

La integración de las tecnologías de la Información y Comunicaciones (TIC) en vehículos e infraestructuras viales se ha mostrado muy provechosa a la hora de obtener soluciones avanzadas a los problemas del transporte de hoy en día.

Los Sistemas de Coches Inteligentes buscan facilitar la interacción entre el conductor, el vehículo y la carretera, de manera que los sistemas autónomos de abordaje se complementan con sistemas que cooperan entre los diferentes vehículos o entre los vehículos y las infraestructuras, para mejorar, de este modo, aspectos de gran relevancia, tales como la reducción de accidentes, la eficiencia energética o la reducción de la contaminación.

El presente boletín, elaborado por la Unidad de Información Tecnológica de la Oficina Española de Patentes y Marcas (OEPM), pretende revisar la evolución de la innovación, en el marco de las patentes de las tecnologías TIC en relación con algunos

de los sectores prioritarios contemplados en el desarrollo del “Coche Inteligente”, tales como: los sistemas de gestión optimizada del tráfico, las redes sensoriales o de comunicaciones integradas en los vehículos, los sistemas de gestión de plazas de aparcamiento o de peajes, y los sistemas de notificación de accidentes o averías a servicios de emergencia u otros conductores cercanos.

De este modo, el boletín, de periodicidad trimestral, recogerá las publicaciones más recientes de solicitudes internacionales de patente (solicitudes PCT) publicadas en el trimestre inmediatamente anterior a su elaboración. Se ha restringido el ámbito de este boletín a solicitudes PCT por considerarse que al ser estas solicitudes con las que las empresas pretenden proteger sus invenciones en distintos países, se corresponden con invenciones de una cierta relevancia tecnológica.

#### CONTENIDO:

- Gestión del tráfico
- Redes vehiculares
- Gestión de aparcamientos y peajes
- Notificación de accidentes
- Otras referencias

NIPO: 073-15-017-1

## Solicitudes de Patente Publicadas

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

### GESTIÓN DEL TRÁFICO

#### Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

|                               |   |  |
|-------------------------------|---|--|
| <a href="#">WO 2016052837</a> | DILAB CO LTD                              | Traffic monitoring system  |
| <a href="#">WO 2016045832</a> | BOSCH GMBH ROBERT                         | Method and device for creating a motion model of a road user   |
| <a href="#">WO 2016051817</a> | HITACHI CONSTRUCTION MACHINERY            | Traffic management control device  |
| <a href="#">WO 2016038415</a> | UNIV UMM AL QURA                          | Automatic update of crowd and traffic data using device monitoring   |
| <a href="#">WO 2016045851</a> | BOSCH GMBH ROBERT                         | Method and device for monitoring a traffic area  |
| <a href="#">WO 2016055917</a> | HERE GLOBAL BV                            | Probe based variable speed sign value  |
| <a href="#">WO 2016057540</a> | HANNAH MARC R                             | Managed access system for traffic flow optimization  |
| <a href="#">WO 2016078414</a> | ZTE CORP                                  | Method, apparatus and system for controlling changing of traffic lights  |
| <a href="#">WO 2016067679</a> | SUMITOMO ELECTRIC INDUSTRIES              | Traffic signal control device, computer program, and traffic signal control method   |
| <a href="#">WO 2016086139</a> | ISPD INC<br>VARMA SAMIR<br>SARFATI DANIEL | System and method for traffic decongestion   |
| <a href="#">WO 2016068273</a> | MITSUBISHI ELECTRIC CORP                  | In-vehicle device, automatically driven vehicle, automatic drive assist system, automatic drive monitoring device, road management device, and automatic drive information collection device |
| <a href="#">WO 2016067336</a> | NISSAN MOTOR                              | Travel control information data structure and travel control device  |
| <a href="#">WO 2016070121</a> | RYHORCHUK KENT W<br>GOLD EZRA             | Parking and traffic analysis   |

[..ver más](#)

## REDES VEHICULARES

### Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

|               |   |   |
|---------------|---|---|
| WO 2016095154 | HARMAN INT IND<br>WANG JUNHAO<br>ZHANG QINGSHAN                                       | Vehicle headlight control   |
| WO 2016049814 | HUAWEI TECH CO LTD  | Method for controlling user equipment accessing communication network of high-speed moving vehicle                          |
| WO 2016089438 | EBAY ENTERPRISE INC   | Managing and controlling travel for a convoy of vehicles  |
| WO 2016042670 | MITSUBISHI HEAVY IND<br>LTD   | Vehicle surveillance system, vehicle surveillance method, and program   |
| WO 2016055570 | CONTINENTAL<br>AUTOMOTIVE GMBH  | Device and method for monitoring network communication of a data network for a motor vehicle                                |
| WO 2016056131 | MITSUBISHI ELECTRIC<br>CORP   | Communication apparatus and communication system  |
| WO 2016034674 | HUF HÜLSBECK &<br>FÜRST GMBH & CO KG  | Method for remotely controlling at least a first function of a safety device of a vehicle                                   |
| WO 2016092363 | TOYOTA MOTOR CO<br>LTD  | Remote vehicle data collection system   |
| WO 2016046327 | CONTINENTAL TEVES<br>AG & CO OHG  | Update of a vehicle control system via a car2x  |
| WO 2016055108 | HUAWEI<br>TECHNOLOGIES<br>DUESSELDORF GMBH  | Method for activating and deactivating nomadic nodes in a network   |
| WO 2016056162 | TOYOTA MOTOR CO<br>LTD  | Safety system for augmenting roadway objects on a heads-up display  |
| WO 2016038816 | PANASONIC IP CORP<br>AMERICA  | Vehicle communication device, in-vehicle network system, and vehicle communication method                                   |
| WO 2016046329 | CONTI TEMIC<br>MICROELECTRONIC  | Friction-coefficient-dependent collision avoidance system   |
| WO 2016058681 | WABCO GMBH &  | Method for setting up and operating a wireless vehicle network  |
| WO 2016060384 | KOREA ELECTRONICS<br>TECHNOLOGY   | Method and device for providing panoramic vehicle situation information using multiple cameras and radar sensor information |
| WO 2016054801 | EMPIRE TECHNOLOGY<br>DEV LLC<br>YIN XUEFENG<br>TIAN MENG                              | Antenna array on moving nodes   |
| WO 2016058099 | SHEN XUEMIN<br>OMAR HASSAN<br>ABOUBAKR<br>LU NING<br>BHARATI SAILESH<br>ZHUANG WEIHUA | Method, System And Apparatus For Enabling Vehicular Communications  |
| WO 2016039907 | QUALCOMM INC  | Selective forwarding in mobile content delivery networks  |
| WO 2016079236 | CONTINENTAL<br>AUTOMOTIVE GMBH  | Method for transmitting perishable shipments  |

|                               |                             |  |
|-------------------------------|-----------------------------|--|
| <a href="#">WO 2016081331</a> | BOSCH GMBH ROBERT           | Gps based learned control event prediction   |
| <a href="#">WO 2016088304</a> | PANASONIC IP CORP AMERICA   | Illegality detection electronic control unit, car onboard network system, and illegality detection method            |
| <a href="#">WO 2016088423</a> | YANMAR CO LTD               | Vehicle that prevents vehicle theft  |
| <a href="#">WO 2016059053</a> | VODAFONE IP LICENSING LTD   | Vehicle-based mobile aggregator device   |
| <a href="#">WO 2016068539</a> | SAMSUNG ELECTRONICS CO LTD  | Apparatus and method for portable infotainment   |
| <a href="#">WO 2016083034</a> | BOSCH GMBH ROBERT           | Method and device for operating a plurality of vehicles  |
| <a href="#">WO 2016059499</a> | PHILIPS LIGHTING HOLDING BV | System and method for outdoor lighting operation and management using its protocols and connectivity infrastructure. |
| <a href="#">WO 2016075865</a> | PANASONIC IP CORP AMERICA   | Update management method, update management device, and control program  |
| <a href="#">WO 2016075869</a> | PANASONIC IP CORP AMERICA   | Key management method, vehicle-mounted network system and key management device                                      |
| <a href="#">WO 2016066192</a> | BAYERISCHE MOTOREN WERKE AG | Methods, telematics server and base station for supporting vehicular communications in a cellular network            |
| <a href="#">WO 2016074820</a> | BOSCH GMBH ROBERT           | Predictive reservation of radio cells for interruption-free communication with a data cloud                          |

[..ver más](#)

## GESTIÓN DE APARCAMIENTOS Y PEAJES

### Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

|               |  |   |
|---------------|--|---|
| WO 2016054994 | CHINA UNIONPAY CO LTD                        | Non-stop toll collection system   |
| WO 2016055226 | KAPSCH TRAFFICOM AG                          | Beacon-based mobile payments  |
| WO 2016046831 | TOMER NATAN                                  | Methods and systems of managing parking space occupancy   |
| WO 2016053073 | PALAZUELOS VALDES ALVARO                     | Parking management assisted by artificial vision  |
| WO 2016088069 | WANG KEVIN SUNLIN                            | Method and system for legal parking   |
| WO 2016060287 | HONG KIYOUNG                                 | Call-taxi service provision system and call-taxi service provision method                                 |
| WO 2016078789 | KAPSCH TRAFFICOM AG                          | Method and apparatus for trusted recording in a road toll system  |
| WO 2016083035 | BOSCH GMBH ROBERT                            | Method and device for operating a vehicle with respect to a parking space                                 |
| WO 2016083077 | GEMALTO SA                                   | Method to manage park spaces on public streets  |
| WO 2016082995 | BOSCH GMBH ROBERT                            | Parking space managing server for a parking space   |
| WO 2016084041 | BADRA MOHAMAD                                | Smart parking lot management system   |
| WO 2016071512 | TOMTOM INT BV                                | Method for estimating the occupancy of a parking lot  |
| WO 2016081782 | UBER TECHNOLOGIES INC                        | Parking identification and availability prediction  |
| WO 2016065110 | FUSTES MANUEL                                | Toll payment collection with communication device   |
| WO 2016066362 | BOSCH GMBH ROBERT                            | Method and device for guiding a vehicle in a parking lot  |
| WO 2016059487 | GASKIN TERRENCE                              | System and method for anti-theft and tracking of an automobile and automobile wheels                      |
| WO 2016083037 | BOSCH GMBH ROBERT                            | Method and device for assisted guiding of a vehicle   |
| WO 2016083028 | BOSCH GMBH ROBERT                            | Server for operating a car park   |
| WO 2016079778 | HITACHI LTD                                  | Traffic flow control system and traffic flow control method   |
| WO 2016083038 | BOSCH GMBH ROBERT                            | Method and device for assisted driving of a vehicle   |
| WO 2016082687 | CHINA UNIONPAY CO LTD                        | System and method for performing payment at service point by using intelligent vehicle                    |
| WO 2016079554 | PENG ZHENYU / ZHANG WEI / WANG KUN / WANG YI | Smart parking authentication and charging system  |
| WO 2016041170 | MARLATT FREDERICK LAWRENCE MICHAEL           | Vehicle sensor, detecting method thereof and self enforcing pay-by-phone parking system                   |
| WO 2016067167 | SPACEEK LTD                                  | Sensor network for parking management and a method of harvesting data from the network by a mobile device |
| WO 2016067288 | ANAGOG LTD                                   | Computer-Aided Event Hunting  |

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## NOTIFICACIÓN DE ACCIDENTES

### Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

|                               |  |   |
|-------------------------------|--|---|
| <a href="#">WO 2016040747</a> | ALDERMAN LUKUS<br>SAMPSON<br>ALDERMAN LAUREN<br>THOMAS<br>ALDERMAN DAVID P | Mobile alert system   |
| <a href="#">WO 2016035269</a> | DENSO CORP<br>TOYOTA MOTOR CO<br>LTD                                       | Automobile emergency call device  |
| <a href="#">WO 2016087734</a> | RENAULT SAS  | Method of assistance to at least one occupant of an accident affected vehicle and dedicated assistance system |
| <a href="#">WO 2016063490</a> | DENSO CORP   | Automobile data recording apparatus and automobile accident reporting apparatus                               |
| <a href="#">WO 2016060697</a> | SMITH LUBY<br>HOLDINGS LLC   | Automobile incident data networking platform  |
| <a href="#">WO 2016072020</a> | MITSUBISHI ELECTRIC<br>CORP  | Digital broadcast receiver  |
| <a href="#">WO 2016072164</a> | HITACHI AUTOMOTIVE<br>SYSTEMS LTD  | Car onboard speech processing device  |
| <a href="#">WO 2016070193</a> | NODAL INC  | Systems, apparatus, and methods for improving safety related to movable/moving objects                        |

[...ver más](#)

## OTRAS REFERENCIAS

### Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

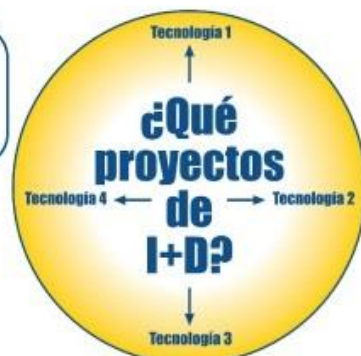
|                               |   |   |
|-------------------------------|---|---|
| <a href="#">WO 2016047462</a> | UNIV NAGOYA NAT<br>UNIV CORP<br>AUTONETWORKS<br>TECHNOLOGIES LTD<br>SUMITOMO WIRING<br>SYSTEMS<br>SUMITOMO ELECTRIC<br>INDUSTRIES | Rewrite detection system and information processing device  |
| <a href="#">WO 2016048528</a> | INTEL CORP  | Technologies for route navigation sharing in a community cloud  |
| <a href="#">WO 2016055560</a> | CONTINENTAL TEVES<br>AG & CO OHG  | Method for operating a central server and method for handling a rule chart  |
| <a href="#">WO 2016075711</a> | BADIGER AKSHAY AJIT   | System and method for managing state of automobiles   |
| <a href="#">WO 2016090282</a> | COWBYT<br>TECHNOLOGIES LLC  | Autonomous navigation system  |
| <a href="#">WO 2016094040</a> | INTEL CORP  | Coordinated crowd dispersal navigation  |
| <a href="#">WO 2016053072</a> | PALAZUELOS VALDES<br>ALVARO   | System and method for estimating the statistical risk related to parking a vehicle in an authorised area            |
| <a href="#">WO 2016055561</a> | CONTINENTAL TEVES<br>AG & CO OHG  | Method for handling a rule chart  |
| <a href="#">WO 2016049812</a> | BAYERISCHE<br>MOTOREN WERKE AG  | Automatic parking warning system  |
|                               | ISERT CARSTEN   |   |
| <a href="#">WO 2016053074</a> | PALAZUELOS ADRÉS<br>ALVARO  | Highly reliable management of valet parking   |
| <a href="#">WO 2016055562</a> | CONTINENTAL TEVES<br>AG & CO OHG  | Method for handling a rule chart  |
| <a href="#">WO 2016058784</a> | CONTINENTAL<br>AUTOMOTIVE GMBH  | Method for driving assistance, in accordance with a signal system   |
| <a href="#">WO 2016092528</a> | ERICSSON TELEFON<br>AB L M  | Transport format for communications   |
| <a href="#">WO 2016088398</a> | TOSHIBA KK  | Abnormality monitoring system, abnormality monitoring method, computer program and abnormality monitoring apparatus |
| <a href="#">WO 2016088462</a> | HITACHI AUTOMOTIVE<br>SYSTEMS LTD   | Vehicle control apparatus   |
| <a href="#">WO 2016065375</a> | FTS<br>COMPUTERTECHNIK<br>GMBH  | Computer vision monitoring for a computer vision system   |
| <a href="#">WO 2016100219</a> | POLARIS INDUSTRIES<br>INC   | Autonomous ready vehicle  |
| <a href="#">WO 2016083543</a> | TOMTOM TELEMATICS<br>B V  | Apparatus and method for vehicle economy improvement  |



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**LANZAMIENTO**



Los ITPs\*\* de la OEPM nos han ahorrado horas de revisión bibliográfica para definir el punto de partida de nuestros proyectos de I+D.



**EJECUCIÓN**



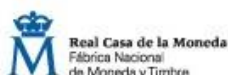
Los ITPs\*\* de la OEPM detectaron solicitudes de patente relevantes cuando estábamos a mitad del proyecto y gracias a ello pudimos reconducir nuestra investigación.



**CONCLUSIÓN**



Gracias a los ITPs\*\* de la OEPM hemos podido decidir la mejor forma de protección de nuestros resultados de I+D y redactar adecuadamente nuestras solicitudes de patente.



\* La OEPM cuenta con más de 150 examinadores de patentes especializados en los diversos sectores tecnológicos y en la búsqueda de información científico-técnica.

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