

Boletín VT

REDES DE SENSORES INALÁMBRICAS

46

2.º trimestre 2021

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 2021099705 A1	MEROPY	Autonomous robot
WO 2021110452 A1	SIGNIFY HOLDING BV	Time-of-flight sensing for horticulture
WO 2021126484 A1	X DEV LLC	Edge-based crop yield prediction
WO 2021108522 A1	INARI AGRICULTURE INC	Portable field imaging of plant stomata
WO 2021113391 A1	ACADEMIA SINICA	Artificial intelligent system for managing a poultry house
WO 2021068176 A1	ANHUI ZHONGKE INTELLIGENT PERCEPTION INDUSTRIAL TECH RESEARCH INSTITUTE CO LTD	Crop planting distribution prediction method based on time series remote sensing data and convolutional neural network
WO 2021078671 A1	SIGNIFY HOLDING BV	A sensing device for monitoring a physiological feature of an animal
WO 2021107852 A1	DELAVAL HOLDING AB	A milking system and a method of controlling a milking system
WO 2021105012 A1	BOSCH GMBH ROBERT	Method and agricultural machine
WO 2021113562 A1	GROW CONTROLLED LLC	Pressure atmosphere room
WO 2021113265 A2	SCHAFFER GARY	System and method for controlling conveyance of aquaculture feeding systems
WO 2021086644 A1	C LOCK INC	Herd feeding system with low-cost, efficient, and portable feed bins for feeding individual animals
WO 2021066712 A1	DELAVAL HOLDING AB	An automatic milking system and a method of determining a health condition of an animal
WO 2021115676 A1	HUSQVARNA AB	Watering schedule control system
WO 2021085198 A1	SONY CORP	Sensor device and moisture content measurement device
WO 2021100430 A1	SONY CORP	Information processing device, information processing method, and program
WO 2021118747 A1	VALMONT INDUSTRIES	System, method and apparatus for integration of field, crop and irrigation equipment data for irrigation management
WO 2021089521 A1	SIGNIFY HOLDING BV	Adjust light sources from grow light settings to operator light settings based on a determined attention area
WO 2021084164 A1	HAPPICO HOLDING OY	Method for eliminating pathogens in plant growing and corresponding system
WO 2021060118 A1	SONY SEMICONDUCTOR SOLUTIONS CORP	Imaging device
WO 2021090196 A1	DOXEA S R L	Irrigation and/or fertigation device
WO 2021099167 A1	SIGNIFY HOLDING BV	Systems and methods for autonomous monitoring and/or optimization of plant growth
WO 2021111112 A1	UNIV OF ESSEX ENTERPRISES LIMITED	Method and apparatus for determining a reflectance of a target object
WO 2021066378 A1	UNIV NAT HANBAT IND ACAD COOP FOUND	Soil moisture sensor for measuring amount of moisture through refractive index
WO 2021091988 A1	TELESENSE INC	Systems and methods for advanced grain storage and management using predictive analytics and anomaly detection
WO 2021062147 A1	INDIGO AG INC	Modeling field irrigation with remote sensing imagery

WO 2021090324 A1	MIGAL APPLIED RES LTD	Remote measurement of crop stress
WO 2021067080 A1	CLIMATE CORP	Hybrid vision system for crop land navigation
WO 2021062247 A1	BLUE RIVER TECH INC	Treating plants using feature values and ground planes extracted from a single image
WO 2021056114 A1	HORTAU INC	Systems and methods for monitoring and controlling crop irrigation schedules
WO 2021070158 A1	THE STATE OF ISRAEL MINISTRY OF AGRICULTURE & RURAL DEVELOPMENT AGRICULTURAL RES ORGANIZATION	Human-robot guiding system for agricultural objects detection in unstructured and noisy environment by integrated laser and vision
WO 2021077190 A1	ANHANGUERA EDUCACIONAL PARTICIPACOES S/A	System for collecting, monitoring and analysing animal behaviour
WO 2021096451 A1	CUKUROVA UNIV REKTORLUGU	An intelligent control system for greenhouse air conditioning
WO 2021095956 A1	EMOTION CO LTD	System for managing livelihood uniformity of livestock by using weight measurement apparatus
WO 2021061064 A2	CIFTCI ERTAC	Ultrasonic aeroponic indoor plant cultivation modules
WO 2021090789 A1	OMRON TATEISI ELECTRONICS CO	Integrated analysis method, integrated analysis device, and integrated analysis program
WO 2021102378 A1	FARMWISE LABS INC	Method for analyzing individual plants in an agricultural field
WO 2021091808 A1	VAN WALL EQUIPMENT INC	Soil moisture and nutrient sensor system
WO 2021055995 A1	UNIV CALIFORNIA	Method and apparatus for optimizing energy and water used for cooling livestock
WO 2021044164 A1	HAYGAIN LTD	Apparatus for and method of steam treating of plant fibres
WO 2021050867 A1	UNIV OF FLORIDA RESEARCH FOUNDATION	Combined electrochemical phosphate/ph sensors and systems
WO 2021080140 A1	LG ELECTRONICS INC	Plant cultivation apparatus and water supply control method therefor
WO 2021097368 A1	80 ACRES URBAN AGRICULTURE INC	Method and apparatus for autonomous indoor farming
WO 2021094115 A1	BASF SE	Crop monitoring and protection
WO 2021096259 A1	NURI CO LTD	Modular plant cultivation system
WO 2021046612 A1	UNIV MONASH	Detection of halocarbons
WO 2021055710 A1	DEGESCH AMERICA INC	Gas monitoring device and method
WO 2021085806 A1	THINKFORBL CO LTD	Method for providing livestock feeding management guide on basis of livestock specification standard
WO 2021067739 A2	INTELLIGENT AGRICULTURAL SOLUTIONS LLC	Parameter sensing for a liquid applicator
WO 2021096046 A1	LG ELECTRONICS INC	Plant cultivation apparatus and method of detecting error occurrence in the plant cultivation apparatus
WO 2021081597 A1	EARTHOFFSET HOLDINGS PTY LTD	Compost monitoring device and system
WO 2021096047 A1	LG ELECTRONICS INC	Plant cultivation apparatus and water supply method therefor
WO 2021067847 A1	SENSEI AG HOLDINGS INC	Agricultural platforms
WO 2021089096 A1	SAMSON AGRO AS	Method for preparing a slurry sample for online detection of one or more nutrients and a slurry tanker or tank trailer with a slurry sampling and online nutrient detection system
WO 2021099705 A1	MEROPY	Autonomous robot
WO 2021110452 A1	SIGNIFY HOLDING BV	Time-of-flight sensing for horticulture
WO 2021126484 A1	X DEV LLC	Edge-based crop yield prediction

WO 2021108522 A1	INARI AGRICULTURE INC	Portable field imaging of plant stomata
WO 2021113391 A1	ACADEMIA SINICA	Artificial intelligent system for managing a poultry house

[...ver más](#)

REDES DE SENSORES PARA ENTORNOS URBANOS O PÚBLICOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2021071750 A1	SENSUS SPECTRUM LLC	Method for monitoring status of a light fixture and related monitoring module and computer program product
WO 2021069283 A1	SIGNIFY HOLDING BV	A lighting control system employing social sensing feedback
WO 2021118096 A1	KYUNGPOOK NAT UNIV IND ACADEMIC COOP FOUND	Integrated system for monitoring real-time environmentally harmful factors of construction site
WO 2021105033 A1	BAYER AG	A data processing method and system
WO 2021102675 A1	XIE RONGJIAN	System and method for performing joint prediction of earthquake on the basis of network
WO 2021084697 A1	MITSUBISHI ELECTRIC CORP	Disaster response assistance device and disaster response assistance method
WO 2021090271 A1	UNIV SANTIAGO DE CALI	Method for determining a level of contamination in covered zones and system for collecting and processing environmental information
WO 2021046841 A1	NANJING SOUTHEAST BUILD ELECTROMECHANICAL SEISMIC RES INSTITUTE	High support formwork vibration detection and early warning system
WO 2021095019 A1	ITALDESIGN GIUGIARO SPA	System for signalling the space available in a place for the stopping or transit of people
WO 2021084149 A1	UNIV ALICANTE	System and method for optimising the management of open transportation means
WO 2021066447 A1	LG ELECTRONICS INC	Method and apparatus for controlling relaxed measurement in a wireless communication system
WO 2021066502 A1	LG ELECTRONICS INC	Completion mechanism for transmission using preconfigured uplink resource
WO 2021096697 A1	ACLIMA INC	Hyper-local mapping of environmental conditions
WO 2021101084 A1	AMO SNET CO LTD	System and method for sharing building parking lot
WO 2021071750 A1	SENSUS SPECTRUM LLC	Method for monitoring status of a light fixture and related monitoring module and computer program product
WO 2021069283 A1	SIGNIFY HOLDING BV	A lighting control system employing social sensing feedback

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REDES DE SENSORES PARA DETECTAR INCENDIOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2021116025 A1	VERISURE SARL	Security monitoring system
WO 2021105935 A1	ARGUS SECURITY S R L	Device for security systems, preferably for fire alarm systems, and management method for the power supply for such device
WO 2021105106 A1	VERISURE SARL	A security monitoring system
WO 2021067213 A1	CARRIER CORP	Self reporting fire suppressant tank configuration
WO 2021119640 A1	LINDSEY FIRESENSE LLC	System and method for debris detection and integrity validation for right-of-way based infrastructure
WO 2021085675 A1	LEE TECH KOREA CO LTD	Crew safety management system and method for disaster site
WO 2021111119 A1	PROJECT FIRE GLOBAL HOLDINGS LTD	A detector for a fire alarm system
WO 2021106791 A1	TOSHIBA KK	Approval system
WO 2021051290 A1	SHENZHEN ENERGY ENV ENGINEERING CO LTD	Automatic cooling control system for fire grate gap of garbage incinerator
WO 2021066641 A1	SK FIRESAFETY GROUP B V	Assembly of an emergency lighting installation and other safety equipment, also method for monitoring the other safety equipment
WO 2021079290 A1	GENTEX CORP	Vapor and particulate sensor system for aerospace
WO 2021107382 A1	LDT INC	Fire detection system
WO 2021107383 A1	LDT INC	Fire detector and fire detection system comprising same
WO 2021066051 A1	NOHMI BOSAI LTD	Fire alarm receiver
WO 2021086002 A1	HYUNTAI CO LTD	System for managing disaster safety-type smart electrical panel
WO 2021075759 A1	LG CHEMICAL LTD	Vehicle battery fire detection apparatus and detection method
WO 2021084473 A1	GENTEX CORP	Connected monitoring system
WO 2021096034 A1	LG CHEMICAL LTD	Battery rack and power storage device

[..ver más](#)

OTRAS REFERENCIAS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2021099622 A1	CONTINENTAL TEVES AG & CO OHG	Method for wireless x2x access and receivers for large multidimensional wireless systems
WO 2021074628 A1	BP EXPLORATION OPERATING CO LTD	Clock drift
WO 2021102444 A1	AMAZON TECH INC	Configurable internet of things communications system
WO 2021071583 A1	INTELLISENSE SYSTEMS INC	Flood sensing system and method
WO 2021099988 A1	SICCE S R L	Fluid-dynamic pump for aquariums
WO 2021102590 A1	TOKU IND INC	Modular data monitoring system
WO 2021105565 A1	SENSIRE OY	Wireless sensor network system, and device and method thereof
WO 2021112766 A1	SOL X PTE LTD	Systems and methods for operations and incident management
WO 2021105210 A1	ABB POWER GRIDS SWITZERLAND AG	Smart electrical bushing with integrated sensor
WO 2021113673 A1	UNIV OF ALASKA ANCHORAGE	Low-power sensor network
WO 2021041629 A1	FLIR BELGIUM BVBA	Air and sea based fishing data collection and analysis systems and methods
WO 2021052585 A1	FRABA BV	Sensor network assembly
WO 2021116536 A1	ENTOS ENERGIATEKNIK AN OPTIMISAEAE TOE OY	Measuring device to be retrofitted to heating system of building, control system of heating system of building and control method
WO 2021064003 A1	TRINAMIX GMBH	Detector array and a spectrometer system
WO 2021107939 A1	GOOGLE LLC	Trackpad with force sensing circuitry and cloud-based earthquake detection
WO 2021067567 A1	PPG IND OHIO INC	Transparency including a wireless sensor
WO 2021101630 A1	PURDUE RESEARCH FOUNDATION	Intelligent non-intrusive load monitoring system
WO 2021118471 A1	SKYLAB NETWORKS PTE LTD	System and method for processing data
WO 2021100081 A1	NIPPON TELEGRAPH & TELEPHONE	Sensor system, radio cooperative reception system, and radio cooperative reception method
WO 2021059785 A1	TATSUMI RYOKI CO LTD	Testing system
WO 2021107165 A1	GLUESYS CO LTD	Portable ai measuring device using multiple sensors in combination
WO 2021055139 A1	APPLETON GRP LLC	Smart dimming & sensor failure detection as part of built in ambient light harvesting inside the luminaire
WO 2021072303 A1	SAUDI ARABIAN OIL CO	Systems, methods, and apparatuses for ensuring worker safety
WO 2021065754 A1	DAIKIN IND LTD	Data collection device and data collection method
WO 2021065961 A1	NTT COMM CORP	Information porcessing device, calculation method, and calculation program
WO 2021102211 A1	MOLEX LLC	Computer systems and methods for estimating changes in fugitive emissions
WO 2021087543 A1	NEWSOUTH INNOVATIONS PTY LTD	Apparatus and process for real-time detection of high-impedance faults in power lines
WO 2021095135 A1	MITSUBISHI ELECTRIC CORP	Calibration assistance device, calibration assistance method, and calibration assistance program
WO 2021067094 A1	X DEV LLC	Machine olfaction system and method
WO 2021072202 A1	ROTH RIVER INC	Systems and methods for remotely monitoring inventory and product life-cycle
WO 2021074355 A1	SIGNIFY HOLDING BV	Operation apparatus and method for maintaining network connectivity of a network device based on self-related connection information obtained from monitoring maintenance messages

WO 2021062351 A1	FIRE RES CORP	Asset tracking system
WO 2021087495 A1	ZEPTIVE INC	System and method for detection of vaporized aerosols
WO 2021096862 A1	HUBBELL INC	Exhaust fan
WO 2021101812 A1	ECOLINK INTELLIGENT TECHNOLOGY INC	Wireless sensor transmission method and apparatus
WO 2021055792 A1	UNIV LELAND STANFORD JUNIOR	Electrochemical pre-concentration for improved detection of gaseous species in water
WO 2021080080 A1	KOREA ELECTRONICS TECHNOLOGY	Electronic scale data correction method for inventory management
WO 2021099622 A1	CONTINENTAL TEVES AG & CO OHG	Method for wireless x2x access and receivers for large multidimensional wireless systems

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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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