

Boletín VT

REDES DE SENSORES INALÁMBRICAS

40

4.º trimestre 2019

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: 116-19-015-9

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
WO 2019237200	PAIGE GROWTH TECH INC	Precision agriculture system and related methods
WO 2019194728	DELAVAL HOLDING AB	A cooling system for cooling dairy animals
WO 2019201749	SIGNIFY HOLDING BV	Home horticulture system
WO 2019185434	BAYER AG	Apparatus for weed control
WO 2019203923	SONY CORP	Tag with detachment detection feature
WO 2019204805	AGNETIX INC	Integrated sensor assembly for led-based controlled environment agriculture (cea) lighting, and methods and apparatus employing same
WO 2019215211	TRINAMIX GMBH	Detector for optically detecting at least one object
WO 2019235776	LG INNOTEK CO LTD	Device and method for determining abnormal object
WO 2019172854	BOUSSEN AZIZA	Planner-precursor of crop interventions and of phytosanitary control
WO 2019206937	SIGNIFY HOLDING BV	Bolting control using light with high level of far red
WO 2019216555	GPANS SMARTLO CO	Intelligent transport system
WO 2019217519	CARRIER CORP	Portable auxiliary detection system
WO 2019236990	PREC PLANTING LLC	Agricultural operation monitoring apparatus, systems and methods
WO 2019245978	FARM JENNY LLC	Farm asset tracking, monitoring, and alerts
WO 2020006086	ROOT AI INC	Gripper with tunable compliance for dexterous object manipulation
WO 2019197286	ALFRED KAERCHER SE & CO KG	System for watering green spaces
WO 2019220314	ASHWIN TERRENCE KEITH	An animal collar tracking controller unit having a wifi authentication sensor
WO 2019231331	AGIS AUTOMATISERING BV	Locating a mobile radiofrequency transmitter using a mobile receiver
WO 2019229393	BIORET AGRI LOGETTE CONFORT	System for producing hot water in a livestock enclosure
WO 2019237246	SHENZHEN COOPERATION TECH CO LTD	Wireless remote monitoring device and system for soil monitoring
WO 2019232304	AMERICAN ROBOTICS INC	Methods and systems for data collection by drone aircraft
WO 2019234516	UNIV KING ABDULLAH SCI & TECH	Beetle detection using optical fiber distributed acoustic sensor
WO 2019215275	GRANMALT AG	Device and method for fertilizing plants in a greenhouse
WO 2019217507	CARRIER CORP	Photoacoustic detection system
WO 2019222860	GREENEARTH AUTOMATION INC	System, method and/or computer readable medium for growing plants in an autonomous green house
WO 2019240591	KAHRS HANSEN AS	Instrumentation system for monitoring of a net barrier

WO 2019173876	MONDAL ALINDA CHANDRA	Soil ecosystem management and intelligent farming arrangement
WO 2019208607	NILEWORKS INC	System, method, and computer program for preventing leakage of chemicals
WO 2019212169	PINOSTORY CO LTD	Plant growth management system and plant growth management method using same
WO 2019225312	NTT DOCOMO INC	Monitoring device and program
WO 2019158454	GEOPROSPECTOR S GMBH	Apparatus and method for soil cultivation
WO 2019179756	BOSCH GMBH ROBERT	Method for determining a standing height of field crops
WO 2019189076	NILEWORKS INC	Unmanned aerial vehicle, control system thereof and control program
WO 2019194658	KIM SUN HO	Non-contact thermometer for animal and method for measuring animal temperature
WO 2019204224	AGROW RAY TECH INC	Adaptive photosynthetically active radiation (par) sensor with daylight integral (dli) control system incorporating lumen maintenance
WO 2019203661	CFLOW FISH HANDLING AS	C-fish – fish welfare control
WO 2019172536	REPUTER CO LTD	Plant cultivation system for generating and providing growth recipe
WO 2019180623	HALTER USA INC	Apparatus and method for controlling animal positions
WO 2019198072	MANNA IRRIGATION LTD	Crop coefficients and use thereof for irrigation guidance
WO 2019200078	PAKSENSE INC	Systems and methods for environmental monitoring of supply chains
WO 2019208608	NILEWORKS INC	System, method, and computer program for failure detection
WO 2019208606	NILEWORKS INC	System, method, and computer program for controlling ejection of chemicals
WO 2019213652	AGNETIX INC	Methods, apparatus, and systems for lighting and distributed sensing in controlled agricultural environments
WO 2019215582	WEEDOUT LTD	Methods and systems for weed control
WO 2019225313	NTT DOCOMO INC	Monitoring device and program
WO 2019203695	TSIGVINTSEV ILYA VYACHESLAVOVICH	Device for cultivating plants
WO 2019208538	NTT DOCOMO INC	Information processing device
WO 2019208116	KYOCERA CORP	Fishing tool, information-sharing system, and information-sharing method
WO 2019171144	GHIDAR YASAMIN	Smart portable pot system to maintain houseplants
WO 2019188848	NATIONAL UNIV CORPORATION EHIME UNIV	Photosynthesis rate measurement system
WO 2019211853	SUPLANT LTD	Systems and methods for applying an agricultural practice to a target agricultural field
WO 2019225990	JJ&GOOGOL HOLDINGS CO LTD	Integrated management platform for artificial seedling and raising of anguilla japonica
WO 2019191130	VALMONT INDUSTRIES	Irrigation system for applying applicant having a microbe concentration to enhance crop production
WO 2019191604	IUNU INC	Visual observer of unmanned aerial vehicle for monitoring horticultural grow operations
WO 2019202495	GROWPONICS GREENHOUSE TECH LTD	Greenhouse control system
WO 2019217568	CLIMATE CORP	Analysis and presentation of agricultural data
WO 2019213261	PLANO MOLDING CO	Hand net yoke
WO 2019218058	LES CONSULTANTS PENTERACT INC	Sensing apparatus for monitoring a substance in a storage building
WO 2019185965	CONSEJO SUPERIOR DE INVESTIG CIENTIFICAS	Device and method for monitoring activity in fish
WO 2019194993	RAIN BIRD CORP	Irrigation flow sensor systems and methods of controlling irrigation
WO 2019222378	DRAKE RYAN JOSEPH	Pest control device mounting system

WO 2019199913	JVD INC	Medicine delivery and animal management systems
WO 2019178696	10691976 CANADA LTD	Crop growth system including a seeder and associated harvester
WO 2019173861	SMARTVET PTY LTD	Smart delivery treatment apparatus for remote treatment of an animal
WO 2019178222	PROTECT ANIMALS WITH SATELLITES LLC	Corrective collar utilizing geolocation technology
WO 2019211637	DOEMOECSOEK BELA	Bee-movement regulation device for beehives
WO 2019237200	PAIGE GROWTH TECH INC	Precision agriculture system and related methods
WO 2019194728	DELAVAL HOLDING AB	A cooling system for cooling dairy animals
WO 2019201749	SIGNIFY HOLDING BV	Home horticulture system
WO 2019185434	BAYER AG	Apparatus for weed control
WO 2019203923	SONY CORP	Tag with detachment detection feature

[...ver más](#)

REDES DE SENSORES PARA ENTORNOS URBANOS O PÚBLICOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2019215392	TEKNOLOGIAN TUTKIMUSKESKUS VTT OY	Particle sensor
WO 2019215454	RADIO PHYSICS SOLUTIONS LTD	Improvements in or relating to threat classification
WO 2019200477	GOVERNING COUNCIL UNIV TORONTO	Method and system for multimodal deep traffic signal control
WO 2019231888	NIKE INNOVATE CV	Intelligent electronic footwear and control logic for automated infrastructure-based pedestrian tracking
WO 2019195329	DU SHUYONG PAUL	An intelligent data acquisition system and method for pipelines
WO 2019218989	HUAWEI TECH CO LTD	Multi-station cooperation-based data transmission method and device
WO 2019172551	LG INNOTEK CO LTD	Lighting control apparatus
WO 2019174925	SENSIRION AG	Sensor module
WO 2019184285	XIAN ZHONGXING NEW SOFTWARE CO LTD	Communication apparatus, node connection method, storage medium, and electronic device
WO 2019210319	CUBIC CORP	Broadcasting details of objects at an intersection
WO 2019226376	MICROSOFT TECHNOLOGY LICENSING LLC	Precision mapping using autonomous devices
WO 2019204620	FUNG A WING DEAN RUIZ	Wireless water control system
WO 2019224545	VORTEX IOT LTD	A system for detecting air pollution
WO 2019173381	APPLIED PARTICLE TECH INC	Wireless exposure monitor
WO 2019229023	KONINKLIJKE PHILIPS NV	System and method for configuring air flow in an air mask
WO 2019178502	LALOS DIMITRIOS	Multi-purpose smart tower
WO 2019193583	BLADES RUSSELL	Methods, systems, apparatuses and devices for facilitating provisioning of audit data related to energy consumption, water consumption, water quality, greenhouse gas emissions, and air emissions using blockchain

[...ver más](#)

REDES DE SENSORES PARA DETECTAR INCENDIOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2019203900	WHELEN ENG COMPANY INC	Systems and methods for remote management of emergency equipment and personnel
WO 2019240648	SCANIA CV AB	Method and control unit for integrating a chassis system with a fire suppression system and other systems in a vehicle
WO 2019197821	FREEMAN KENNETH	Fire-safety device and system
WO 2019202053	KONINKLIJKE PHILIPS NV	A system for emergency safety warning and risk mitigation
WO 2019206894	DUBLIN CITY UNIV	A navigation device and a navigation communication system
WO 2019217792	CARRIER CORP	Surface plasmon resonance gas detection system
WO 2019225894	SIGMALAB CO LTD	Fire detection device having emergency exit lighting function, and fire detection system using same
WO 2019236764	GOOGLE LLC	Confidence-based application-specific user interactions
WO 2019218086	PIONEERING TECH CORP	Temperature modulation in a cooking apparatus
WO 2019234978	HOCHIKI CO	Sensor
WO 2019230153	PANASONIC IP MAN CO LTD	Abnormality alarm device
WO 2019236120	GOOGLE LLC	Systems and methods of ultrasonic sensing in smart devices
WO 2019221312	YERAM CO LTD	Fire management system having fire information providing function including lifesaving information and method thereof
WO 2019231466	JOHNSON CONTROLS TECH CO	Enterprise platform for enhancing operational performance
WO 2019234375	ELECTRONIC MODULAR SERVICES LTD	Verification of a beacon or strobe in a vad
WO 2019228617	AUTRONICA FIRE & SECURITY AS	Testing of a network of hazard warning devices
WO 2019226354	CARRIER CORP	Method for auto configuring wireless sensors in diy security systems
WO 2019189128	HOCHIKI CO	Fire detection device
WO 2019213439	BLOKABLE INC	Modular housing and related systems and manufacture
WO 2019226531	TYCO FIRE PRODUCTS LP	Systems and methods of real-time electronic fire sprinkler location and activation
WO 2019204581	WALMART APOLLO LLC	A security system for an automated locker that stores and dispenses customer orders
WO 2019199044	IDGATE CO LTD	Door opening notification and door handle/panic bar position indication device
WO 2019210198	MAIDBOT INC	Automated robot alert system
WO 2019219583	MINIMAX GMBH & CO KG	Fire protection robot, system comprising the fire protection robot, and method for using the same
WO 2019220313	ASHWIN TERRENCE KEITH	A controller unit having a wifi authentication sensor for detecting smoke and fire and activating emergency notification apparatus
WO 2019183182	DAY MICHAEL JOSEPH	Security system
WO 2019182953	ECKERT PAUL L	Event indicator system
WO 2019209656	WALMART APOLLO LLC	System and method for an automated kiosk which responds to natural disasters
WO 2019186527	AURA SMART AIR LTD	An air quality management device, an air quality control system, and a method for controlling air quality
WO 2019226782	BAYER CROPSCIENCE LP	System and method for vegetation management risk assessment and resolution
WO 2019224116	TYCO FIRE & SECURITY GMBH	Fire alarm system integration

[..ver más](#)

OTRAS REFERENCIAS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2019239456	MITSUBISHI ELECTRIC CORP	Environment information management system, environment information management method, and environment information management program
WO 2019246497	VIEW INC	Sensing and communications unit for optically switchable window systems
WO 2019191146	FLIR SYSTEMS	People counting and tracking systems and methods
WO 2019240220	SUMITOMO ELECTRIC INDUSTRIES	Wireless sensor system, wireless terminal device, communication control method and communication control program
WO 2019186113	HEVASURE LTD	Monitoring a closed water system
WO 2019192869	SIGNIFY HOLDING BV	System and methods for augmenting voice commands using connected lighting systems
WO 2019231435	ERICSSON TELEFON AB L M	SYSTEMS AND METHODS FOR INVESTIGATING AND ADDRESSING BATTERY LIFE DEGRADATION OF DEVICES, SUCH AS IOT DEVICES, IN A CELLULAR COMMUNICATIONS NETWORK
WO 2019234101	FRAUNHOFER GES FORSCHUNG	Electromechanical transmission device, systems having an electromechanical transmission device, and method for transmitting information
WO 2019234222	PGS GEOPHYSICAL AS	Linear array of piezoelectric transducers for towed marine streamers
WO 2019190834	SAUDI ARABIAN OIL CO	Intelligent distributed industrial facility safety system
WO 2019193108	AMBISENSE LTD	Adaptive sensing system for ambient ground-gas concentration with a multiplexor and flow-rate measurement
WO 2019195530	BENTLY NEVADA LLC	Monitoring system with serial data lane transmission network
WO 2019217806	CONVIDA WIRELESS LLC	Server in internet-of-things communication path
WO 2019217880	CONVIDA WIRELESS LLC	Beam failure recovery in new radio unlicensed spectrum
WO 2019203341	NOVARS INC	Sensor device and battery device
WO 2019231833	QUALCOMM INC	Techniques for selecting rsma spreading code for periodic traffic in internet-of-everything devices
WO 2019232609	UNIV ALBERTA	Apparatus and methods for radiofrequency sensing
WO 2019224256	EUPRY	System for monitoring an environment
WO 2019233595	ERICSSON TELEFON AB L M	A method and system for media content production
WO 2019195498	BENTLY NEVADA LLC	Flexible and scalable monitoring systems for industrial machines
WO 2019239156	SAFETYNET TECH	Subsea light emission
WO 2019169601	DONG XUEZHANG	Smart home monitoring system and smart home monitoring device
WO 2019176710	KURITA WATER IND LTD	Unmanned mobile unit and patrolling check system
WO 2019213547	BLUSTREAM CORP	Product care lifecycle management
WO 2019217540	STOLLE MACHINERY CO LLC	Factory management and monitoring systems and methods
WO 2019215473	OLYMPUS CORP	Multisensor data fusion systems and methods
WO 2019216975	STRONG FORCE IOT PORTFOLIO 2016 LLC	Methods and systems for data collection, learning, and streaming of machine signals for analytics and maintenance using the industrial internet of things
WO 2019232769	ZHIHENG TECH CO LTD	Metering meter collector
WO 2019236129	HALLIBURTON ENERGY SERVICES INC	Virtual job control
WO 2019236211	BALL AEROSPACE & TECH CORP	Methods and systems for remote emission detection and rate determination

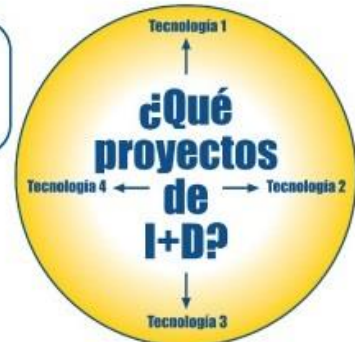
WO 2019205397	INNOVATION SOUND TECH CO LTD	Environment-monitoring earphones
WO 2019222695	UNIV CALIFORNIA	Crystal-free wireless devices
WO 20192227048	PAKSENSE INC	Flexible sensor label system
WO 2019175966	MITSUBISHI ELECTRIC CORP	Wireless sensor device, wireless relay device and wireless sensor system
WO 20192221479	SAMSUNG ELECTRONICS CO LTD	Air conditioner and control method thereof
WO 20192221683	SISKON ENDUSTRIYEL OTOMASYON SISTEMLERI SANAYI VE TICARET ANONIM SIRKETI	A data acquisition system
WO 2019195490	AEGEX TECH LLC	Intrinsically safe modular sensor devices and systems for use in hazardous locations
WO 2019207849	ROHM CO LTD	Power source circuit, sensor node, and sensor network
WO 2019205164	SZ DJI TECHNOLOGY CO LTD	Light detection and ranging sensors with optics and solid-state detectors, and associated systems and methods
WO 2019217204	CURRENT LIGHTING SOLUTIONS LLC	Distributed occupancy detection system and method
WO 2019199967	NEURALA INC	Systems and methods for gamification of drone behavior using artificial intelligence
WO 2019178149	GOMEZ FRANK	Internet of things distribution system and method of implementing the same
WO 2019189960	KOREA RAILROAD RES INSTITUTE	Energy harvester and engine monitoring system using same
WO 2019190396	AGENCY SCIENCE TECH & RES	Sensor for detecting surface defects in an object and system thereof
WO 2019204222	NIKOLA LABS	Systems and methods for machine condition monitoring
WO 2019232144	QUALCOMM INC	Techniques for sharing of sensor information
WO 2019195509	BENTLEY NEVADA LLC	Gated asynchronous multipoint network interface monitoring system
WO 2019171363	SYMBIOSIS INTERNATIONAL DEEMED UNIV	A system and a method for detection and classification of gasses
WO 2019222280	SCIENT ENVIRONMENTAL DESIGN INC	Task ambient hvac system for distributed space conditioning
WO 2019207301	UNIV BRISTOL	Multi-frequency wireless sensor
WO 2019191011	BAY WEST VETERINARY SURGERY INC	Quadruped lameness detection
WO 2019210176	GRAHAM CLINTON	Bottle popper with pivoting handle
WO 2019239456	MITSUBISHI ELECTRIC CORP	Environment information management system, environment information management method, and environment information management program
WO 2019246497	VIEW INC	Sensing and communications unit for optically switchable window systems

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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.

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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.

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