INC KARTHIKEYAN D K K; KUMAR; LOPEZ; VENKATACHALAM	Positive electrode active composition useful for the lithium ion battery, comprises a layered lithium metal oxide, where an optional fluorine dopant optionally replaces oxygen

<a href="#">WO2011023823 A1</a>	BEHR GMBH&CO	Heat sink for electrochemical cell, e.g. in lithium ion cell assembly for vehicle, comprises cell region, cooling plate connecting region and intermediate flexible fold region
<a href="#">WO2011016553 A1</a>	SANYO ELECTRIC CO LTD	Nonaqueous electrolyte secondary battery used as power supply for hybrid-type electric vehicle, comprises anode comprising anode active material, cathode comprising cathode active material and nonaqueous electrolytic solution
<a href="#">WO2011021570 A1</a>	UBE IND LTD	Non-aqueous electrolyte used for electrochemical element e.g. lithium secondary battery for e.g. hybrid vehicle, comprises specific sulfonate compound, and is obtained by dissolving electrolytic salt in non-aqueous solvent
<a href="#">WO2011016113 A1</a>	TOYOTA JIDOSHA KK	Lithium ion secondary battery for use in vehicles, consists of positive-electrode active material containing spinel type oxide containing lithium and transition metal, and fluorine-containing lithium salt as supporting electrolyte
<a href="#">WO2011016212 A1</a>	TOSOH F-TECH INC	New fluorine-containing phosphate ester used for nonaqueous electrolyte for nonaqueous secondary battery used as power supply for mobile telephone, personal computer, and electric vehicles
<a href="#">WO2011023875 A1</a>	PEUGEOT CITROEN AUTOMOBILES SA	Vehicle e.g. electric/thermal hybrid vehicle, has air evacuation pipe arranged such that air outlet of air evacuation pipe is projected below floor of vehicle, and electric traction machine supplied with power by supply module
<a href="#">WO2011021686 A1</a>	GS YUASA INT LTD	Active material for battery, contains solution of lithium-transition metal composite oxide having sodium ferrite-type crystal structure, and has X-ray diffraction pattern which belongs to specific space group and discharge capacity
<a href="#">WO2011021480 A1</a>	NISSHIN ENG CO LTD	Manufacture of positive electrode material used for secondary battery, involves granulating mixed powder of lithium compound and metallic compound, reacting granulated powder, baking and reacting at predetermined temperature and time
<a href="#">WO2011015580 A1</a>	BEHR GMBH&CO	Device for restraining e.g. lithium iron battery of modern electric vehicle, has elastic clamping device for providing clamping forces and for adapting distance between retaining devices to permissible distance between sides of energy store
<a href="#">WO2011015431 A1</a>	BOSCH GMBH ROBERT	Interior part and/or battery i.e. lithium ion battery, cooling method for e.g. plug-in hybrid vehicle, involves controlling temperature of interior part and/or battery, where electrical energy is extracted from external power network
<a href="#">WO2011020831 A2</a>	WOBHEN WOBHEN A	Charging device for charging electrical storage of electric vehicles, is provided with supply unit for supplying electrical power to alternating current electrical power
<a href="#">WO2011016112 A1</a>	TOYOTA JIDOSHA KK	Lithium ion secondary battery for use in vehicles, consists of positive-electrode active material containing spinel type oxide containing lithium and transition metal, and fluorine-containing lithium salt as supporting electrolyte
<a href="#">WO2011013905 A2</a>	LG CHEM LTD	Battery module, has multiple plate-shaped battery cells embedded in module case, insulating member mounted between battery cells, and cooling member positioned on interfaces of battery cells
<a href="#">WO2011020594 A1</a>	LI-TEC BATTERY GMBH	Electrochemical cell, particularly flat battery cell for use in electric vehicles, is provided with electrode stack, current conductor connected to electrode stack and casing that partially surrounds electrode stack
<a href="#">WO2011019764 A1</a>	BATTELLE MEMORIAL INST CHOI D; KOU R LIU J; NIE Z; WANG D; YANG Z	Electrodes of lithium ion battery used for e.g. hybrid vehicle, has nanocomposite material whose layers are provided with metal oxide bonded to graphene layer
<a href="#">WO2011018399 A1</a>	BEHR GMBH&CO	Method for producing energy storage device that is utilized for driving e.g. hybrid vehicle, involves form-fittingly or adhesively connecting electrochemical energy storage unit to sealing compound during insert molding process
<a href="#">WO2011018130 A1</a>	BAYERISCHE MOTOREN WERKE AG	Method for determining cell core temperature of e.g. high-power energy store in hybrid vehicle, involves measuring temperature of cell, and determining volumetric heat, and determining cell core temperature based on geometry of cell
<a href="#">WO2011016183 A1</a>	PANASONIC CORP	Non aqueous electrolyte secondary battery e.g. lithium secondary battery for, e.g. electric vehicle, has electrode group having winding portion including electrode plates and insulator, in which fixed pressure is existed from top to end
<a href="#">WO2011013254 A1</a>	TOSHIBA KK	Negative electrode active material used for nonaqueous electrolyte battery, contains titanium oxide compound having monoclinic titanium dioxide crystal structure and preset crystallite size
<a href="#">WO2011015426 A1</a>	BOSCH GMBH ROBERT	Temperature control device for e.g. battery of passenger car, has V-fluid circuit coupled to evaporator for cooling thermal component of motor vehicle, and K-fluid circuit coupled to condenser for heating thermal component of motor vehicle
<a href="#">WO2011013756 A1</a>	ZEON CORP	Electrode for electrochemical element, has sequential lamination of conductive adhesive layer containing spherical graphite, carbon black and binder, and electrode composition layer containing electrode active material and binder

<a href="#">WO2011016737 A1</a>	AUCKLAND UNISERVICES LTD COVIC G A KISSIN M L G	Pad for generating or receiving magnetic flux in power supply apparatus for inductive power transfer (IPT) system, has coils magnetically associated with magnetically permeable core, such that there is no mutual coupling between the coils
<a href="#">WO2011012570 A1</a>	CONTINENTAL AUTOMOTIVE GMBH	Arrangement to determine charge state of lithium-ion rechargeable battery, comprises electrochemical cells in addition to the battery, and measuring device to detect changes in non-electrical physical variable of battery active material
<a href="#">WO2011014843 A1</a>	AEROVIRONMENT INC	Battery charging system for electric vehicles, has communication device provided with remote server to receive operational information relating to battery generated from battery monitor
<a href="#">WO2011013767 A1</a>	SANYO ELECTRIC CO LTD	Cooling structure of assembled battery used in vehicle e.g. electric vehicle, has cooling plate that is provided in cooling surface side of assembled battery through heat conductive sheet that has insulation
<a href="#">WO2011014242 A1</a>	SEARETE LLC	Electrochemical device e.g. battery comprises electrodes includes electrochemically active fluid layer having fluid properties that permit a portion of it to cling to smooth solid support by surface energy effect
<a href="#">WO2011012451 A1</a>	RWE AG	Plug device for connection of car to charging station in e.g. multi-storey car park, has evaluation mechanism computing temperature-corrected coding value, and communication unit enabling transmission of signal to control device
<a href="#">WO2011010552 A1</a>	SUMITOMO ELECTRIC IND LTD	Non-aqueous electrolyte battery used as power supply for portable apparatus, has solid electrolyte layer having excessive sulfur portion containing elemental sulfur of more than specified value, provided between electrodes
<a href="#">WO2011013413 A1</a>	TOYOTA JIDOSHA KK	Manufacture of electrode used for battery, involves applying binder solution on collector, applying mixed material paste on obtained binder solution layer, laminating binder solution layer and mixed material paste layer and drying
<a href="#">WO2011013652 A1</a>	TODA KOGYO CORP; TODA KOGYO KK	Active material used for positive electrode for nonaqueous electrolyte secondary battery, is formed by coating particles including polyanionic compound and carbon, and having preset average particle diameter, using lipophilizing agent
<a href="#">WO2011012210 A1</a>	DAIMLER AG	Method for producing bipolar frame flat cell for lithium ion battery in drive train of e.g. mild hybrid vehicle, involves filling fluid electrolyte into frame, and fastening sleeve to frame, where electrolyte is liquid with lithium-ions
<a href="#">WO2011007080 A1</a>	PEUGEOT CITROEN AUTOMOBILES SA	Cooling system operating method for battery of e.g. electric motor vehicle, involves systematically turning on cooling system of electric energy storage device using available renewable energy, when vehicle is off
<a href="#">WO2011007072 A1</a>	PEUGEOT CITROEN AUTOMOBILES SA	Motor vehicle e.g. hybrid vehicle, has hot air extraction pipe connected to power supply module for extracting hot air generated by module, where end of extraction pipe is in communication with opening formed in floor of vehicle
<a href="#">WO2011013634 A1</a>	HONDA MOTOR CO LTD	Electrically wired portion mounting structure for hybrid vehicle, has rear portion that is set as seated posture by latching to striker which faces floor surface and flipped up to side wall side by releasing latching with striker
<a href="#">WO2011012203 A1</a>	DAIMLER AG	Individual battery cell for heavy-duty battery that is utilized in e.g. electric vehicle, has active material arrangement provided in housing that is filled with electrolyte within region of arrangement, and packing arranged in housing
<a href="#">WO2011012207 A1</a>	DAIMLER AG	Device to produce a single cell for a battery, useful in a vehicle, comprises an electrode stack, a pole, a housing side wall, a sonotrode, an anvil and a die, where each single cell is formed from the electrode stack
<a href="#">WO2011011582 A2</a>	BUCKLEY J P ENVIA SYSTEMS INC; KUMAR S SHI H	Battery, useful in electric vehicles, hybrid vehicles and plug-in hybrids, comprises a negative electrode, a positive electrode, a separator between the negative and positive electrodes, and a non-aqueous electrolyte comprising lithium ions
<a href="#">WO2011010651 A1</a>	TOKYO R&D CO LTD	Battery replacement system for electric vehicle, has battery replacement stand with ejection side support element that is provided to support device when vehicle moved towards another battery device
<a href="#">WO2011013243 A1</a>	TOYOTA JIDOSHA KK	Positive electrode active material for lithium ion secondary battery, contains lithium-nickel-containing metal phosphate compound whose surface is covered with carbon having olivine-type crystal structure
<a href="#">WO2011013384 A1</a>	MATSUSHITA DENKI SANGYO KK PANASONIC CORP	Protective circuit used in battery pack of e.g. digital camera, performs thermal fuse cutting process to apply voltage of conductive path to heater, during occurrence of abnormality in fuses, based on voltage of conductive path
<a href="#">WO2011012201 A1</a>	DAIMLER AG	Battery for storing traction energy in electrically or partially electrically driven transport unit e.g. electric vehicle, has plastic substance that is firmly connected to enveloping metal sheets in bipolar frame flat cells
<a href="#">WO2011009125 A1</a>	SKOVGARD J	Oxygen delivery system in room for delivering oxygen from oxygen supply to person, has tube accumulator located between oxygen supply and trolley for gathering and dispensing oxygen supply tube
<a href="#">WO2011009129 A1</a>	GRID POINT INC	Managing method for electric resources with smart charging customer guarantees involves managing charging behavior of electric resources based partially on guaranteed charging schedule, by physical computing device

<a href="#">WO2011007547 A1</a>	PANASONIC CORP	Battery module e.g. battery pack, has connecting terminal connected in parallel to battery, which is arranged in non-blocking region of through hole formed on base
<a href="#">WO2011010010 A1</a>	COMMISSARIAT ENERGIE ATOMIQUE	Sulfur/carbon powder conductive composite material from a starting sulfur and a starting carbon, where sulfur is in crystalline core form and carbon is localized at surface of sulfur core, useful e.g. as active material of electrode
<a href="#">WO2011006493 A2</a>	TALLER GMBH	Current bar for use in e.g. electricity supply box in motor vehicle area, has compensation section with bent connecting webs, where connecting webs are produced by through-cutting without waste and subsequent molding
<a href="#">WO2011007533 A1</a>	PANASONIC CORP	Battery module of battery pack for, e.g. hybrid vehicle, has exhaust gas chamber that exhausts gas discharged from opening of electrode out of housing divided into accommodating portion by wiring board abutted by battery case
<a href="#">WO2011007537 A1</a>	NISSAN MOTOR CO LTD	Battery pack useful in electric vehicle comprises protrusion protruding in vehicular upward direction and disposed at upper face of the pack. and dent portion is formed lower than protrusion, where accessory is disposed in dent portion
<a href="#">WO2011007534 A1</a>	PANASONIC CORP	Battery module of battery pack used in vehicular and portable electronic applications, has material provided in cooling pipe, which melts when temperature of battery raises more than predetermined temperature
<a href="#">WO2011007501 A1</a>	NISSAN MOTOR CO LTD	Battery pack used in a vehicle comprises box shaped main body and a lid each bearing curved seal flanges such that when the pack is mounted on a vehicle, the flanges are in contact with each other and seal the battery pack
<a href="#">WO2011004550 A1</a>	PANASONIC CORP	Circuit for counting charging/discharging cycle number of secondary battery in battery pack of battery system in vehicles e.g. hybrid car, counts cycle life when integrated electric charge reaches cycle electric charge setting
<a href="#">WO2010150038 A1</a>	REMINEX SA	New particles of doped lithium cobalt oxides useful for e.g. manufacturing cathodes for rechargeable lithium ion batteries as active electrochemical material
<a href="#">WO2011003924 A1</a>	COMMISSARIAT ENERGIE ATOMIQUE	Storage battery useful in transport industry, comprises first, second and third branches each having a first lithium ion storage cell and a second lithium ion storage cell connected in series, a switch, and a load balancing circuit
<a href="#">WO2011004464 A1</a>	TOYOTA JIDOSHA KK	Temperature rising apparatus of lithium ion battery, has battery that is heated to generate ripple current of specific frequency is set to frequency to which absolute value of impedance falls, based on characteristic of battery
<a href="#">WO2011004447 A1</a>	TOYOTA JIDOSHA KK	Method for manufacturing electrode of battery used in e.g. motor vehicle, involves carrying out low-densification of electrode compound material paste, for forming electrode compound material layer by coating paste to electrode collector
<a href="#">WO2011002097 A1</a>	DAIKIN IND LTD	Slurry for electrode mixture used for electrode of lithium secondary battery, contains electrode active material, binder and fluororubber particles
<a href="#">WO2010150508 A1</a>	HITACHI VEHICLE ENERGY LTD	Lithium ion secondary battery for hybrid electric vehicles, contains anode made of carbon material and electrolyte solution containing solvent, and having different reduction reaction current value at different potentials
<a href="#">WO2011001926 A1</a>	TOYOTA JIDOSHA KK; AISHIN KEIKINZOKU KK AISIN KEIKINZOKU CO LTD	Frame structure for mounting battery module e.g. nickel-cadmium battery in vehicle, has front and rear mounting frames that lie in width direction of vehicle
<a href="#">WO2011001691 A1</a>	MATSUSHITA DENKI SANGYO KK PANASONIC CORP	Heating device for battery unit in e.g. electric vehicle, has heat conductor that is arranged between heat generator and upper surface of battery so as to contact the battery modules
<a href="#">WO2010147389 A2</a>	LG CHEM LTD	Anodic active material used for lithium secondary battery used as power source for mobile apparatus and hybrid electric vehicles, is lithium transition-metal oxide having alpha-sodium ferrite layered crystal structure
<a href="#">WO2011000872 A1</a>	COMMISSARIAT ENERGIE ATOMIQUE	Electrochemical battery e.g. lead battery, calibrating method for electric motor vehicle, involves modeling available energy representing energy that is obtained when battery is completely discharged from power and energy state
<a href="#">WO2010150889 A1</a>	ASAHI GLASS CO LTD	Manufacture of positive electrode material used for secondary battery, involves solidifying molten material containing specific oxides, mixing with organic compound and/or carbon powder, obtaining crystals, heating and melting
<a href="#">WO2010150625 A1</a>	HONDA MOTOR CO LTD	Battery charge and discharge control apparatus for vehicle e.g. hybrid vehicle, has battery output restriction part that restricts output of battery if real work increase speed is larger than allowance of work increase speed
<a href="#">WO2010150665 A1</a>	NISSAN MOTOR CO LTD	Device for providing information related to battery charge amount increase facility to vehicle, has navigation controller that registers current position of vehicle in database as location of battery charge amount increase facility

<a href="#">WO2010150686 A1</a>	GS YUASA INT LTD	Active material for positive electrode of lithium secondary battery, comprises lithium-transition metal compound having olivine-type crystal structure and including nickel, iron and manganese, and has preset value of discharge capacity
<a href="#">WO2010147802 A2</a>	EXXONMOBIL CHEM PATENTS INC; TORAY TONEN SPECIALTY SEPARATOR CO	Membrane for battery separator film and for use as battery separator or filtration membrane comprises polymethylpentene, polypropylene, and polyethylene
<a href="#">WO2010146701 A1</a>	TOYOTA JIDOSHA KK	Battery e.g. lithium ion secondary battery used in hybrid vehicle and battery mounted apparatus, has sealing cap which moves from battery case so that portion of external terminal is deformed and weak portion is destroyed
<a href="#">WO2010145022 A1</a>	SOUTH SHORE RESOURCES INC	Electrolysis cell e.g. hydrogen cell for generating gas from fluid in vehicles, has inlet aperture along with plate fluid aperture and outlet aperture which form passage way that extends into inlet through plate and out of outlet
<a href="#">WO2010146777 A1</a>	PANASONIC CORP	Negative electrode active material used for lithium ion secondary battery used as power supply of electric vehicle and electronic device, is composed of metal complex oxide
<a href="#">WO2010137249 A1</a>	NIPPON STEEL CHEM CO LTD	Negative electrode active material for lithium secondary battery, is obtained by baking coke material formed by adding phosphorus compound and boron compound to carbonaceous and/or petroleum-based raw coke
<a href="#">WO2010146776 A1</a>	PANASONIC CORP	Negative electrode active material used for lithium-ion secondary battery used as power supply for electric vehicle and electronic device, contains orthorhombic metal complex oxide
<a href="#">WO2010147800 A2</a>	EXXONMOBIL CHEM PATENTS INC; TORAY TONEN SPECIALTY SEPARATOR CO	Multilayer microporous membrane for separator film for battery for, e.g. electric vehicle, comprises layer comprising polymethylpentene, and another layer comprising polymethylpentene and having composition that is not the same with layer
<a href="#">WO2010147801 A2</a>	EXXONMOBIL CHEM PATENTS INC; TORAY TONEN SPECIALTY SEPARATOR CO	Microporous membrane useful as a battery separator film in a battery e.g. a lithium ion secondary battery, a lithium-polymer secondary battery and a nickel-hydrogen battery, comprises a polymer mixture, micropores, and microfibrils
<a href="#">WO2010144401 A2</a>	A123 SYSTEMS INC	Providing notice of battery pack availability comprises providing an indication of a capability of the battery pack to sink or source the amount of current at the available current limit
<a href="#">WO2010143408 A1</a>	PANASONIC CORP	Battery pack for e.g. personal computers has secondary batteries which are separated by heat insulation layers whose thickness increases by foaming of foamed material
<a href="#">WO2010143729 A1</a>	YAZAKI CORP	Temperature sensor for motor vehicle, has thermistor element embedded under front end region inside attachment clamp inserted and fixed to insertion hole of attachment target object
<a href="#">WO2010140436 A1</a>	TOYOTA JIDOSHA KK; FUJI HATSUJO KK; FUJI SPRINGS CO INC	Closed type battery for vehicle e.g. motor vehicle, has safety valve whose specific portion surrounding thin portion is provided with slit to prevent heat conduction from other portion of case
<a href="#">WO2010146270 A1</a>	RENAULT SAS	Electric storage battery locking arrangement for motor vehicle propelled by e.g. electric engine, has bolt whose free end cooperates with finger of frame for locking battery in mounted position in housing, when bolt is in deployed position
<a href="#">WO2011008316 A1</a>	CELADON APPL LLC; PEASE K	System for estimating real time range of electric vehicle, has processor unit that calculates expected vehicle range based on information regarding vehicle speed, motor speed and torque, battery voltage, current and charge level
<a href="#">WO2011000259 A1</a>	CHERY AUTOMOBILE CO LTD; WUHU POWER TECHNOLOGY RES CO LTD	Control method of electric vehicle generator set, involves limiting power of driving motor according to electric quantity value of battery and vehicle speed signal

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## SUPERCONDENSADORES

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2011025058 A1</a>	COMMONWEALTH SCI&IND RES ORG FURUKAWA BATTERY CO LTD	Manufacture of composite negative capacitor plate used for lead-acid battery, involves forming carbon mixture sheet on surface of wet plate filled with negative-electrode active material, and drying
<a href="#">WO2011024635 A1</a>	SUMITOMO ELECTRIC IND LTD	Power conversion device for charging batteries used in electric vehicle, has switching elements that are arranged in series between step-up/step-down unit and capacitor, and between capacitor and output unit respectively
<a href="#">WO2011025057 A1</a>	COMMONWEALTH SCI&IND RES ORG FURUKAWA BATTERY CO LTD	Composite capacitor negative electrode plate for lead acid battery used in hybrid vehicle, has activated carbon which is modified by functional group containing carbon with volatile component of specific weight
<a href="#">WO2011023900 A1</a>	CNRS CENT NAT RECH SCI PEUGEOT CITROEN AUTOMOBILES SA	Cooling device for e.g. power electronic component, of electronic power system in hybrid or electric vehicle, has condenser connected to cold source to convert vapor-phase fluid into liquid phase fluid and to tank inlet to return fluid
<a href="#">WO2011018910 A1</a>	TOKYO ELECTRIC POWER CO INC HASETEC CORP	Charging cable insulation test apparatus of quick-charge device for electric vehicles, has comparison/determination unit compares capacitor voltage with voltage reference signal and determines whether insulation cable is normal
<a href="#">WO2011012188 A1</a>	VOITH PAPER PATENT GMBH	Roof module for mounting on roof of vehicle i.e. bus with diesel-electric hybrid drive, has shield plate that is arranged on support frame between electrical energy storage modules and vehicle roof
<a href="#">WO2011013387 A2</a>	PANASONIC CORP	Charging apparatus used to charge electrical storage apparatus of a vehicle has capacitor made to bypass power conversion section to direct power line communication signal to in-vehicle device
<a href="#">WO2011013472 A1</a>	HONDA MOTOR CO LTD	Apparatus for managing electricity storage capacity of condenser in vehicle, derives intermediate electricity storage capacity on basis of upper limit storage capacity and voltage ratio when comparison results satisfies preset conditions
<a href="#">WO2011010731 A1</a>	NIPPON ELECTRIC GLASS CO	Glass film used for capacitor used as power supply for electric vehicles and hybrid electric vehicles, has specified thickness and average surface roughness
<a href="#">WO2011011108 A1</a>	INT TRUCK INTELLECTUAL PROPERTY CO LLC	Plug-in hybrid electrical vehicle, has direct current-to-direct current converter recharging high-voltage energy storage bank from low-voltage bank, and alternating current-to-direct current converter recharging low-voltage battery bank
<a href="#">WO20110140290 A1</a>	MITSUBISHI MATERIALS CORP	Manufacture of aluminum complex used for e.g. electrical double layer-type capacitor, involves mixing aluminum powder and sintering aid powder, and mixing product with water-soluble resin binder and water-insoluble organic solvent

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## SISTEMAS DE RECUPERACIÓN DE ENERGÍA; FRENOS REGENERATIVOS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2011021266 A1</a>	MITSUBISHI ELECTRIC CORP	Power converter device for electric vehicle propulsion, has inverter unit and electric power storage unit which are connected to output side of converter unit comprising converter control unit
<a href="#">WO2011021265 A1</a>	MITSUBISHI ELECTRIC CORP	Power converter device of electric vehicle, has converter unit with converter control unit which generates output voltage as control command operating state of output voltage from inverter unit based on input voltage
<a href="#">WO2011021443 A1</a>	MITSUBISHI ELECTRIC CORP	Power converter device for electric vehicle propulsion, has inverter unit connected to output side of converter unit which is provided with converter control unit within
<a href="#">WO2011019307 A1</a>	VOLVO CONSTR EQUIP AB	Electric operating system for operating electric equipment e.g. water pump for work machine, provides electric equipment with electric power at adapted voltage level when electric equipment is attached to work machine
<a href="#">WO2011013829 A1</a>	HONDA MOTOR CO LTD	Vehicle e.g. hybrid vehicle has hydraulic control unit that controls release and actuation of hydraulic brakes based on vehicle driving torque and regenerative braking torque
<a href="#">WO2011012610 A1</a>	COMMISSARIAT ENERGIE ATOMIQUE	Braking system i.e. electric braking system, for motor vehicle, has limiting unit limiting power of electric or hydraulic braking subsystem based on power of electromagnetic subsystem and electrically controlled by electric energy
<a href="#">WO2011007430 A1</a>	MITSUBISHI ELECTRIC CORP	Propulsion control device of electric vehicle, has converter control unit that generates charging/discharging current command value of converter based on charging current command value to perform control
<a href="#">WO2011007695 A1</a>	MITSUBISHI ELECTRIC CORP	Propulsion control device of electric vehicle, has converter control unit which generates charging-discharging current command value for converter apparatus based on charging-current command value of electric current
<a href="#">WO2011004921 A1</a>	LEE O J	Electric vehicle i.e. hybrid electric vehicle, has controller for operating induction coils or power generation coils of motor-generator according to acceleration state and/or speed of vehicle
<a href="#">WO2011001731 A1</a>	MITSUBISHI HEAVY IND CO LTD; MITSUBISHI JUKOGYO KK	Torque limiter apparatus for protecting power line of vehicle such as forklift truck, has pressing unit which presses clutch pressing plate in uniform contact by elastic element mounted in fly wheel
<a href="#">WO2011001192 A1</a>	GRAMMATOPOULOS D	Flywheel powered motion machine for wheeled vehicle transmits moment at a high speed rotation of flywheel to turn submultiplication gear system and optionally reverses direction of rotation, through a clutch, to a final motion axle
<a href="#">WO2010150238 A1</a>	OXYGEN SPA	Regenerative braking system operating device for electrical propelled scooter, has pressure sensor detecting pressure of hydraulic driving circuit to switch motor as generator so as to generate electromagnetic braking torque
<a href="#">WO2010145021 A1</a>	UNIV LAVAL	Energy storage system for charging infrastructure of electric vehicle, has control unit that controls operation of storage system and enables energy storage operating mode
<a href="#">WO2010147447 A1</a>	SHILIKBAYEV S K SHILIKBAYEV U S SHILIKBAYEVA A S	Land vehicles engines operating efficiency increasing method for vehicles i.e. automobiles with hybrid engines, involves controlling operation of energy accumulator by brake, clutch and accelerator pedals while traveling
<a href="#">WO2011003750 A1</a>	AVL LIST GMBH AVL SOFTWARE&FUNCTIONS GMBH	Electrically driven vehicle operating method, involves operating electrical generator as motor using electrical energy when electrical energy store is fully charged, and driving internal combustion engine by electrical generator

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## MÁQUINAS ELÉCTRICAS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2011029004 A1</a>	CLEAN EMISSIONS TECHNOLOGIES INC	System for reducing emission in vehicle, encourages operation of vehicle in reduced emission mode in response to analysis of data pertaining to operation of vehicle by data acquisition apparatus
<a href="#">WO2011028570 A2</a>	FUTURE FORCE LLC	Magnetic propulsion motor for use in energy generating device, has motion and push magnets, where acceleration field created by interaction as motion magnet is passed through altered magnetic field of push magnets
<a href="#">WO2011026834 A1</a>	SCHUNK KOHLENSTOFFTECHNIK GMBH	Slip ring device for electromechanical machine e.g. electrical motor, in vehicle e.g. bus, has contact device e.g. lock washer, providing electrically conductive connection between slip ring element and conductor
<a href="#">WO2011023457 A1</a>	BOSCH GMBH ROBERT	Method for operating hybrid drive of vehicle, involves supplying electrical machine with energy from energy storage, where operating point of hybrid drive is adjusted according to pre-determined operating strategy
<a href="#">WO2011024038 A2</a>	TOYOTA JIDOSHA KK	Control apparatus i.e. electronic control unit, for plug-in hybrid vehicle, has control portion selectively operating and stopping internal combustion engine based on threshold values
<a href="#">WO2011024600 A1</a>	SUMITOMO ELECTRIC IND LTD	Reactor used in motor vehicles such as hybrid vehicle, has assembly portion of coil and core filled with resin, and covered by outer resin portion
<a href="#">WO2011024935 A1</a>	MEIDENSHA CORP NISSAN MOTOR CO LTD	Abnormality detector for permanent-magnet-type synchronous motor used in electric vehicle, has magnet temperature abnormality determination unit to determine whether abnormality of magnet temperature is occurred in synchronous motor
<a href="#">WO2011021517 A1</a>	HONDA MOTOR CO LTD	Startup control apparatus of hybrid vehicle, sets engagement rate or idle speed rate such that engagement capacity is increased based on comparison of motor rotation speed with idle rotation speed of engine
<a href="#">WO2011022076 A2</a>	TRINDADE S	Integrated power train assembly for power train system for vehicle, axially aligns motor, continuously variable transmission (CVT), and differential along common axis
<a href="#">WO2011019897 A2</a>	CONVERGENT POWER INC	Motor cluster for electric vehicle propulsion, has motor controller which supplies electric power to the stators of motors to rotate corresponding rotors and a single output shaft via a reduction gear assembly
<a href="#">WO2011016795 A1</a>	DEAL C D	Electric motor for e.g. hybrid vehicles, has sequencing circuit sequentially energizing coils to move carrier by repelling or attracting magnets such that carrier is caused to circulate around tube while rotating sprocket and drive shaft
<a href="#">WO2011016178 A1</a>	AISIN AW CO LTD	Bending method for performing complicated bending process for forming coil, involves forming folded portions in both straight portions at same time and bending folded portions in same direction as each other
<a href="#">WO2011013828 A1</a>	HONDA MOTOR CO LTD	Drive control apparatus for vehicle e.g. hybrid vehicle, has management electronic control unit that controls rotation speed of electric motor, so that rotation speed is synchronized with target rotation speed of motor
<a href="#">WO2011013589 A1</a>	HONDA MOTOR CO LTD	Power apparatus for electric vehicle, has control unit that controls operations of motors, so that motive power output from one of motors is converted to electric power and input into the other motor, during driving mode of vehicle
<a href="#">WO2011013809 A1</a>	HITACHI AUTOMOTIVE SYSTEMS LTD	Rotating electric machine used in hybrid electric vehicle, has cooling medium supply inlet that supplies cooling medium to coil end that protrudes from stator core
<a href="#">WO2011009693 A1</a>	BAYERISCHE MOTOREN WERKE AG	Vehicle i.e. car, has electrical machine coupled to charger in torque-transmitting manner and provided for driving or supporting drive of charger, and drive trains coupled to electrical machine in torque-transmitting manner
<a href="#">WO2011009676 A1</a>	BOSCH GMBH ROBERT	Energy supply arrangement for supplying electrical energy to electric vehicle, has energy storage units associated with direct current choppers whose output voltage is adjusted as function of preset target value to charge storage units

<a href="#">WO2011009514 A1</a>	DAIMLER AG	Stator for e.g. hybrid vehicle, has stator segments and stator carrier that are oriented with respect to one another such that cooling device is delimited by stator carrier, where stator carrier is made of steel
<a href="#">WO2011009515 A1</a>	DAIMLER AG	Segment for stator of e.g. hybrid vehicle, has stator assembly segment on which winding is provided, where holding structure is arranged on one of axial end faces of stator segment that is fastened to holding structure by fastening element
<a href="#">WO2011006553 A1</a>	MICRO-VETT SPA	Electrical engine for electric drive vehicles, has differential device that is placed inside rotor and provided with two ends of engine, where two half-shafts of engine are mutually differentiated
<a href="#">WO2011007758 A1</a>	HITACHI METALS LTD	Manufacture of rare-earth-element-transition metal-boron-type sintered magnet used for e.g. motor for hybrid vehicles, involves heat-processing rare-earth-element-transition metal-boron-type magnet material and diffusion source
<a href="#">WO2011004588 A1</a>	TOSHIBA KK	Apparatus for controlling electric vehicle, has inverter that converts obtained direct-current (DC) power into alternating-current (AC) power and which is supplied to electric motor for driving electric vehicle
<a href="#">WO2011004433 A1</a>	TOYOTA JIDOSHA KK	Control apparatus of vehicle e.g. hybrid vehicle, has clutch which changes variable speed mode to fixed gear and infinitely variable ratio modes so that direction of torque applied between engagement elements is reversed
<a href="#">WO2011004867 A1</a>	HITACHI METALS LTD	Method for manufacturing rare earth element-iron-boron-based rare earth sintered magnet used for e.g. voice coil motor of hard-disk drive, involves using steam controller having openings whose depth and area are in preset ratio
<a href="#">WO2011003873 A1</a>	MAGNA POWERTRAIN AG&CO KG	Electromechanical brake force booster for use in brake system in e.g. hybrid vehicle, has transmission device converting drive motion of motor to translation motion acting on piston rod or piston and comprising cam disc with control surface
<a href="#">WO2011002043 A1</a>	MITSUBISHI ELECTRIC CORP	Permanent magnet type rotary electric machine e.g. electric motor for vehicle, has rotor having rotor core that is rotatably arranged in gap at stator while permanent magnets are embedded per pole inside rotor core
<a href="#">WO2011003384 A2</a>	LANG D	Device for driving motor vehicle on e.g. land, has compressed gas turbine connected to compressed gas tank for driving generator, and electrical drive unit comprising electric motor that is electrically connected to generator
<a href="#">WO2011003875 A1</a>	MAGNA POWERTRAIN AG&CO KG	Axle drive unit for motor vehicle, has axle differential gear provided with axle shafts on output side of unit, where fluid is provided in housing for lubricating gear or bearing component of unit and for cooling electric motor
<a href="#">WO2011001533 A1</a>	MITSUBISHI ELECTRIC CORP	Permanent magnet type rotary electric machine e.g. electric motor used in electric vehicle, has cavity portions which are formed in side surfaces of permanent magnets embedded in magnet insertion apertures of rotor core
<a href="#">WO2011001886 A1</a>	NTN CORP	Rotation angle detection apparatus used in drive motor e.g. in-wheel motor of motor vehicle, has magnetic encoder with several magnetic tracks, which is installed in rotating shaft of rotor of drive motor
<a href="#">WO2010150851 A1</a>	UNIVANCE CORP	Apparatus for controlling power transmission device in vehicle, releases load provided to sprag by setting load providing apparatus in non-operation state, if shaft rotation speed is below the number of synchronous rotation of shaft
<a href="#">WO2010150386 A1</a>	TOYOTA JIDOSHA KK	Vehicle structure of hybrid vehicle, has fuel tank whose thickness portion is arranged behind battery at rear side of vehicle so that back side of battery is arranged in overlapped manner
<a href="#">WO2010151775 A1</a>	FIKSKER AUTOMOTIVE INC	System for directly connecting electric machines for vehicle e.g. power train, has switch box that is provided with switches to allow direct electrical connection between motor generators
<a href="#">WO2010151579 A1</a>	FIKSKER AUTOMOTIVE INC	Motor drive system configuration for driving hybrid vehicle e.g. car, has rotatable shaft engaged with differential at predetermined degrees

<a href="#">WO2011002342 A1</a>	INKAR M STOCK CO KOMPLEKT-ATOM-IZHORA STOCK CO	Electric vehicle, has voltage/current sensors and speed sensor connected to inputs of control system while outputs of control system are connected to control inputs of transformer and discharge key
<a href="#">WO2011002858 A2</a>	AMERICAN AXLE&MFG INC	Wheel motor i.e. electric wheel motor, for use in vehicle, has controller integrally formed in body portion and coupled to winding element for selectively providing current supply to winding element to generate magnetic flux
<a href="#">WO2010150309 A1</a>	ICHIGO HOLDINGS CO LTD	Solar car for auto industry has drive motor whose drive force changes position of solar panel from initial position to position in which panel projects out of specified quantity from window of side panel of vehicle portion
<a href="#">WO2010150362 A1</a>	TOYOTA JIDOSHA KK	Sintered magnet for interior permanent magnet motor of e.g. hybrid vehicle, has base magnets that are arranged side by side in horizontal and vertical directions and are adjoined by magnetic force of adjoining base magnets
<a href="#">WO2011005349 A1</a>	CASEY J; CASEY J R	Rotary electric machine i.e. radial flux machine, for supplying tractive power in e.g. electric vehicle, has control unit including electronic control connected to stator winding for controlling exchange of power to or from stator winding
<a href="#">WO2010151681 A1</a>	FISKER AUTOMOTIVE INC	Motor drive system for plug in hybrid electric vehicle (HEV), has two electric motors which are mounted at predetermined degree which is out of phase with respect to each other
<a href="#">WO2010150669 A1</a>	KAWAMURA SANGYO CO LTD; KAWAMURA SANGYO KK	Insulating sheet for electric motor and generator, is obtained by laminating aromatic polymer film containing polyphenylene sulfide, polyimide, polyetheretherketone, polyether imide and/or para-aromatic polyamide, and aramid paper
<a href="#">WO2010150395 A1</a>	TOYOTA JIDOSHA KK	Stator structure of electric motor mounted in hybrid vehicle, has bus bar which is arranged so as to oppose wide surface of bus bar faces end face of resin mold portion
<a href="#">WO2010150713 A1</a>	HONDA MOTOR CO LTD	Power output device for vehicle e.g. electric vehicle (EV), sets EV drive range using motor and engine cut-off based on battery-output, motor-torque or motor-output and engine start-up torque
<a href="#">WO2010146427 A1</a>	AISIN AW CO LTD TOYOTA JIDOSHA KK	Control apparatus for vehicle, includes control unit that controls continuously variable transmission mechanism such that rate of increase in rotation speed of engine output shaft is greater when power mode is selected
<a href="#">WO2010145200 A1</a>	SHANGHAI E-PROPULSION AUTO TECHNOLOGY CO SHANGHAI JIENENG AUTOMOBILE TECHN CO LTD	Series/parallel bi-motor dual-clutch hybrid electrical driving unit for use in automobile, has main drive motor connected with first stage decelerating device via clutch
<a href="#">WO2010146175 A2</a>	UNIV GENT	Method of fabricating stator for axial flux machine e.g. permanent magnet synchronous machine, involves stacking subsequent laminates so that laminates are shifted, with portions overlapping and not overlapping previous laminate
<a href="#">WO2010144067 A1</a>	KARAOLAN K	Vehicle wheel has electric generators which produce electricity for powering spinning motion propelled by electric motor
<a href="#">WO2010145020 A1</a>	UNIV LAVAL	Decoupling system for disconnecting rotor from stator of permanent magnet (PM) motor for flywheel energy storage system, has displacement mechanism which moves stator away from rotor to make rotation speed of motor exceed a base speed
<a href="#">WO2010148016 A2</a>	POLARIS IND INC	Electric vehicle e.g. all wheel drive electric vehicle has prop shaft that is connected to motor and extends through longitudinal opening and is connected to other differential
<a href="#">WO2010143463 A1</a>	HONDA MOTOR CO LTD	Automatic transmission for hybrid vehicles, has switching mechanism switches between state which connects rotor of electric motor to sun gear and to ring gear of planetary gear mechanism
<a href="#">WO2010143030 A1</a>	TOYOTA JIDOSHA KK	Control apparatus for hybrid vehicle, decreases engine output when executing gear rattle noise suppression control
<a href="#">WO2010143740 A1</a>	UNIVANCE CORP	Power transmission device of hybrid vehicle, has clutch that blocks transmission of power from transmission shaft to input shaft while transmitting power inputted from input shaft to transmission shaft

<a href="#">WO2010142962 A2</a>	UNIV STRATHCLYDE	Magnetic gearbox for use in electric vehicle, has gear control unit controlling rotation of pole piece rotor in accordance with speed of electric vehicle to control gear ratio of input and output shafts
<a href="#">WO2011003274 A1</a>	YUAN G	Electric energy increasing method for e.g. electric device, involves changing voltage of increased current by wire via transformer, so that voltage achieves rated voltage of each kind of appliance to make electric device to normally work
<a href="#">WO2011011759 A2</a>	MCVICKERS J C	Motor-battery system useful for converting self-generated electrical current to mechanical power comprises a magnetic field source and a battery which are structured and arranged to convert an electromotive force to mechanical force
<a href="#">WO2011015112 A1</a>	YE Y	Disk-type motor hybrid power assembly for vehicle, has housing and motor end cover clamped between clutch and gearbox, and stators provided on end faces of disk-type rotor and fixed on end cover
<a href="#">WO2011015008 A1</a>	LIN B	Brushless non-reluctance high-speed motor for use in e.g. electric vehicle, has rectangular plate shaped permanent magnet piece fixedly installed in slot hole, and motor stator whose three phases are wound via double-coil two-group winding
<a href="#">WO2011000288 A1</a>	BO Z	Multi-element electric vehicle engine, has multiple horizontal and opposite motors whose rotating shafts are opposite to power output shaft, and transmission mechanism provided between rotating shaft of each motor and power output shaft

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## CONVERTIDORES, INVERSORES

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2011024625 A1</a>	MERSTECH INC MERSTECH KK	Power conversion device connected with synchronous generator used for e.g. water power generation, switches each mode of magnetic energy regeneration switch synchronizing with power supply period of alternating current output
<a href="#">WO2011020737 A1</a>	SIEMENS AG	Direct current-to-direct current converter for use in electric vehicle, has control module that controls operating states of switching transistors according to direction control signal and voltage detection signals
<a href="#">WO2011016328 A1</a>	YANMAR CO LTD YANMAR DIESEL ENGINE CO	Direct current (DC)-DC-converter circuit used for electric vehicles e.g. working vehicle, has voltage sources whose cathode sides are connected with connecting end at which specific switch are connected to inductor
<a href="#">WO2011016199 A1</a>	mitsubishi electric corp	Direct current (DC)/DC converter device in conversion system, has control circuit changes switching frequency turning switch ON/OFF based on voltage ratio restraining current ripple of reactor to value lower than limiting value
<a href="#">WO2011014784 A2</a>	CARRIER CORP	Cooling system for regulating temperature of heat source e.g. battery in hybrid vehicle, has controller for controlling valve to regulate amount of fluid entering bypass leg and heat exchanger leg
<a href="#">WO2011013528 A1</a>	YANMAR CO LTD YANMAR DIESEL ENGINE CO	Direct current (DC)-DC converter circuit for electric vehicle, has voltage source that is connected between anode side of one diode and cathode side of another diode
<a href="#">WO2011010687 A1</a>	HITACHI AUTOMOTIVE SYSTEMS LTD	Semiconductor element control apparatus for vehicle-mounted electrical machinery system, has drive blocking unit to block electric current that flows into semiconductor element based on short circuit detection signal
<a href="#">WO2011013607 A1</a>	SUMITOMO ELECTRIC IND LTD	Reactor for direct current (DC)-DC converter mounted in hybrid vehicle, has buffer portion which is located between area of resin portion and inner core portion, such that stress acts on area of resin portion
<a href="#">WO2011009690 A1</a>	SB LIMOTIVE CO LTD SB LIMOTIVE GERMANY GMBH	Energy transformer for battery system of electric car, has set of diodes comprising anodes and cathodes, where one of anodes is connected to input of DC/DC converter and one of cathodes is connected to output of transformer
<a href="#">WO2011009673 A1</a>	BOSCH GMBH ROBERT	Direct current converter arrangement for electric drive or hybrid drive of vehicle, has direct current converters connected to or disconnected from one another depending on requirement of electrical power by electrical consumers
<a href="#">WO2011007207 A1</a>	FREESCALE SEMICONDUCTOR INC	Integrated circuit for converting voltage level of direct current supplied by battery in single board computer in battery operated vehicle, has frequency control module setting switching frequency based on indication of input voltage level
<a href="#">WO2011011475 A1</a>	DANFOSS TURBOCOR COMPRESSORS BV	Three-phase zero-voltage-transition soft switching inverter used in electric vehicle, has auxiliary circuit in soft switching converter to block current flowing between main switching bridge and auxiliary circuit
<a href="#">WO2010151828 A1</a>	FISKER AUTOMOTIVE INC	Electric power management system for e.g. hybrid electric vehicle, has high voltage battery coupled to two inverters, and switch box enabling direct alternating current/alternating current connection from generator to motor
<a href="#">WO2010146993 A1</a>	mitsubishi heavy ind co ltd mitsubishi jukogyo kk	Inverter module used for inverter integrated electric compressor of air conditioner mounted in vehicle e.g. electric vehicle, has electromagnetic shield of capacitor is carried out with respect to power series board and control substrate
<a href="#">WO2010143274 A1</a>	TOYOTA JIDOSHA KK TOYOTA JIDOSHOKKI KK	Direct current voltage converter used in e.g. electric vehicle, lowers gate driving speed of auxiliary switching elements compared with case of normal turnoff instruction if turnoff instruction is abnormal turnoff instruction
<a href="#">WO2010143273 A1</a>	TOYOTA JIDOSHA KK	Semiconductor device e.g. inverter apparatus used as power supply in hybrid vehicle, has porous metal plate provided with through-hole opened to surface of porous metal plate facing cooler side

[WO2011004450 A1](#)

MITSUBISHI ELECTRIC  
CORP

Power converting device mounted in electric vehicle, has conductor bar that is drawn out from upper surface of capacitor unit and is folded to form crank shape

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## RECARGA DE BATERÍAS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2011026721 A2</a>	BOSCH GMBH ROBERT	Method for starting electrical vehicle by another electrical vehicle, involves electrically connecting electrical system of start-up aid supplying electric vehicle to electrical system of start-up aid receiving vehicle
<a href="#">WO2011023436 A2</a>	BOSCH GMBH ROBERT	Parallel circuit for connecting two accumulator lines, has accumulator for receiving and dispensing electric energy by two accumulator lines, where switch separates and connects two poles of similar type of both accumulator lines
<a href="#">WO2011024477 A1</a>	SANYO ELECTRIC CO LTD	Battery module for electric vehicle, operates communication circuit so that voltage of each battery cell detected by detector circuit is transmitted to external device
<a href="#">WO2011024532 A1</a>	TOYOTA JIDOSHA KK	Charging control apparatus of vehicle e.g. electric vehicle, controls charger based on charging power calculated using specified current detection values
<a href="#">WO2011028703 A2</a>	BOSTON-POWER INC	Power system for electric vehicle e.g. automobile, has control circuit discharging capacitance of bus to chassis in response to disconnect between battery and bus and measuring impedance across bus
<a href="#">WO2011024067 A2</a>	TOYOTA JIDOSHA KK	Electric power supply system for supplying power from vehicle e.g. hybrid car and to building has control apparatus that controls a supply of electric power from secondary battery to building based on determined electric power supply method
<a href="#">WO2011012450 A1</a>	RWE AG	Supply device for providing electrical energy at load circuit for charging electric vehicle, comprises safety and monitoring device separately associated with load
<a href="#">WO2011018267 A2</a>	RWE AG	Charging station for electric vehicle, has control device connected to network frequency device such that control device regulates electric power output by station by using detection of deviation of network frequency from target frequency
<a href="#">WO2011018335 A2</a>	CONTINENTAL AUTOMOTIVE GMBH	Charging device for energy storage, particularly for lithium-ion battery in electric vehicle, has circuit for adjusting charging device in full charging mode or parked charging mode
<a href="#">WO2011018846 A1</a>	TOKYO ELECTRIC POWER CO INC	Charging system for electric vehicle, has resistance bypass contactor connected in parallel to resistor, which is closed during power distribution from charger to storage battery from charger and is opened at the time of ending charge
<a href="#">WO2011019509 A1</a>	SIEMENS IND INC	Electric vehicle recharger for use in building electrical distribution system, has recharge controller coupled with contactor relay for closing separable contacts such that electrical power is transferred to electric vehicle
<a href="#">WO2011018270 A2</a>	RWE AG	Method for controlling charging station in low-voltage transformer station of electric vehicle, involves combining charging stations to group, and determining target charging parameters for charging stations based on load prediction
<a href="#">WO2011018845 A1</a>	TOKYO ELECTRIC POWER CO INC	Charging system for electric vehicle, has contactor connected in parallel to diode is closed during power distribution from charger to storage battery and is opened when no power distribution from charger to storage battery takes place
<a href="#">WO2011006876 A2</a>	CONDUCTIX-WAMPFLER AG	Device for inductive transfer of electric energy from stationary unit for inductive charging built-in rechargeable battery in electric vehicle, has detection device for detecting presence of object in predetermined area
<a href="#">WO2011013388 A2</a>	PANASONIC CORP	Power line communication apparatus of vehicle, has power supply section that supplies power to authentication processing section during authentication processing
<a href="#">WO2011006842 A2</a>	CONDUCTIX-WAMPFLER AG	Inductive transmission device for transmission of electrical energy from stationary unit to adjacent stationary vehicle, comprises two primary inductors formed in stationary unit, where primary inductors are similar to each other

<a href="#">WO2011006884 A2</a>	CONDUCTIX-WAMPFLER AG	Electronic positioning aid for electric vehicle i.e. passenger car, in near region of inductive charging station, has parking aid positioning vehicle at vehicle floor in computer-aided shunting operation with primary coil
<a href="#">WO2011007573 A1</a>	PANASONIC CORP	Power control system has control determination unit that is provided to determine start time for supplying power to electric water heater and start time for recharging car battery based on charge information
<a href="#">WO2011006775 A2</a>	SIEMENS AG	Method for communicating between electric vehicle and charging station for electrically charging energy store of electric vehicle, involves initiating locking and/or unlocking of mechanical coupling by signal in charging station
<a href="#">WO2011006758 A2</a>	CONDUCTIX-WAMPFLER AG	Device for inductive transmission of electric energy for inductive charging of rechargeable battery in electric vehicle, has detection device to detect presence of electrically conductive object in preset area limited at primary coil
<a href="#">WO2011000630 A1</a>	FEV MOTORENTECHNIK GMBH	Energy storage device for storing electrical energy for partially- or fully-electrical drive of vehicle, has power controller which is limited by current flowing between energy storage and power storage
<a href="#">WO2011004046 A1</a>	GAMESA INNOVATION&TECHNOLOGY SL	System for two-way transfer of electrical energy between vehicles and electrical grid, has module for supervising and controlling transfer of electrical energy at each one of electricity companies
<a href="#">WO2011001268 A1</a>	TOYOTA JIDOSHA KK	Battery control system for vehicle e.g. plug-in hybrid electric vehicle, has degradation detecting unit that detects degradation of secondary battery during external charging of secondary battery by external charging unit
<a href="#">WO2011001251 A2</a>	TOYOTA CHUO KENKYUSHO KK TOYOTA JIDOSHA KK	Power supply system for electric vehicle, disconnects power storage device connected to electrical system and connects remaining power storage device having state-of-charge that has not reached lower limit value to electrical system
<a href="#">WO2010147383 A2</a>	HAN H S	Electric vehicle i.e. car, battery charging apparatus, has left and right power transmitting devices transmitting obtained kinetic energy to batteries through gears, and protrusions formed at ends of generator
<a href="#">WO2010150139 A1</a>	BRUSA ELEKTRONIK AG	Power distributing circuit arrangement for electric motor vehicle e.g. aircraft, has change-over switch connecting converter alternatively to two connections, and transformer windings connected to converters switched in series or parallel
<a href="#">WO2010150594 A1</a>	TOYODA AUTOMATIC LOOM WORKS; TOYOTA JIDOSHOKKI KK	Charging system of vehicle e.g. electric vehicle, detects deviation of cable from charging control apparatus mounted in vehicle and charging station, and monitors state of vehicle
<a href="#">WO2010149520 A2</a>	RWE AG	Method for determining supplied energy quantity during electric vehicle charging, involves detecting electric variable required to calculate energy quantity, and outputting variable to monitoring device to monitor charging station operation
<a href="#">WO2010149449 A2</a>	RWE AG	Method for communication of measuring data between charging station and car, involves generating signature of data packet using portion of measuring device key, and transmitting data packet and signature to electric vehicle
<a href="#">WO2010150555 A1</a>	PANASONIC CORP	Control system for motor vehicle, executes control for using electric power in physical system storage unit, by charging chemical system storage unit with electric power when vehicle is determined to approach parking position
<a href="#">WO2010149450 A1</a>	RWE AG	Method for determining amount of energy delivered by hybrid electrical vehicle, involves subtracting amount of energy received by vehicle from total amount of energy to determine another amount of energy
<a href="#">WO2010149890 A1</a>	RENAULT SAS	Method for digital communication between e.g. car and electric infrastructure, involves establishing internet protocol connection and connecting vehicle to internet network, where method utilizes powerline communication technology
<a href="#">WO2010146795 A1</a>	MATSUSHITA DENKI SANGYO KK PANASONIC CORP	Electric charging control circuit of battery pack of charging system for charging battery-mounted apparatus, performs constant voltage charging of secondary battery when electric current flowing in battery exceeds threshold value



<a href="#">WO2010145230 A1</a>	CHAU H H; ZHOU K	Modular battery management system used in e.g. electric vehicle, has battery management control modules which determine battery state and control transfer of energy from batteries to load or from energy storage modules to batteries
<a href="#">WO2010145898 A1</a>	RWE AG	Method for connecting electric vehicle with charging station, involves receiving communication signal comprising charging station-side call for communication of primary loading parameters on pilot ladder connected with charging station
<a href="#">WO2010143304 A1</a>	HITACHI COMPUTER PERIPHERALS CO LTD	Power supply device for vehicle, supplies alternating current (AC) power supplied to AC-side terminal of conversion circuit to one of direct current power supplies
<a href="#">WO2010143483 A1</a>	TOYODA AUTOMATIC LOOM WORKS; TOYOTA JIDOSHOKKI KK	Charging device for vehicles e.g. electric vehicle, stops supply of electric power to external vehicle, when authentication code is inconsistent and electric power is supplied, when authentication code is consistent
<a href="#">WO2010146015 A2</a>	RWE AG	Method for providing communication between charging station and electric vehicle, involves emitting trigger signal on conductor, detecting vehicle identification signal on conductor, and releasing power supply to power conductor
<a href="#">WO2010143482 A1</a>	TOYODA AUTOMATIC LOOM WORKS; TOYOTA JIDOSHOKKI KK	Hybrid electric vehicle e.g. plug-in type hybrid electric vehicle, has control circuit such that electric power supply to control circuit is restarted, when electric power is detected by the detection circuit
<a href="#">WO2010146092 A1</a>	RENAULT SAS	Electronic charging and/or electric power generation device for traction system of electric or hybrid motor vehicle, has control unit controlling transfer of power between power supply network and battery or power supply of passive charge
<a href="#">WO2010145971 A1</a>	RUHLAND C; RULAND C	Connecting device i.e. charging station, for connecting e.g. electric car and/or solar plant, to electrical power supply network, has transmitter allowing signal transmission via socket outlet independent of switching state of switch
<a href="#">WO2010143279 A1</a>	TOYOTA JIDOSHA KK	Power source system of electric vehicle, prohibits generation of separation request for cutting away selected sub-electrical storage apparatus from voltage transducer, when storage apparatus temperature satisfies preset conditions
<a href="#">WO2010144524 A2</a>	A123 SYSTEMS INC	Providing notice to limit degradation within a battery pack by generating a signal in a first battery pack electronic module, and opening a battery output contactor in response to an absence of the signal at a second electronic module
<a href="#">WO2010143670 A1</a>	NISSAN MOTOR CO LTD	Charge control device useful for controlling a charge power by a battery charger, comprises a constant voltage circuit, a determination circuit, and a programmable controller
<a href="#">WO2011019133 A2</a>	CHUNG Y J; JEONG Y	Battery charging system for hybrid electric vehicle i.e. car, has charging rate management device determining charging rate of electric energy storage device from traffic information and storing algorithm of calculation functional formula
<a href="#">WO2011014757 A2</a>	CURRY D E; DEMAND ENERGY NETWORKS INC HAMILTON S R; STAKER D L; TURNER B P	Electric vehicle charging method used in charging the rechargeable battery of electric vehicle, involves controlling transfer of energy stored by energy device to electric power grid using information regarding charging of electric vehicle
<a href="#">WO2011003317 A1</a>	CHERY AUTOMOBILE CO LTD; WUHU POWER TECHNOLOGY RES CO LTD	Electric vehicle charge system, has current identifying circuit divided into two branches, where one of branches is connected to input end of battery pack and another branch is connected to input end of battery pack through rectifier

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## CAMBIO DE BATERÍAS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2011020565 A1</a>	VOLKSWAGEN AG	Energy storage arrangement for motor vehicle, particularly electric vehicle, has two battery cases, which accommodates rechargeable battery, where electric connection is formed between two rechargeable batteries
<a href="#">WO2011016771 A1</a>	ELECTROENGINE IN SWEDEN AB	Battery pack e.g. for electric motor-driven vehicle, has portion mountable underneath lower floor portion of passenger compartment of electric motor-driven vehicle to contain at least one battery cell
<a href="#">WO2011012601 A2</a>	DUERR SYSTEMS GMBH	Battery replacement station for e.g. electric vehicle, has battery storage device including displaceable mounting device for receiving and storing battery, where mounting device displaces battery between storage and transfer positions
<a href="#">WO2011009543 A2</a>	SANLI I	Electromotively driven motor vehicle i.e. car, has electric drive with motor for driving vehicle, and modular removable-battery system formed in vehicle, in which battery modules are selectively exchanged based on charging condition
<a href="#">WO2011001073 A1</a>	QUEMENEUR Y	Used removable container exchanging device for electric car, has computer connected to displacement units of plate such that units are controlled by computer to set and retain plate in retracted, storage, recovery and insertion positions
<a href="#">WO2011001067 A2</a>	QUEMENEUR Y	Used removable container exchanging device for electric car, has computer connected to displacement units of plate such that units are controlled by computer to set and retain plate in retracted, storage, recovery and insertion positions
<a href="#">WO2011001066 A1</a>	RENAULT SAS	Replacing energy container supplying power to driving engine of automobile resting on ground, comprises positioning automobile on ground without any action from engine, and releasing restraints linking energy container to automobile

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