

Boletín VT

REDES DE SENSORES INALÁMBRICAS

45

1.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 2021014308 A1	TGVH THE GOAT VISION HOLDING DI GABRIELE PUC CETTI	Growing module and vertical farm comprising a plurality of growing modules
WO 2021028622 A1	PONSSE OYJ	Method and system in a forest machine
WO 2021032631 A1	SYNGENTA PARTICIPATIONS AG	Precision treatment and sowing or planting method and device
WO 2021055812 A1	DIVERT INC	Systems and methods for tracking product environment throughout a supply chain
WO 2020254047 A1	AMAZONEN WERKE DREYER H	Method for determining suitable spreading settings
WO 2020263069 A1	ASTIAZARAN AGUIRRE JOSE CARLOS	System for the real-time synchronisation of the measurements of a network of weather sensors with a central server
WO 2020257791 A1	INNERPLANT INC	Methods for deploying biosentinels to agricultural fields and monitoring biotic and abiotic stresses in crops remotely
WO 2020260193 A1	BASF AGRO TRADEMARKS GMBH	Decision system for crop efficiency product application using remote sensing based soil parameters
WO 2021034872 A1	CNH IND AMERICA LLC	Sensor assembly for an agricultural implement and related systems and methods for monitoring field surface conditions
WO 2020256661 A1	LAKTO HAYVANCILIK TEKNOLOJILERI SANAYI VE TICARET LTD SIRKETI	Free flow electronic meter
WO 2021018463 A1	CONNECTED TECH B V	A method of providing an optimal watering cycle of a plant
WO 2021048845 A1	BIOLED ECO LIGHT SYSTEMS LTD	A smart controlled lighting system
WO 2021030885 A1	CECATO EUDES	Electronic equipment for mineral supplementation of herds
WO 2021002900 A2	STC UNM	Electrical impedance spectroscopy for non-destructive, real-time, tracking of relative water content and stress responses in plants
WO 2021035354 A1	ADVANCED INTELLIGENT SYSTEMS INC	Deployable system for environmental homogenization
WO 2021019331 A1	PREC PLANTING LLC	Method and systems for using sensors to determine relative seed or particle speed
WO 2021011991 A1	SMARTA IND PTY LTD	Local productivity prediction and management system
WO 2021039465 A1	PANASONIC IP MAN CO LTD	Disease prediction system, disease prediction method, and program
WO 2021005406 A1	MAHINDRA AND MAHINDRA LTD	A headland turning system for an agricultural machine
WO 2021030920 A1	MANCILLA BARRIGA JORGE	System and method for the transport of biomass
WO 2021033732 A1	NATIONAL UNIV CORPORATION IWATE UNIV	Grazing animal management system

WO 2021033175 A1	RED BIRD RECREATIONAL PRODUCTS LTD	Compact closed-space system for illumination, climate control and air purification
WO 2021043768 A1	IBM	Cognitive enabled blockchain based resource prediction
WO 2021026648 A1	ECOATION INNOVATIVE SOLUTIONS INC	Mobile platform for crop monitoring and treatment
WO 2021050341 A1	VALMONT INDUSTRIES	System and method for analysis of current and voltage levels within a center pivot irrigation system
WO 2021048848 A2	MERHAV AGRO LTD	System and method for crop monitoring and management
WO 2021038561 A1	SMT LABS LTD	System and method for sex-sorting of pre-adult insects
WO 2021044421 A1	BERGER DOV	System and method for remotely detecting and alerting actual or impending stress in animals in corrals and during transportation
WO 2021044320 A1	SHONTZ LEXIS B	Automated systems and methods for facility management
WO 2021033148 A2	MGH AGRICULTURAL TECH LTD	System and method for monitoring and controlling food-stuff storage in a silo and dispensation therefrom
WO 2021046210 A1	BASELINE INC	Systems and methods of irrigation need assessment
WO 2021034291 A2	PAMUKKALE UNIV	A system for use in electrochemical analysis processes
WO 2021014308 A1	TGVH THE GOAT VISION HOLDING DI GABRIELE PUCETTI	Growing module and vertical farm comprising a plurality of growing modules
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WO 2021044421 A1	BERGER DOV	System and method for remotely detecting and alerting actual or impending stress in animals in corrals and during transportation
WO 2021044320 A1	SHONTZ LEXIS B MGH	Automated systems and methods for facility management
WO 2021033148 A2	AGRICULTURAL TECH LTD	System and method for monitoring and controlling food-stuff storage in a silo and dispensation therefrom
WO 2021046210 A1	BASELINE INC	Systems and methods of irrigation need assessment
WO 2021034291 A2	PAMUKKALE UNIV	A system for use in electrochemical analysis processes
WO 2021014308 A1	TGVH THE GOAT VISION HOLDING DI GABRIELE PUCETTI	Growing module and vertical farm comprising a plurality of growing modules
WO 2021028622 A1	PONSSE OYJ	Method and system in a forest machine

[...ver más](#)

REDES DE SENSORES PARA ENTORNOS URBANOS O PÚBLICOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2021028751 A1	IBM	Determining the state of infrastructure in a region of interest
WO 2021033113 A1	THERMO KING CORP	Environmental sensor for transport refrigeration
WO 2020257167 A1	NEC LAB AMERICA INC	Distributed intelligent traffic informatics using fiber sensing
WO 2021007755 A1	SIEMENS LTD CHINA	Control method, apparatus, system and computer-readable medium
WO 2021010263 A1	NEJILAW INC	Stress monitoring device, stress monitoring system, and monitoring system
WO 2021029754 A1	LG ELECTRONICS INC	Method for transmitting/receiving physical downlink shared channel in wireless communication system, and device therefor
WO 2021049231 A1	HITACHI AUTOMOTIVE SYSTEMS LTD	Occupied grid map management device
WO 2021005479 A1	REBERNIG SUPERVISIONI SRL	Predictive and adaptive lighting control method and predictive and adaptive lighting system
WO 2021045565 A1	LG ELECTRONICS INC	Method and device for measuring location of terminal in wireless communication system
WO 2021017007 A1	TANGSHAN HARBIN SHIP TECH CO LTD	System and method for detecting sewer clogging causing urban waterlogging
WO 2021034069 A1	LG ELECTRONICS INC	Method for transmitting uplink signal on basis of codebook in wireless communication system, and apparatus therefor
WO 2021033988 A1	LG ELECTRONICS INC	Method for transmitting and receiving sidelink signal in wireless communication system
WO 2021018647 A1	CURRENTA GMBH & CO OHG	Method and apparatus for monitoring quality and determining contamination of an area
WO 2021028751 A1	IBM	Determining the state of infrastructure in a region of interest
WO 2021033113 A1	THERMO KING CORP	Environmental sensor for transport refrigeration

[...ver más](#)

REDES DE SENSORES PARA DETECTAR INCENDIOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2020250659 A1	PANASONIC IP MAN CO LTD	Heat sensor and heat/smoke combination-type fire detector
WO 2021015436 A1	LG CHEMICAL LTD	Vehicle battery fire detection device and detection method
WO 2021055608 A1	SPAN IO INC	Systems and methods for managing electrical loads
WO 2020263292 A1	BASIS SOLUTIONS LLC	Abatement system for pyrophoric chemicals and method of use
WO 2021002500 A1	YANG KYEONGOK	Method and apparatus for evaluating risk of fire by using internet of things beacon at construction site
WO 2021003264 A1	TRUNDLE STEPHEN SCOTT	Property damage risk evaluation
WO 2020257855 A1	WAT EXPORT IMPORT PTY LTD	Device and method for indicating an emergency exit
WO 2020263072 A1	CISCOMANI DAVILA GEOVANI FRANCESCO	Device for the measurement of bi-directional electrical power consumption with sensor monitoring and neighbourhood safety functions
WO 2021038407 A1	UNIV KING ABDULLAH SCI & TECH	Versatile optical fiber sensor and method for detecting red palm weevil, farm fires, and soil moisture
WO 2021011464 A1	JOHNSON CONTROLS TECH CO	Heat mapping, air quality control, and disinfection system
WO 2021030608 A1	AKRON BRASS CO	Fire-fighting control system
WO 2020249485 A1	AMS AG	Optical particle sensor
WO 2020256965 A1	CARRIER CORP	Augmented reality model-based fire extinguisher training platform
WO 2020263549 A1	CARRIER CORP	Spatial and temporal pattern analysis for integrated smoke detection and localization
WO 2021001579 A1	TITAN FIRE SYSTEM SL	Manometer
WO 2021041990 A1	QWAKE TECH LLC	Wearable assisted perception module for navigation and communication in hazardous environments
WO 2021040491 A1	SK HOLDINGS CO LTD	Data collection and transmission device packaged in enclosure
WO 2021021057 A1	YASAR SERHAN KAPTAN	A fire detection system and a fire alarm ball thereof
WO 2020256418 A2	KOREA DIGITAL TWIN LAB INC	Computing system for implementing virtual sensor by using digital twin, and real-time data collection method using same
WO 2021025539 A1	LG CHEMICAL LTD	Battery pack comprising extinguishment unit
WO 2021030814 A1	BE READY LLC	Security systems, apparatuses, methods, and integrated technologies involving the same
WO 2021005788 A1	YASHIMA DENGYO CO LTD	Flying object
WO 2021049810 A1	KWON DEI JUHNG	Automatic fire-extinguishing device in which cobra fire extinguisher is loaded
WO 2021025232 A1	LEE JIN HYEOK	Distribution board system with artificial intelligence function
WO 2021034285 A1	NERO ENDUESTRI SAVUNMA SANAYI ANONIM SIRKETI	Shutter test device for flame/fire detectors
WO 2021043847 A1	VOLKSWAGEN AG	Motor vehicle having a flame protection system, flame protection system, and side sill having a flame protection system
WO 2021039655 A1	PANASONIC IP MAN CO LTD	Control system, disaster prevention system, processing method, and program
WO 2020264294 A2	CARRIER CORP	Smoke detection and localization based on cloud platform
WO 2021034092 A1	LEE JUNG WOO	Smart fire-extinguishing device and smart fire-extinguishing system including same
WO 2021043651 A1	ASSA ABLOY AB	Calibrating a people counter
WO 2021023970 A2	PLUMIS LTD	Wall-mountable spray head unit

[..ver más](#)

OTRAS REFERENCIAS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2021000787 A1	HUAWEI TECH CO LTD	Method and device for road geometry recognition
WO 2020263006 A1	LG DISPLAY CO LTD	Room temperature-driven gas sensor, method for manufacturing same, and gas sensor array
WO 2021007251 A1	ACLIMA INC	Methane peak detection
WO 2021032269 A1	ERICSSON TELEFON AB L M	Distribution of constrained device data
WO 2021002943 A1	NEXTRAV LLC	Systems and methods for using a pressure sensor of a mobile device to improve the reliability of determined contexts
WO 2021005247 A1	NOXTEC DEV S L	Automatic gas concentration calibration device, method for automatically calibrating a gas concentration sensor, and method for monitoring a gas concentration
WO 2020253976 A1	VOLVO PENTA CORP	A method for planning a trip of a marine vessel
WO 2020253926 A1	GRUNDFOS HOLDING AS	A computer implemented system and method for controlling and monitoring a pump
WO 2021011822 A1	AIRTHINX INC	Environment monitoring and management system and method
WO 2021028400 A1	KUROTEC KTS KUNSTSTOFFTEC HNIK GMBH	System for nondestructive state monitoring of metallic structures
WO 2021033132 A1	ABB SCHWEIZ AG	Condition monitoring device and a method thereof
WO 2021041727 A1	LUTRON TECH CO LLC	Control device having a visible indicator
WO 2021028172 A1	SCIOSENSE B V	Sensor arrangement and method for fabricating a sensor arrangement
WO 2020251516 A1	DOROSHENKO ALISA SERGIYIVNA	System for the 3d monitoring of air composition
WO 2021003579 A1	HBX CONTROL SYSTEMS INC	Energy meter apparatus
WO 2021014718 A1	LIXIL CORP	Information providing device and information providing program
WO 2021035645 A1	SHANGHAI FEILAI INFORMATION TECH CO LTD	Sensing system, sensing device and control method therefor, movable platform, and storage medium
WO 2020261373 A1	NIPPON TELEGRAPH & TELEPHONE	Path selection device, path selection method, and path selection program
WO 2021033872 A1	LG ELECTRONICS INC	Validating performance of a neural network trained using labeled training data
WO 2021006432 A1	C&TECH CO LTD	System and method for monitoring mobile asset by using sensing terminal
WO 2021007018 A1	WAYNE FUELING SYSTEMS LLC	Systems and methods for automated wetstock management
WO 2021013829 A1	KJOS TORE	Method and system for seismic surveying
WO 2021029910 A1	TELNYX LLC	Secure virtual private mobile and ip network in cloud
WO 2021049506 A1	HITACHI ZOSEN CORP	Information processing device, operation support system, information processing method, and information processing program
WO 2021005678 A1	NIPPON TELEGRAPH & TELEPHONE	Sensor system, radio coordinated-reception system, and radio coordinated-reception method
WO 2021034195 A1	ALLIANDER N V	Energy distribution network
WO 2021055490 A1	SENSORMATIC ELECTRONICS LLC	Systems and methods for averting crime with look-ahead analytics
WO 2020262873 A2	HANLIMCE CORP	Safety management system having sensor for checking fastening of safety hook for high place work
WO 2021011589 A1	CLEAN AIR GROUP INC	Indoor air quality purification system for a heating ventilation and cooling system of building
WO 2021038456 A1	ECOLE POLYTECHNIQUE FED LAUSANNE EPFL	Elongated microstructured capacitive sensor

WO 2020260977 A1	OMRON TATEISI ELECTRONICS CO	System and method for operating an automated machine, automated machine, and computer-program product
WO 2021005289 A1	OPHELIA SENSORS	System for the remote collection of data
WO 2021033276 A1	NIPPON TELEGRAPH & TELEPHONE	Information collection device and method
WO 2021033475 A1	MINEBEA MITSUMI INC	Airflow measurement system and communication module
WO 2021044346 A1	3M INNOVATIVE PROPERTIES CO	Self-resonating wireless sensor systems and methods
WO 2021040118 A1	NINEWATT CO LTD	Building energy management system
WO 2021020651 A1	UNIV KONKUK IND COOP CORP	Carbon dioxide detection sensor
WO 2021019653 A1	NIPPON TELEGRAPH & TELEPHONE	Relay server, relay method, and relay program
WO 2019150182 A1	NOVA FITNESS CO LTD	Multi-core sensor system, and isolation and recovery method therefor
WO 2021050244 A1	APPLETON GRP LLC	Smart luminaire group control using intragroup communication
WO 2021046611 A1	LOGGO IP PTY LTD	Improvements in engineered timber products used in building construction
WO 2021033503 A1	NEC CORP	Seismic observation device, seismic observation method, and recording medium in which seismic observation program is recorded
WO 2021030897 A1	TATTLE SYSTEMS TECH INC	Adaptive commodity delivery dispatch
WO 2021048629 A2	SERCEL RECH CONST ELECT	Wireless seismic acquisition node and method
WO 2021024909 A1	NAT INST MATERIALS SCIENCE	Optical sensor, sensor unit, and object detection device using optical sensor
WO 2021033373 A1	LIXIL CORP	Assistance device and assistance program
WO 2021044289 A1	SYNECOM S R L	System for the safe management and generation of plant conduct reports in plants using fluorinated gases
WO 2021019436 A1	ABB SCHWEIZ AG	A method and device for estimating running speed of a rotating equipment
WO 2021024277 A1	EASUN MR TAP CHANGERS P LTD	Time based automatic self-regenerating breather
WO 2021026532 A1	JOHNSON CONTROLS TECH CO	Variable refrigerant flow system with automatic sensor data correction
WO 2021010400 A1	NGK SPARK PLUG CO	Water quality measuring system
WO 2021020051 A1	NEC CORP	Data collection system, data output device, and data collection method
WO 2021021819 A1	UNDERSTORY INC	Electronic hail pad
WO 2021039145 A1	PANASONIC IP MAN CO LTD	Air quality information processing system and air quality information processing method
WO 2021044032 A1	SCOTT DANIEL	A settlement monitoring system and method
WO 2021006735 A2	FNV IP B V	Seafloor device and method of using a seafloor device
WO 2021020052 A1	NEC CORP	Data output device and data collection system
WO 2021040530 A1	KARMOEY WINCH AS	A control system and method of controlling towed marine object
WO 2021044075 A1	NOKIA TECHNOLOGIES OY	Channel sensing techniques for wireless networks
WO 2021024048 A1	IBM	Medication counterfeit detection

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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.



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