

Boletín VT

COCHE INTELIGENTE

3^{er} trimestre 2025

63

Vigilancia Tecnológica

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: 220-24-013-6

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
WO2025168434A1	VODAFONE GMBH	System for enabling collaboration between e.g. vehicles having features, capabilities or static and dynamic parameters, has hub interface provided by hub device or provided by transportation medium traffic control or monitoring device.

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REDES VEHICULARES

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO2025156366A1	JIANGSHU TIAN NET SMART C V2X TECH CO LTD	Regional vehicle dispatch and management system based on cellular vehicle to everything (C-V2X), has dispatch instruction module used for transmitting optimal traffic order and flow distribution information to each vehicle to achieve efficient dispatch and management of vehicles within region
WO2025170092A1	LG ELECTRONICS INC	Terminal related to soft vehicle-to-everything (V2X) used in wireless communication system, has receiver that receives sensor data sharing message (SDSM) for subscription request from broker, and control unit that decodes SDSM and assesses risk with neighboring terminal
WO2025142053A1	DENSO CORP	Data communication system for data communication between center device and vehicle device mounted on vehicle e.g. car, has collection data creation unit that switches collection data list to be used according to one of switching condition and priority and creates collection data
WO2025142052A1	DENSO CORP	Data communication system for vehicle e.g. car, has vehicle device which is communicated with center device, and comprised of trigger condition judgment unit that performs trigger condition judgment by trigger condition based on detection data
WO2025147364A1	QUALCOMM INC	Apparatus for facilitating for data collection, wireless communication at network entity and user equipment, has processor for receiving set of perception data from set of user equipments based on one of configured set of planned routes and time plans or embeddings centroids
WO2025198757A1	QUALCOMM INC	Method for realizing vehicle-to-everything transmission of vehicle such as car, by user equipment for high and low latency communications, involves generating alert time window based on first position of first UE and second position of second UE and scheduling transmission from first UE to second UE

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GESTIÓN DE APARCAMIENTOS Y PEAJES

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO2025192300A1	DENSO CORP	Display control device used in e.g. automobile with operating modes with different levels of automation of driving operations, has control unit that changes configuration of pre-gate image that is route image when traveling in area on entrance side of toll road gate, based on level/road information
WO2025193478A1	VALEO SCHALTER & SENSOREN GMBH	System for assisting drivers in finding available parking spots by estimating parking spot availabilities, has processors for determining occupancy status of each parking spot over time and storing occupancy status of each parking spot
WO2025157648A1	VALEO SCHALTER & SENSOREN GMBH	Method for offering free parking space by motor vehicle, involves offering free parking space for parking motor vehicle in free parking space even if free parking space is located outside first functional zone of parking assistance device
WO2025177766A1	TOYOTA MOTOR CO LTD	System for parking e.g. car, into vacant parking space in parking area of motorway, or service area by server, has vehicle configured to automatically travel by automatic path parking control that utilizes reference path
WO2025153270A1	VALEO SCHALTER & SENSOREN GMBH	Method for generating synthetic view of motor vehicle environment in line-parking scenario, involves determining average orientation of line-markings with respect to fitted line
WO2025167846A1	HUAWEI TECH CO LTD	Method for recommending parking space of vehicle e.g. car, involves displaying map of parking lot, and presenting parking priority of non-parking space, parking space available and parking space available on map
WO2025139571A1	SHENZHEN YINWANG INTELLIGENT TECHNOLOGY CO LTD	Intelligent driving method applied to field of intelligent vehicle e.g. electric vehicle, involves controlling intelligent driving device to park in target temporary parking space, where two types of parking spaces comprise target temporary parking space
WO2025163903A1	NEC CORP	Waiting time guidance system used in parking lots, has calculation unit which calculates waiting time by adding first estimated time required to enter parking lot and second estimated time required from entering parking lot to parking in parking space
WO2025176125A1	SHENZHEN YINWANG INTELLIGENT TECHNOLOGY CO LTD	Parking method for vehicle, involves obtaining first position of vehicle and information of target parking space and controlling vehicle to park in target parking space from first position according to first parking path
WO2025145990A1	CHONGQING CHANGAN AUTOMOBILE CO LTD	Parking method for vehicle, involves, controlling steering wheel of vehicle using corresponding target vehicle steering angles according to multiple parking times, in response to controlling vehicle to automatically park from stop position to target position
WO2025176190A1	SHENZHEN YINWANG INTELLIGENT TECHNOLOGY CO LTD	Parking method for vehicle e.g. intelligent vehicles or electric vehicles, involves controlling vehicle to park in target parking space, when user gets off vehicle and receives third instruction sent by mobile terminal
WO2025167202A1	GUANGZHOU AUTOMOBILE GROUP CO	Automatic parking method for vehicle, involves obtaining target steering wheel angle, so that vehicle adjusts vehicle heading angle based on target steering wheel angle, so as to park based on vehicle heading angle and planned parking path
WO2025190393A1	ZHEJIANG ZEEKR INTELLIGENT TECH CO LTD	Parking space display method for vehicle, involves displaying video streams acquired by target camera on vehicle parking interface, where target camera corresponds to target parking space frame and mapping parking space frame changes along with position change of target parking space frame
WO2025175910A1	SHENZHEN YINWANG INTELLIGENT TECHNOLOGY CO LTD	Parking auxiliary method for use in vehicle, involves generating parking area based on surrounding environment of vehicle, controlling display device to display first parking position based on first instruction, and marking position of first obstacle
WO2025153586A1	CONNAUGHT ELECTRONICS LTD	Method for parking slot detection, involves generating parking slot proposal data comprising position of proposed parking slot in environment, which is equipped with infrastructure device of predefined device type
WO2025144701A1	CHROMA TRANSIT TECH LLC	Vehicle device for emulating tolling system, has controller for determining first type of tolling system, and antenna for communicating using network connection that communicatively links vehicle device to collection service

WO2025196744A1	IMAGRY ISRAEL LTD	Parking spot detection
WO2025193618A1	TESLA INC	Method for analyzing image data and predicting occupancy attributes for surroundings of ego in autonomous vehicle and robot within building, involves transmitting data associated with selected parking spot to autonomous navigation engine along with instruction to navigate ego
WO2025173176A1	MITSUBISHI HEAVY IND MACH SYSTEMS LTD	On-vehicle device for vehicle parking system, has antenna section which is provided with voltage-level discrimination section that turns ON or OFF of first light-emitting element based on voltage level of signal input from main section
WO2025163709A1	MITSUBISHI HEAVY IND MACH SYSTEMS LTD	Parking management device installed in parking lot, has billing unit that bills onboard device for parking fee by sending and receiving specified information to and from onboard device using communication unit

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NOTIFICACIÓN DE ACCIDENTES

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO2025153546A1	MOVYON S P A	System for signaling anomalous traffic event along road infrastructure, has signaling light source of each grazing lighting device included in subset to switch on upon reception of activation command
WO2025192013A1	NEC CORP	Display control device for controlling display of information of accidents, has facility identification unit that identifies facility related to event that is occurred and display control unit displays facility information related to identified facility on display unit
WO2025178763A1	HAAS INC	Method for alerting vehicles, involves initiating alert messaging operation corresponding to vehicle identifier (ID) of vehicle entry in database in response to match between search key and one of node ID and link ID

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OTRAS REFERENCIAS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO2025173161A1	NISSAN MOTOR	Method for remotely assisting driving of vehicle, involves determining whether second vehicle is stopped on second lane or traveling at less than preset speed even in traffic conditions when first vehicle approaches second vehicle and stops on first lane in one of two different cases
WO2025177448A1	MITSUBISHI ELECTRIC MOBILITY CORP	Drawing control device mounted in vehicle, has road surface drawing optimization unit that outputs drawing instruction signal for instructing drawing of guide line indicating that behaviors match on sideward road surface on behavior-direction side of the host vehicle
WO2025181855A1	MITSUBISHI HEAVY IND MACH SYSTEMS LTD	Monitoring system for monitoring illegal parking of vehicle e.g. car, has terminal device that includes display instruction unit to transmit display instruction for light-emitting element of onboard device mounted on vehicle
WO2025171483A1	GEOTAB INC	System for estimating driver efficiency of e.g. delivery vehicle, using telematics data in e.g. logistics industries, has processor for determining driver efficiency score based on estimated trip difficulty and driver behavior metrics for trip
WO2025157033A1	SHENZHEN YINWANG INTELLIGENT TECHNOLOGY CO LTD	Method for generating map information, involves obtaining traffic flow data set that comprises data on driving paths on target road comprising first and second roads, and determining map information based on traffic flow data set

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Los ITPs** de la OEPM nos proporcionan información imprescindible para decidir la priorización óptima de proyectos de I+D en los que invertir.



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



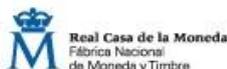
Los ITPs** de la OEPM detectaron solicitudes de patente relevantes cuando estábamos a mitad del proyecto y gracias a ello pudimos reconducir nuestra investigación.



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.

** Los Informes Tecnológicos de Patentes o ITPs son estudios a la medida que incluyen una búsqueda de patentes y de literatura científica con un análisis en profundidad de los documentos más relevantes. Su coste es de 440 euros más IVA.