

Boletín VT

REDES DE SENSORES INALÁMBRICAS

39

3.^{er} 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

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2019111527	KONICA MINOLTA INC	Fertilization designing method and fertilization designing device
WO 2019113667	ASSY JOSE ROBERTO DO AMARAL	"Sensing system for agricultural tool, rotation sensing method used in agricultural tool, inclination sensing method used in agricultural tool and vibration sensing method used in agricultural tool
WO 2019125288	DELAVAL HOLDING AB	Measurement system for a rotary milking parlor, method, computer program for controlling a rotary milking parlor and non-volatile data carrier containing the computer program
WO 2019125287	DELAVAL HOLDING AB	Control system, rotary milking parlor, method and computer program for controlling a rotary milking parlor
WO 2019168042	NILEWORKS INC	Drone, control method thereof, and program
WO 2019116373	MORE GROFIT AGTECH LTD	Hanging monitoring device for agriculture
WO 2019121097	BASF SE	Apparatus for determining agricultural relevant information
WO 2019133575	DCENTRALIZED SYSTEMS LLC	Autonomous mobile platform with harvesting system and pest and weed suppression systems
WO 2019166986	SMART SOFT SOLUTIONS SPOLKA Z OGRANICZONA ODPOWIEDZIALNO SCIA	Device, method and system for monitoring of animal body temperature
WO 2019105283	SHENZHEN YI XIAN SHENG BIOLOGICAL TECH CO LTD	Freshness preservation box control system
WO 2019125112	SANCHEZ AROCHA OCTAVIO	Method for monitoring the behaviour and condition of animals in real time based on inertial tag measurement
WO 2019125807	BASF CORP	Autonomous vehicle for the detection and control of plant diseases
WO 2019133973	OHIO STATE INNOVATION FOUNDATION	Crop health sensing system
WO 2019162192	OSRAM GMBH	Controlled agricultural system and method for agriculture
WO 2019120288	ASPARA LTD	An apparatus, a system, a method and a light control device for facilitating hydroponic cultivation
WO 2019124828	ECONNBIZ CO LTD	Soil component analysis device and system
WO 2019133073	SWINETECH INC	Improving detection, prevention, and reaction in a warning system for animal farrowing operations
WO 2019167207	HONDA MOTOR CO LTD	Control device, work machine and program
WO 2019115534	FARM TECH S R L	Environment monitoring system, in particular for a watering system
WO 2019117008	CHIYODA CORP	Plant cultivation system and plant cultivation method
WO 2019117707	LELY PATENT NV	Dairy animal monitoring system with stress reduction means
WO 2019121887	INTERVET INT BV	System for external fish parasite monitoring in aquaculture

WO 2019125114	SANCHEZ AROCHA OCTAVIO	Wireless system and method for monitoring the health of feeder cattle by monitoring rumination in real time
WO 2019120954	KVERNELAND GROUP MECHATRONICS B V	A method for controlling a driving condition for a tractor of an agricultural machine and an agricultural machine
WO 2019130147	EXOTIC SYSTEMS	Method for diagnosing and monitoring a target element of a farm
WO 2019133103	TIONESTA LLC	Method and system for monitoring an object using a hub-cloud platform
WO 2019136095	INTELLIGENT AGRICULTURAL SOLUTIONS LLC	Material flow monitoring system and method
WO 2019135235	SCIROOT LTD	Method for monitoring water status in a field
WO 2019169226	SPRINKL IO LLC	Remote wireless moisture sensors for irrigation
WO 2019117837	ARCELIK AS	A plant growing cabinet
WO 2019123438	SMO BVBA	System for sorting plants
WO 2019133282	X DEV LLC	Capture of ground truthed labels of plant traits method and system
WO 2019137604	BOSCH GMBH ROBERT	Sensor node, monitoring system, methods of forming the same and monitoring
WO 2019154493	SELEGGT GMBH	Method for sampling an egg
WO 2019167608	SONY SEMICONDUCTOR SOLUTIONS CORP	Sensor element and electronic device
WO 2019118453	TEXAS A & M UNIV SYS	Agricultural sensor placement and fault detection in wireless sensor networks
WO 2019122486	MARICHAL JOSE	System and method for identifying, feeding and handling animals, in particular dairy cattle
WO 2019140462	ALYSON MYERS	Sustainable macroalgae production at large scale
WO 2019157521	GRAHAM EQUIPMENT LLC	A precision planting system for controlling seed depth
WO 2019130953	BOSCH CORP	Information processing device and information processing method
WO 2019158610	NORWEGIAN UNIV OF LIFE SCIENCES	Device for picking fruit
WO 2019133273	RAIN BIRD CORP	Weather override irrigation control systems and methods
WO 2019120423	ANTICIMEX INNOVATION CENTER AS	An insect trap and an insect control device
WO 2019135282	LISTENFIELD CO LTD	Analysis data pipelining system from environment sensing data acquisition to advanced analysis
WO 2019155392	LABORATORI FABRICI S R L	Air purifier
WO 2019132803	AKDOGAN CEVDET	Health monitoring and tracking system for animals
WO 2019148993	BOE TECHNOLOGY GROUP CO LTD	Intelligent culturing apparatus, method and system
WO 2019145895	THE STATE OF ISRAEL MINISTRY OF AGRICULTURE & RURAL DEVELOPMENT AGRICULTURAL RES ORGANIZATION	Method and system for estimating crop coefficient and evapotranspiration of crops based on remote sensing
WO 2019157598	9282181 CANADA INC	System and method for growing plants and monitoring growth of plants
WO 2019160645	EQUUS GLOBAL HOLDINGS LLC	Mobile animal surveillance and distress monitoring
WO 2019161397	MOVMENT LLC	Ruminal bolus for tracking bovines
WO 2019168855	TELESENSE INC	Method and apparatus for remote monitoring and management of storage using machine learning and data analytics
WO 2019111527	KONICA MINOLTA INC	Fertilization designing method and fertilization designing device
WO 2019113667	ASSY JOSE ROBERTO DO AMARAL	"Sensing system for agricultural tool, rotation sensing method used in agricultural tool, inclination sensing method used in agricultural tool and vibration sensing method used in agricultural tool

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WO 2019168042	NILEWORKS INC	Drone, control method thereof, and program

[...ver más](#)

REDES DE SENSORES PARA ENTORNOS URBANOS O PÚBLICOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2019115290	SIGNIFY HOLDING BV	Free space optics on stationary fixtures prone to movement
WO 2019126707	CLIMACELL INC	Improved real-time weather forecasting system
WO 2019130181	UNIV RAMOT	Real-time array-based seismic source location
WO 2019114962	ABL SOCIAL FEDERATION GMBH	Location analytics techniques
WO 2019136480	UBICQUIA LLC	Light pole wireless networking device
WO 2019118116	COMMSCOPE TECHNOLOGIES LLC	Small cell base stations with strand-mounted antennas
WO 2019134989	CONTINENTAL AUTOMOTIVE GMBH	Method and system of mapping emissions
WO 2019136488	UBICQUIA LLC	Distributed computing environment via a plurality of regularly spaced, aerially mounted wireless smart sensor networking devices
WO 2019130005	BULL SAS	System and method for maintenance management during a mass gathering
WO 2019136474	UBICQUIA LLC	Last known state across a plurality of dispersed geographic sensors synchronized to a common clock
WO 2019161555	ERICSSON TELEFON AB L M	Methods and peer node in an emergency event broadcasting system
WO 2019130302	PSI ECOLOGY LTD	Autonomous status monitoring system for garbage bins and method of operation
WO 2019141970	THE COURT OF EDINBURGH NAPIER UNIV	Routing mechanisms for low-power and lossy networks
WO 2019152041	RELIANCE WORLDWIDE CORP	Sensor mount
WO 2019142100	GAS MEASUREMENT INSTR LTD	Remote monitoring gas detection system
WO 2019136481	UBICQUIA LLC	Failure modeling and management of an aerial light fixture
WO 2019164807	VENIAM INC	Systems and methods for real-time handling and processing of data in a network of moving things
WO 2019154779	AIRLABS BV	Ozone and/or nitrogen dioxide sensing apparatus
WO 2019159103	TYCO FIRE & SECURITY GMBH	Gunshot detection system with ambient noise modeling and monitoring
WO 2019157229	CITYLIFT PARKING LLC	Vehicle lift and storage system utilizing a multi-axis accelerometer
WO 2019147941	EDST LLC	Modular intelligent door and frame
WO 2019106379	CNIGUARD LTD	Monitor for underground infrastructure

[...ver más](#)

REDES DE SENSORES PARA DETECTAR INCENDIOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2019119327	QIU HAIYAN	Wireless smoke detector
WO 2019136327	FIREBOY XINTEX LLC	Dynamic fire suppression system and method thereof
WO 2019115873	OY ARBONAUT LTD	A method to quantify fire risk to structures
WO 2019172490	ESE CO LTD	Control server and method for controlling server control
WO 2019147576	TYCO FIRE PRODUCTS LP	System and method for monitoring differential pressure across a dry pipe valve in a fire suppression system
WO 2019147500	TYCO FIRE PRODUCTS LP	System and method for monitoring and controlling a fire suppression system
WO 2019162011	FIREFLY AB	Monitoring of particle temperature trends
WO 2019137930	MINIMAX VIKING RES & DEVELOPMENT GMBH	Extinguishing robot
WO 2019143890	ENG CORROSION SOLUTIONS LLC	Adjustable inert gas generation assembly for water-based fire protection systems
WO 2019117321	JI YONGHWA	Laboratory safety management monitoring system
WO 2019143888	ENG CORROSION SOLUTIONS LLC	Systems and methods for determining a volume of a pipe network
WO 2019164804	ECOTEL INC	System and method for multi-zone climate control
WO 2019147570	TYCO FIRE PRODUCTS LP	Systems and methods of monitoring temperature in a fire suppression system
WO 2019158647	SAFETEMP AS	A temperature-triggered alarm arrangement
WO 2019136177	NANOMIST FIRE SAFETY LLC	Method and device for fire protection by a hybrid composition of mist and inert gas
WO 2019147502	TYCO FIRE PRODUCTS LP	Device and method for monitoring corrosion in a pipe of a fire sprinkler system
WO 2019152394	SPARTAN MOTORS INC	Multi-stance aerial device control and display
WO 2019161088	SOUTHERN CALIFORNIA EDISON COMPANY	Power pole system

[..ver más](#)

OTRAS REFERENCIAS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2019132074	UNOMIC CO LTD	Dc power conversion module for sensor node using neodymium magnet
WO 2019132112	APROS CO LTD	System for monitoring abnormal states of facilities to be managed
WO 2019136232	OREAL	Grooming instrument configured to monitor hair loss
WO 2019163966	NEC CORP	Odor detection device, odor detection method, and computer-readable recording medium
WO 2019118956	PGS GEOPHYSICAL AS	Seismic pressure and acceleration measurement
WO 2019121538	INNOGY SE	Electrical plug having a temperature sensor
WO 2019132079	LG ELECTRONICS INC	Device for measuring fine dust and fine dust information utilization system comprising same
WO 2019114975	KHALIFA UNIV OF SCIENCE TECHNOLOGY AND RESEARCH	Methods and systems for controlling appliances
WO 2019129786	NAGRAVISION SA	Backward compatible secure data transmission method in a sensor network
WO 2019132073	UNOMIC CO LTD	System for remote control of production equipment and management method therefor
WO 2019169164	BEDELL JEFFREY A	Monitoring of pet status during unattended delivery
WO 2019168778	SILVAIR SP Z O O	Commissioning mesh network-capable devices within a building automation and control system
WO 2019125809	BASF CORP	Device for turf treatment
WO 2019135017	ASOCIACION DE INVESTIG DE LAS INDUSTRIAS CERAMICAS A I C E	System and method for controlling the production of a ceramic element
WO 2019110696	WEBASTO SE	Distributed sensor system for sensing body parts and persons within the hazard zones of a convertible top
WO 2019113961	NANTONG KUASUYI ELECTRONIC COMMERCE SERVICE CO LTD	Real-time monitoring system for logistics box based on internet of things
WO 2019130255	TECNOVA GROUP S R L	Multi-sensor device for monitoring environment and system comprising the device
WO 2019136181	LYTEN INC	Resonant gas sensor
WO 2019117039	CANON KK	Reducing gas sensor
WO 2019141553	BOSCH GMBH ROBERT	System and method for privacy-preserving data retrieval for connected power tools
WO 2019147965	LINEVISION INC	System and method for power transmission line monitoring
WO 2019160668	SIEMENS HEALTHCARE DIAGNOSTICS INC	Data router-mediated publisher/subscriber transmission architecture apparatus and methods
WO 2019165510	RELIANCE WORLDWIDE CORP AUST PTY LTD	A monitoring system
WO 2019123832	SONY CORP	Terminal management device and terminal device
WO 2019143988	DRI STEEM CORP	Humidifier with automatic drain interval determination
WO 2019147229	SIEMENS ENERGY INC	Wide-bandgap integrated circuitry for wireless telemetry in a high-temperature environment of turbomachinery
WO 2019152832	SENSOR DEV CORPORATION	Device for detecting insect larvae and adult insects in stored products by sensing their volatile pheromones and semiochemicals
WO 2019152031	OLYMPUS COMMUNICATION TECH OF AMERICA INC	Systems and methods for wireless monitoring
WO 2019155222	FLOODFLASH LTD	Device and method for sensing the level of naturally-occurring water, and method for installation of such a device

WO 2019156976	BLACKBERRY LTD	Sensor provisioning in wireless sensor networks
WO 2019155354	COGNITIVE SYSTEMS PTY LTD	Complex adaptive system
WO 2019164742	GENSCAPE INTANGIBLE HOLDING INC	Method and system for estimating an operating state of a facility via imaging of electromagnetic radiation
WO 2019164915	UOP LLC	Developing linear process models using reactor kinetic equations
WO 2019131486	ROHM CO LTD	Signal processing device, wireless sensor network system, and signal processing method
WO 2019143889	BOSCH GMBH ROBERT	System and method for optimizing energy use of a structure using a clustering-based rule-mining approach
WO 2019157514	UNIV MARYLAND	Occupant monitoring method and system for building energy management
WO 2019116212	FEELIT TECH LTD	Sensing using nanoparticle based strain sensors
WO 2019158433	ATMOSAFE BVBA	Method and system to release a confined stowage unit for unloading or inspection
WO 2019158974	SHARMA PRATIK	Data communication in a network of sensors
WO 2019115173	COMMISSARIAT ENERGIE ATOMIQUE	Device and process for checking sensors that permit the detection of intrusions into a network
WO 2019135830	ALL PURPOSE NETWORKS INC	Internet of things system with efficient and secure communications network
WO 2019143549	OSRAM GMBH	Methods and devices for activity monitoring in spaces utilizing an array of motion sensors
WO 2019150118	DRAEGER SAFETY UK LTD	Portable monitoring unit
WO 2019163329	FUJIFILM CORP	Image processing device and image processing method
WO 2019151684	SAMSUNG ELECTRONICS CO LTD	Air cleaning system and method for controlling the same
WO 2019140464	COONER JASON RYAN	Internet of things devices for use with an encryption service
WO 2019142404	SONY CORP	Sensing device, apparatus for recovering same and apparatus for destroying same
WO 2019157469	BHATTACHARYYA SAMPRITI	Wireless network systems and related methods for marine applications
WO 2019152587	HALO MARITIME DEFENSE SYSTEMS INC	Presence-based automatic gate operation for marine barriers and gate systems
WO 2019157621	ABB SCHWEIZ AG	Busbar joint, system for measuring temperature of busbar joints and internet of things system
WO 2019157079	ADROIT WORLDWIDE MEDIA INC	Automated inventory intelligence systems and methods
WO 2019157622	ABB SCHWEIZ AG	Wireless sensing system and method for switchgear
WO 2019155732	DAINIPPON INK & CHEMICALS	Wireless sensor device and wireless sensor device kit
WO 2019161293	WEBASTO CHARGING SYSTEMS INC	Methods and systems for managing warehouse information utilizing fleet vehicle data
WO 2019157602	VENNE JEAN SIMON	Systems and methods of optimizing hvac control in a building or network of buildings
WO 2019152591	HYDROACOUSTIC INC	Fluid sensor and pumpjack control system
WO 2019132074	UNOMIC CO LTD	Dc power conversion module for sensor node using neodymium magnet
WO 2019132112	APROS CO LTD	System for monitoring abnormal states of facilities to be managed

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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.



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



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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