

Boletín VT

REDES DE SENSORES INALÁMBRICAS

35

3.º trimestre 2018

Vigilancia Tecnológica

Desde su aparición, los campos de aplicación de las redes de sensores inalámbricos se han ido ampliando de forma constante. La posibilidad de crear extensas plataformas de gestión integrada para la monitorización, captura de datos, y control remoto y en tiempo real mediante estas redes sensoriales, ha proporcionado una poderosa herramienta para el desarrollo de aplicaciones y servicios en sectores económicos tan diversos como el agrícola, el industrial o el de la administración pública.

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 algunas de las aplicaciones más relevantes abordadas por las redes de sensores

inalámbricas, tales como: su uso en entornos agrícolas (gestión de cultivos, plagas, invernaderos, regadíos), su uso en entornos urbanos o públicos (seguridad ciudadana, infraestructuras, gestión de información medioambiental, polución, residuos) o su uso para la detección y gestión de incendios.

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:

- Redes de sensores para entornos agrícolas
- Redes de sensores para entornos urbanos o públicos
- Redes de sensores para detectar incendios
- Otras referencias

NIPO: 088-17-027-2

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.

REDES DE SENSORES PARA ENTORNOS AGRÍCOLAS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2018122237 A1	YARA INT ASA	Device and method for determining a height of an agricultural product
WO 2018143865 A1	DELAVAL HOLDING AB	Monitoring device, sensor device and respective methods performed thereby for monitoring animals
WO 2018161065 A1	WOODSTREAM CORP	Remote monitoring of live catch rodent traps
WO 2018162539 A1	AMAZONEN WERKE H DREYER GMBH & CO KG	Closed-loop control system, agricultural utility vehicle, and method for controlling an agricultural utility vehicle
WO 2018164981 A1	AGCO CORP	Bale identification assembly for binding an identification tag to a bale of agricultural crop material
WO 2018111092 A1	LELY PATENT NV	Milking system
WO 2018111095 A1	LELY PATENT NV	Milking system
WO 2018162545 A1	AMAZONEN WERKE H DREYER GMBH & CO KG	Open-loop and/or closed-loop control system, agricultural utility vehicle, and method for the open-loop and/or closed-loop control of an agricultural utility vehicle
WO 2018111093 A1	LELY PATENT NV	Milking system
WO 2018111094 A1	LELY PATENT NV	Milking system
WO 2018128799 A1	BAYER CROPSOURCE LP	Sensor for a wireless animal trap detection system
WO 2018154159 A1	MARTI SAURAS JOSE MARIA	Method and apparatus for determining areas of favourable plant growth
WO 2018101848 A1	COOLFARM S A	Predictive dynamic cloud based system for environmental sensing and actuation and respective method of operation
WO 2018107242 A1	COMMW SCIENT IND RES ORG	Crop scanner
WO 2018145110 A1	HANCOCK TRENTON L	Vertical plant growing system
WO 2018108219 A1	SKOV AS	Method for measuring chill in ventilated housing facilities and sensor element thereto
WO 2018112552 A1	AYRES RYAN	Apparatus and method for irrigating plants
WO 2018122860 A1	US AGRICULTURE	System and method for early detection for prevention of postharvest chilling injury
WO 2018134084 A1	TRIBUTERRE	Connected device for composting
WO 2018142295 A1	GAMAYA SA	Wide-angle computational imaging spectroscopy method and apparatus
WO 2018147715 A1	JEJU NATIONAL UNIV INDUSTRY ACADEMY CO OPERATION FOUNDATION	System and method for optimizing power consumption of fish farm
WO 2018146665 A2	UNIV AUTONOMA DE CHIRIQUI	Plant pot with controlled microenvironment for plants with special requirements
WO 2018111064 A1	HERRERA CADENA ISAAC ABRAHAM	System for monitoring and controlling water stress in order to optimise oil extraction
WO 2018131016 A2	TINKERALL	Domestic autonomous vertical farm that is moveable in stackable units
WO 2018146664 A2	UNIV DE PANAMA	Temperature regulating system and method in countercurrent flow for hydroponic crops
WO 2018111077 A1	HERRERA CADENA ISAAC ABRAHAM	Method for controlling an aquaponics system with the growth of plants and filtering of water being accelerated by ultrasound

WO 2018115937 A1	ZUNGERU ADAMU MURTALA	A farmyard access control system and method
WO 2018131853 A1	SEOUL VIOSYS CO LTD	Adhesive-type insect trap
WO 2018154000 A1	FOTONIC I NORDEN AB	A 3d-camera device comprising a dirt detection unit
WO 2018104436 A1	OUTSOURCE TECHNICAL CONCEPTS LTD	A livestock animal monitoring device
WO 2018116221 A1	KHALIFA UNIV OF SCIENCE AND TECHNOLOGY	Animal health system and method for monitoring performance
WO 2018148438 A1	XAVRAN IND INC	Animal spraying devices, systems and methods of use
WO 2018154547 A2	COLEGIO DE INGENIEROS AGRONOMOS DE PANAMA	Autonomous brush cutter with continuous movement and independent hydraulic suspension for each of the four wheels
WO 2018116149 A1	CONSIGLIO NAZIONALE RICERCHE	Sensor, system and method for measuring biochemical parameters in the sap of a plant
WO 2018131851 A1	SEOUL VIOSYS CO LTD	Adhesive-type insect trap
WO 2018118305 A1	INTEL CORP	Unsupervised machine learning to manage aquatic resources
WO 2018139695 A1	WEE CO LTD	Water quality management system using solar energy
WO 2018152477 A1	CERES GREENHOUSE SOLUTIONS LLC	Energy efficient greenhouse
WO 2018118716 A1	CLIMATE CORP	Systems, methods and apparatus for soil and seed monitoring
WO 2018127860 A2	ASOC DE MUNICIPIOS DE PANAMA AMUPA	Method for detecting arachnids and reptiles inside footwear
WO 2018110303 A1	SONY SEMICONDUCTOR SOLUTIONS CORP	Solid-state imaging element, and electronic device
WO 2018151696 A2	VITVYTSKYI VLADYSLAV ELIKOVYCH	Small-sized incubator
WO 2018118712 A1	UNIV ARKANSAS	Irrigation system
WO 2018111179 A1	DELAVAL HOLDING AB	Method, control unit and system for insemination time determination
WO 2018127866 A2	CENTRO GENDIAGNOSTIK	Trap for capturing animals
WO 2018154553 A2	UNIV TECNOLOGICA DE PANAMA	Modular mesh based on sensors for fish counting
WO 2018134803 A2	COLEGIO DE INGENIEROS AGRONOMOS DE PANAMA	Autonomous brush cutter with continuous movement
WO 2018152593 A1	AGERSENS PTY LTD	Wearable apparatus for an animal
WO 2018136007 A1	GREENPHYTO PTE LTD	System and method for farming
WO 2018122237 A1	YARA INT ASA	Device and method for determining a height of an agricultural product
WO 2018143865 A1	DELAVAL HOLDING AB	Monitoring device, sensor device and respective methods performed thereby for monitoring animals
WO 2018161065 A1	WOODSTREAM CORP	Remote monitoring of live catch rodent traps
WO 2018162539 A1	AMAZONEN WERKE H DREYER GMBH & CO KG	Closed-loop control system, agricultural utility vehicle, and method for controlling an agricultural utility vehicle
WO 2018164981 A1	AGCO CORP	Bale identification assembly for binding an identification tag to a bale of agricultural crop material

[...ver más](#)

REDES DE SENSORES PARA ENTORNOS URBANOS O PÚBLICOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2018146244 A1	SCHREDER SA	Decentralised data storage
WO 2018141664 A1	PHILIPS LIGHTING HOLDING BV	A lighting enabled system and methods for building evacuation planning
WO 2018112956 A1	SUN XUEGANG	Led control apparatus based on wireless network
WO 2018156268 A1	CARRIER CORP	People flow estimation system and the failure processing method thereof
WO 2018139980 A1	KURUKAMO DEPREM	Earthquake management with combined sensor system
WO 2018160477 A1	CARRIER CORP	People flow estimation system and people flow estimation method
WO 2018164460 A1	SAMSUNG ELECTRONICS CO LTD	Method of providing augmented reality content, and electronic device and system adapted to the method
WO 2018165537 A1	THINNECT INC	Estimating potential energy savings from systems in occupied region.
WO 2018117344 A1	SAMSUNG ELECTRONICS CO LTD	Method and apparatus for controlling air conditioner
WO 2018137121 A1	SHENZHEN CORPORATE MAN & SERVICE CO LTD	Environment monitoring system
WO 2018152289 A2	INSYTE SYSTEMS	Electrochemical gas sensor system with improved accuracy and speed
WO 2018112955 A1	SUN XUEGANG	Home led illumination control apparatus based on zigbee and smartphone
WO 2018131990 A1	SAMSUNG ELECTRONICS CO LTD	Method and apparatus for processing data in a wireless communication system
WO 2018118934 A1	MASSACHUSETTS INSTITUTE OF TECH	Systems and methods for monitoring air particulate matter
WO 2018116312 A2	ALLSTATE SOLUTIONS PRIVATE LTD	Highway detection system for generating customized notifications
WO 2018110095 A1	OMRON TATEISI ELECTRONICS CO	Control device, sensor management device, control method, sensor management method and program
WO 2018111134 A1	SIEMENS AG	Method for detection of a fluid supply network state based on cluster analysis
WO 2018112960 A1	SUN XUEGANG	Led road lamp control system with brightness intelligently adjustable
WO 2018130894 A1	TE CONNECTIVITY CORP	Light sensor assembly
WO 2018128271 A1	LG ELECTRONICS INC	Sensor hub and method for driving same
WO 2018126339 A1	INTEL CORP	Sensor management and reliability
WO 2018131956 A1	SAMSUNG ELECTRONICS CO LTD	Method and apparatus for communication in wireless mobile communication system
WO 2018136721 A1	LAMBERT DREW	Distributed weather monitoring system

[...ver más](#)

REDES DE SENSORES PARA DETECTAR INCENDIOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2018156660 A1	JOHNSON CONTROLS TECH CO	Integrated smart actuator device
WO 2018163073 A1	TYCO SAFETY PRODUCTS CANADA LTD	Safety cooking device and method
WO 2018157354 A1	SHENZHEN QIANHAI ZOCOM INFORMATION TECH CO LTD	Smoke alarming robot and operation method therefor
WO 2018147482 A1	SONG MOON BEA	Safety apparatus for home appliances
WO 2018156636 A1	VIEW INC	Seismic event detection system
WO 2018156003 A1	SITTEN AYALA JESUS ROBERTO	Method for mapping routes for optimum personalised evacuation based on gas diffusion in confined spaces
WO 2018151607 A1	TUNNELSAFETY AS	Active fire protection system for a tunnel
WO 2018143711 A1	SAMSUNG ELECTRONICS CO LTD	System and method of providing sensing data to electronic device
WO 2018143439 A1	FUJI ELECTRIC CO LTD	Gas alarm and gas detection method
WO 2018130642 A1	FIRE EATER AS	Sensor-based fire inerting gas system
WO 2018148273 A1	OSHKOSH CORP	Fire apparatus piercing tip ranging and alignment system
WO 2018156001 A1	SITTEN AYALA JESUS ROBERTO	Method for measuring and mapping the concentration of gases harmful to health in confined spaces
WO 2018154571 A1	HYDRANTECH LTD	Method and system for identifying flow in hydrant outlet
WO 2018156795 A1	REBELLION PHOTONICS INC	Systems and methods for monitoring remote installations
WO 2018130936 A1	RETECH D/A	Air conditioner control system
WO 2018140971 A1	POTTER ELECTRIC SIGNAL COMPANY LLC	Automatic nitrogen fill for a fire sprinkler system
WO 2018152311 A1	MOLEX LLC	System and method for beacon
WO 2018125272 A1	VALVERDE WILMAR	Flash alert apparatus, system, and method
WO 2018112385 A2	TYCO FIRE PRODUCTS LP	Systems and methods for mechanical fire suppression, monitoring and analytics
WO 2018132323 A1	SMARTIPLY INC	Intelligent multi-modal iot gateway
WO 2018154614 A2	IMX S R L	Gas multiple measure module and measure process

[..ver más](#)

OTRAS REFERENCIAS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2018140405 A1	INTEL CORP	Compressive sensing for power efficient data aggregation in a wireless sensor network
WO 2018140337 A1	SIEMENS AG	A unifying semi-supervised approach for machine condition monitoring and fault diagnosis
WO 2018148422 A1	BLACK & DECKER INC	System and tool for wireless retrieval of measured component data
WO 2018154396 A1	ADAPTA SPA	Modulable system for identifying and certifying garments
WO 2018158740 A1	CALANUS AS	System and method of detection and localization of animal plankton
WO 2018167482 A1	SENCEIVE LTD	Wireless sensing apparatus and method
WO 2018169906 A1	SAUDI ARABIAN OIL CO	High temperature, self-powered, miniature mobile device
WO 2018156930 A1	ENDOTRONIX INC	Wireless sensor reader assembly
WO 2018160530 A1	LEVITON MANUFACTURING CO	Communication enabled circuit breakers
WO 2018163037 A1	OGANOV SERGO	Video surveillance, monitoring and control device for a "smart home" system
WO 2018117301 A1	KOREA ELECTRONICS TECHNOLOGY	IoT gateway for simultaneously providing local and global IoT services
WO 2018158773 A1	RSPCT BASKETBALL TECH LTD	System and methods for providing a user key performance indicators for basketball
WO 2018163521 A1	OMRON TATEISI ELECTRONICS CO	Self-propelled movable body, humidity sensor, liquid detection device
WO 2018162763 A1	SONY MOBILE COMMUNICATIONS INC	Electronic tag
WO 2018164854 A1	LONZA AG	Wireless sensor information monitoring
WO 2018115076 A1	EATON LTD	Gas sensor
WO 2018108429 A1	ABB SCHWEIZ AG	Computer system and method for monitoring the status of a technical system
WO 2018152330 A1	HONEYWELL INT INC	System and method for a multi-protocol wireless sensor network
WO 2018153885 A1	INVISENSE AB	Sensor device, measuring system and measuring method for detecting presence of liquid and/or humidity
WO 2018156747 A1	CENTURYLINK IP LLC	Systems and methods for an internet of things computing shell
WO 2018160828 A1	CARRIER CORP	A wireless communication system and method to reduce energy consumption of wireless devices
WO 2018165074 A1	KERDEA TECH INC	Sensing combustion misfire events in engines by comparing signals derived from two different types of oxygen sensors
WO 2018169897 A1	SAUDI ARABIAN OIL CO	Systems and methods for wirelessly monitoring well conditions
WO 2018140123 A1	SENSERA INC	System and valve for water use monitoring and control
WO 2018110100 A1	OMRON TATEISI ELECTRONICS CO	Instruction system, instruction device, method, and program
WO 2018132618 A1	GREEN AIR LLC	Environmental control system and method for automatically adjusting operating parameters
WO 2018152315 A1	HONEYWELL INT INC	System and method of distinct duty cycle support for distinct multi-network protocol networks for industrial wireless sensor networks
WO 2018151805 A1	WATLOW ELECTRIC MFG	Compact modular wireless sensor
WO 2018119912 A1	UNIV SHENZHEN	Target tracking method and device based on parallel fuzzy gaussian and particle filter
WO 2018137103 A1	SHENZHEN CORPORATE MAN & SERVICE CO LTD	Basin pollution detection method and system based on multi-source remote sensing data
WO 2018112659 A1	FLEX LTD	Smart bilge pump monitoring systems and methods

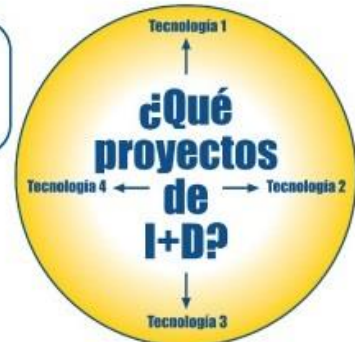
WO 2018137278 A1	TAIWAN COLOUR & IMAGING TECH CORPORATION	Logistics management facility and method
WO 2018141059 A1	UNIV BRITISH COLUMBIA	Apparatus and method for monitoring loss of soil cover
WO 2018145250 A1	MICROSOFT TECHNOLOGY LICENSING LLC	Ergonomic feedback
WO 2018153053 A1	SHENYANG INST OF AUTOMATION THE CHINESE ACADEMY OF SCIENCES	Medium access control method, based on broadcast preamble interception, for cognitive sensor network
WO 2018142598 A1	HITACHI LTD	Sensor network management system and sensor network management method
WO 2018147253 A1	PANASONIC IP MAN CO LTD	Refrigerator
WO 2018152857 A1	THE HONG KONG RES INSTITUTE OF TEXTILES AND APPAREL LIMITED	Micro-environment controllable temperature and humidity system and method for evaluating sleep heat and humidity comfort level of textiles
WO 2018116218 A1	ROMAX TECH LIMITED	Wind turbine farm level loads management control
WO 2018131496 A1	FUJITSU LTD	Machinery inspection assistance method, machinery inspection assistance device, and machinery inspection assistance system
WO 2018120002 A1	INTEL CORP	Apparatus for facilitating connection with external sensor module
WO 2018148636 A1	TOP FLIGHT TECH INC	Weather sensing
WO 2018122422 A1	PLASTIASITE S A	Monitoring system for injection moulds
WO 2018110099 A1	OMRON TATEISI ELECTRONICS CO	Data delivery system, indication device, data delivery device, sensor management device, data delivery method, and program
WO 2018119489 A1	MOVUS AUSTRALIA PTY LTD	Machine monitoring
WO 2018123857 A1	NIPPON TELEGRAPH & TELEPHONE	Sensing system and time synchronization method
WO 2018125233 A1	AGERSTAM MATS	Mechanism for efficient data reporting in iiot wsn
WO 2018122857 A1	MAYTRONICS LTD	A system and a method for comprehensive monitoring, analysis and maintenance of water and equipment in swimming pools
WO 2018121750 A1	KWAN KIN KEUNG KEVIN	Monitoring and tracking system, method, article and device
WO 2018136414 A1	UNIVERSAL ELECTRIC CORP	Systems and methods for continuously monitoring a temperature of an electrical supply system
WO 2018143943 A1	HEWLETT PACKARD DEVELOPMENT CO	Memristor code comparator to compare wake up signals to reference signals
WO 2018125871 A1	GE INFRASTRUCTURE SENSING LLC	Portable moisture analyzer for natural gas
WO 2018127834 A1	3M INNOVATIVE PROPERTIES CO	Wireless sensor communication system for enclosures
WO 2018135988 A1	HUSQVARNA AB	Improved work scheduling for a robotic lawnmower
WO 2018143887 A1	ACCONEER AB	An autonomous mobile robot comprising radar sensors
WO 2018144741 A1	EATON INTELLIGENT POWER LTD	Hybrid wireless sensor network architecture for fluid delivery and distribution systems
WO 2018125222 A1	IROBOT CORP	Robot lawn mower bumper system
WO 2018136339 A1	MICROSOFT TECHNOLOGY LICENSING LLC	Cleansing of computer-navigable physical feature graph
WO 2018144162 A1	L&P PROPERTY MAN CO	Active mirroring capacitance monitoring system for furniture
WO 2018140405 A1	INTEL CORP	Compressive sensing for power efficient data aggregation in a wireless sensor network
WO 2018140337 A1	SIEMENS AG	A unifying semi-supervised approach for machine condition monitoring and fault diagnosis

¡¡Por sólo 500€ añada 150 especialistas* a su Equipo de I+D!!



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

Gamesa



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

GRIFOLS 75



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

CSIC
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS



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.

Real Casa de la Moneda
Fábrica Nacional de Moneda y Timbre



* 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.