

Boletín VT

REDES DE SENSORES INALÁMBRICAS

44

4.º trimestre 2020

Vigilancia Tecnológica

Desde su aparición, los campos de aplicación de las redes de sensores inalámbricas 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 2020198727 A1	GROGURU INC	Location determination for subsurface communication device
WO 2020212994 A1	GROWEE TECH LTD	Methods and systems for controlled soil-less plant growing
WO 2020188735 A1	MITSUBISHI ELECTRIC BUILDING TECHNO SERVICE CO LTD	Bovine monitoring system
WO 2020205484 A1	SMARTRAC TECH FLETCHER INC	Digital twin system with energy harvesting sensor devices
WO 2020190952 A1	CLIMATE CORP	System and method for automatic control of exposure time in an imaging instrument
WO 2020193826 A1	BELLOTA AGRISOLUTIONS S L	Method and system for determining the mechanical state of an agricultural field
WO 2020202660 A1	PANASONIC CORP	Cultivation control system, cultivation control device, cultivation control method, and cultivation control program
WO 2020210739 A1	HIVETECH SOLUTIONS LLC	Mobile indoor controlled apiary system
WO 2020234548 A1	INST NAT DE LA RECH AGRONOMIQUE INRA	Connected beehive for remotely monitoring the state of health of a bee colony
WO 2020237204 A1	UNIV LELAND STANFORD JUNIOR	Voltammetric sensor platforms, systems, methods, and structures
WO 2020201214 A1	NATUFIA LABS PLC	Intelligent plant growth system and method
WO 2020204716 A1	LOMASGROW HOLDING B V	Thermal image analyser for crops
WO 2020210775 A1	ROPER SOLUTIONS INC	Solar-powered remote monitoring tag system for animals
WO 2020217160 A1	UNIV KING ABDULLAH SCI & TECH	Signal processing algorithm for detecting red palm weevils using optical fiber
WO 2020188560 A1	EROLL GROW TECH LTD	Autonomous plant growing system
WO 2020208582 A1	UNIV KING ABDULLAH SCI & TECH	System and device for monitoring marine animals
WO 2020216421 A1	SENSORAPS	An apparatus, a rat bait box and method for detecting, monitoring and/or controlling of rat activity
WO 2020223814 A1	UNIV OF PRINCE EDWARD ISLAND	Portable field testing apparatus and method
WO 2020234296 A1	BASF AGRO TRADEMARKS GMBH	Method for plantation treatment based on image recognition
WO 2020201680 A1	SONY CORP	Data processing apparatus, sensor and methods
WO 2020229978 A1	BIRD CONTROL GROUP BV	Modular device and system for deterring birds
WO 2020205177 A1	VALMONT INDUSTRIES	System and method for latching solenoid activation detection for vri and other irrigation uses
WO 2020223824 A1	UNIV GUELPH	Water treatment

WO 2020231934 A1	GREAT PLAINS MFG INC	Vision sensors for agricultural implements and processes
WO 2020193372 A1	ANULAND LTD	An above and below ground autonomous sensor system for crop management
WO 2020198391 A1	REALMFIVE INC	Smart irrigation system
WO 2020197392 A1	LELY PATENT NV	Method for milking dairy animals and for manufacturing of cheese or rennet free dairy product out of the obtained milk and milking machine for milking of dairy animals coupled to a production line for manufacturing cheese or rennet free dairy product
WO 2020205536 A1	ELECTRONIC THEATRE CONTROLS INC	Systems devices, and methods for displaying operational parameters of a light fixture including narrow band emitters
WO 2020212577 A1	UNIV GENEVE	System and method for detecting the presence of spores in fields
WO 2020235282 A1	KANEKA CORP	Dimming system, information processing device, and computer program
WO 2020194201 A1	DUMITRESCU MARGARETA	Automatic system for collection and disposal of animal droppings
WO 2020206089 A1	DOW AGROSCIENCES LLC	Adaptive active infrared sensor hardware and software in the detection of pests with pest detection station
WO 2020252295 A1	CNH IND AMERICA LLC	Apparatus and method for monitoring grain content within a tailings system of an agricultural harvester
WO 2020263163 A1	DEEP FORESTRY AB	A method for preparing for harvesting of forest using an unmanned vehicle and un-manned vehicle and system using said method
WO 2020212536 A1	E SANA	Floating gate transistor for sensing applications
WO 2020214699 A1	SPORTS DATA LABS INC	Animal data prediction system
WO 2020231251 A1	LELY PATENT NV	Ruminant animal monitoring system
WO 2020240335 A1	ROMANOVA ANASTASIIA ROMANIVNA	Mosquito monitoring and counting system
WO 2020239771 A1	AGCO INT GMBH	Agricultural sprayer control system
WO 2020243450 A1	INTELLIGENT AGRICULTURAL SOLUTIONS LLC	Nozzle fault detection
WO 2020251224 A1	HWANGTOWON LAB INC	Participatory fish farm system
WO 2020239520 A1	AMAZONEN WERKE DREYER H	Open-loop and/or closed-loop control system for an agricultural implement
WO 2020239773 A1	AGCO INT GMBH	Agricultural sprayer control system
WO 2020240301 A1	PREC PLANTING LLC	Methods and systems for using duty cycle of sensors to determine seed or particle flow rate
WO 2020241937 A1	GWANGJU INST SCIENCE & TECH	System and method for measuring cultured fish
WO 2020198727 A1	GROGURU INC	Location determination for subsurface communication device
WO 2020212994 A1	GROWEE TECH LTD	Methods and systems for controlled soil-less plant growing
WO 2020188735 A1	MITSUBISHI ELECTRIC BUILDING TECHNO SERVICE CO LTD	Bovine monitoring system
WO 2020205484 A1	SMARTRAC TECH FLETCHER INC	Digital twin system with energy harvesting sensor devices
WO 2020190952 A1	CLIMATE CORP	System and method for automatic control of exposure time in an imaging instrument

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REDES DE SENSORES PARA ENTORNOS URBANOS O PÚBLICOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2020251890 A1	SECURITY SERVICES NORTHWEST INC	Mobile device case and method of detecting gun sounds using a mobile device case
WO 2020188557 A1	HOOPO SYSTEMS LTD	Device and method for geo-location
WO 2020229270 A1	LED 5V S L	Device and lighting system, data storage and processing system, method of information collection from the environment and associated use
WO 2020219157 A1	UNIV PRINCETON	System and method for security in internet-of-things and cyber-physical systems based on machine learning
WO 2020224903 A1	ZAHNRADFABRIK FRIEDRICHSHAFEN	Device and system for measuring the sound volumes of noises of a road vehicle in road traffic
WO 2020206386 A1	NEC LAB AMERICA INC	Distributed optical fiber sensing for smart city applications
WO 2020231752 A1	ACLIMA INC	Integration and active flow control for environmental sensors
WO 2020185113 A1	SIEMENS AG	Method and device for operating a distribution network
WO 2020248265 A1	HU YONGSHENG	Smart internet-of-things data encoding system
WO 2020248274 A1	HU YONGSHENG	Smart internet of things information acquisition and transmission system
WO 2020229993 A1	TSE MAU KAY	Load monitoring methods, systems and apparatus
WO 2020245835 A1	ERICSSON TELEFON AB L M	Allocation of fog node resources
WO 2020247982 A1	ORBIS INTELLIGENT SYSTEMS INC	Detection devices
WO 2020240085 A1	KARSA OY	Tracing method, system and a system element

[...ver más](#)

REDES DE SENSORES PARA DETECTAR INCENDIOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2020251343 A1	GONZALEZ SANTOS LUIS GERARDO	Christmas decorations for the control of possible fires in christmas trees
WO 2020184546 A1	NIPPON DRY CHEMICAL CO LTD	Fire extinguisher and vehicle equipped with same
WO 2020225586 A1	TENET S R L	Signalling device for extinguishers and/or hydrants
WO 2020227655 A1	TYCO FIRE PRODUCTS LP	Systems and methods of dynamic low air alarms for differential type fire protection valves
WO 2020249963 A1	INSURE FIRETEC LTD	A method and system for a connected fire doorset system
WO 2020234826 A1	TYCO FIRE PRODUCTS LP	Fire detection system with a learning mode
WO 2020219986 A1	LINDSEY FIRESENSE LLC	Electrical power line mounted fire warning system
WO 2020202838 A1	HOCHIKI CO	Fire alarm equipment
WO 2020187775 A1	FIREFLY AB	Flame detecting arrangement
WO 2020208605 A1	TYCO FIRE PRODUCTS LP	Variable flow suppression system
WO 2020197418 A1	MOTOROLA SOLUTIONS INC	Coordinating task zones at a public safety incident scene
WO 2020207663 A1	BOSCH GMBH ROBERT	Alarm detector, alarm detector network and method for constructing an alarm detector network
WO 2020217174 A1	TYCO FIRE PRODUCTS LP	Integrated fire fighting fluid supply mechanism and methods thereof
WO 2020234734 A1	TYCO FIRE PRODUCTS LP	Systems and methods of fire suppression system configuration
WO 2020251503 A2	ARCELIK AS	A method of predicting and detecting a fire in a domestic appliance and a domestic appliance
WO 2020234827 A1	TYCO FIRE PRODUCTS LP	Fire detection system with multiple stage alarms
WO 2020219000 A2	ECIR OMER	Automatic circuit breaker switching system
WO 2020207649 A2	COWHILL STUDIO BV VOF	An elderly care and security system
WO 2020245725 A1	TYCO FIRE PRODUCTS LP	Systems and methods for electronically controlling discharge nozzles
WO 2020240267 A1	TYCO FIRE PRODUCTS LP	Sensor units for use with fire suppression systems
WO 2020245944 A1	YASHIMA DENGYO CO LTD	Self-propelled probe robot
WO 2020242810 A1	SIEMENS INDUSTRY INC	System and method to improve emergency response time
WO 2020240383 A1	TYCO FIRE PRODUCTS LP	Systems and methods for using optical sensors in fire suppression systems
WO 2020239898 A1	MINIMAX VIKING RES & DEVELOPMENT GMBH	Light guiding arrangement, spark and/or flame detector and fire protection system

[..ver más](#)

OTRAS REFERENCIAS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2020184448 A1	OMRON TATEISI ELECTRONICS CO	Flow rate measurement device
WO 2020182900 A1	SIGNIFY HOLDING BV	Using light fixtures for disinfection
WO 2020212744 A1	UNIV KING ABDULLAH SCI & TECH	Multimode excitation resonant gas sensor and method
WO 2020222659 A1	GALLAGHER GROUP LTD	Security systems and methods of operation
WO 2020236238 A1	ANDURIL IND INC	Counter drone system
WO 2020198399 A1	UNIV TEXAS TECH SYSTEM	Home utility management system
WO 2020229821 A1	THE UNIV OF YORK	Sensor system and fluid flow pathway system therefor
WO 2020250238 A1	TIWANA EMAN PURNEET SINGH	Sensible refrigerator and air conditioner which changes direction according to micro climatic conditions in its vicinity
WO 2020257302 A1	ION GEOPHYSICAL CORP	Seismic source apparatus
WO 2020192937 A1	SIEMENS AG	Condition monitoring system and method
WO 2020222026 A1	ONE BIT MONITORING OUE	System and method for the environment monitoring by the means of generic network device
WO 2020237112 A1	MOLEX LLC	Systems and methods for placing networked sensors within a facility for fugitive emissions monitoring
WO 2020263167 A1	IOT TELLTALES AB	A device for determining bedbug activity and a method for detection of bedbugs
WO 2020190764 A1	IOT HOLDINGS INC	Relocation of sensor network nodes based on redundancy of sensor data
WO 2020197717 A1	GEN ELECTRIC	System and method for assessing and validating wind turbine and wind farm performance
WO 2020218568 A1	THK CO LTD	Processing device, method for collecting processed data, and data collection system
WO 2020264095 A1	COHESIONIB	IoT contextually-aware digital twin with enhanced discovery
WO 2020198533 A1	CELLMOBILITY INC	Gas sensor device based on metal oxide foam
WO 2020232468 A1	PENTAIR RESIDENTIAL FILTRATION LLC	Systems and methods for sensorless estimation of water softener salt level and regeneration cycling
WO 2020235745 A1	HONG JUN KI	Energy management system
WO 2020183189 A1	UNIV CRANFIELD	A modular sensor system
WO 2020188679 A1	HITACHI INT ELECTRIC INC	Communication system
WO 2020204916 A1	SIEMENS ENERGY INC	Data acquisition system including nodes and a hub
WO 2020202189 A1	BERT LABS PRIVATE LTD	Self-service artificial intelligence platform leveraging data-based and physics-based models for providing real-time controls and recommendations
WO 2020218179 A1	TAIYO YUDEN KK	Arithmetic device, arithmetic method, and gas detection system
WO 2020191312 A1	UAB RES FOUND	Sensing and integrating data of environmental conditions in animal research
WO 2020215161 A1	SHAWCOR LTD	Method and apparatus for pipeline monitoring
WO 2020220279 A1	LI XIUQIU	Smart building robot and community information publishing method
WO 2020223967 A1	LI XIUQIU	Active intelligent control method and system, and intelligent apparatus
WO 2020235768 A1	LG ELECTRONICS INC	Sensor assembly and control method therefor
WO 2020191334 A1	SKIN CIPHER	Sensor for physical structure monitoring
WO 2020193000 A1	AIR LIQUIDE	Method for detecting anomalies in a water treatment plant
WO 2020205215 A1	ROSEMOUNT INC	Self-contained calibration apparatus for gas sensor
WO 2020205214 A1	ROSEMOUNT INC	Remote wireless sensing apparatus
WO 2020182683 A1	STAZIONE ZOOLOGICA ANTON DOHRN	Device for detecting temperature profiles, and relative monitoring system

WO 2020229320 A1	SIGNIFY HOLDING BV	Real-time location of an object using multiple electrical devices
WO 2020190988 A1	GEORGIA TECH RES INST	Work zone alert system and method
WO 2020198801 A1	COLE COLIN	System and method for monitoring a plurality of vehicle or infrastructure components
WO 2020235421 A1	PANASONIC IP MAN CO LTD	Gas safety device
WO 2020223067 A1	CORNELL PUMP COMPANY	Remote equipment monitoring system
WO 2020235422 A1	PANASONIC IP MAN CO LTD	Gas safety device
WO 2020198872 A1	GHODS POURIA	Embedded sensor devices and methods
WO 202019260 A1	ECOLINK INTELLIGENT TECHNOLOGY INC	Power-saving sensor
WO 2020190389 A1	MICROSOFT TECHNOLOGY LICENSING LLC	Generation of digital twins of physical environments
WO 2020235423 A1	PANASONIC IP MAN CO LTD	Gas safety device and gas safety system
WO 2020212129 A1	SABIC GLOBAL TECHNOLOGIES BV	Sensor based on a polyolefin matrix and a sensing compound
WO 2020197019 A1	NURI TELECOM CO LTD	Routing method and device using heterogeneous communication schemes
WO 2020202181 A1	BERT LABS PRIVATE LTD	An improved low powered wireless sensor network that optimizes energy consumption in battery operated sensor nodes
WO 2020223776 A1	TREETECH SIST DIGITAIS LTDA	System, method and device for monitoring the sealing of electrical equipment and electrical equipment with monitored sealing
WO 2020206453 A1	SALDIN PAUL G	Integrated security system
WO 2020219367 A1	BACHARACH INC	Differential monitoring systems for carbon dioxide levels as well as methods of monitoring same
WO 2020219758 A1	UNIV CALIFORNIA	Gas sensors with negligible response to humidity and temperature
WO 2020240138 A1	COVARIANS	Device for collecting aerosols and/or particles and method for analysing air quality employing this device
WO 2020246944 A1	UNIV SINGAPORE TECHNOLOGY & DESIGN	Method and system for attack detection in a sensor network of a networked control system
WO 2020247128 A1	ACELOREX INC	Electronically readable colorimetric sensor
WO 2020246515 A1	SONAS INC	Communications system, communications method, and communications device
WO 2020237513 A1	SAPIENS ENVIRONMENTAL TECH CO LTD	Gas detection system that removes influence of ambient temperature or humidity change, and method for same
WO 2020240096 A1	PONSSE OYJ	Method and arrangement in the condition monitoring of gaps and leaks in the operating devices of a point-controlled set of booms in a work machine
WO 2020236121 A1	ARCELIK AS	A cooling appliance having an ethylene absorption system
WO 2020212973 A1	ORCA AI LTD	Marine data collection for marine artificial intelligence systems
WO 2020229850 A2	KATSIRI ELEFThERIA	Measuring device of atmospheric air components

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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.



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