

Boletín VT

REDES DE SENSORES INALÁMBRICAS

52

4.º trimestre 2022

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 inalámbricos, 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 2022191766 A1	VAEDERSTAD HOLDING AB	An agricultural implement, a computer program, a computer-readable medium and a method for controlling an airflow in a feed system for an agricultural product of the agricultural implement
WO 2023279023 A1	SMART TRACKING TECH LLC	Animal wearable tracker device and related methods
WO 2022200484 A1	BASF SE	Predicting damage caused by fungal infection relating to crop plants of a particular species
WO 2022207824 A1	BASF AGRO TRADEMARKS GMBH	Computer-implemented method for providing corrected plant-related index data
WO 202215811 A1	INDUSTRIAL COOPERATION FOUNDATION JEONBUK NATIONAL UNIV	System for automatically detecting diseases and pests in crops
WO 202216168 A1	FUNDACAO D ANNA DE SOMMER CHAMPALIMAUD E DR CARLOS MONTEZ CHAMPALIMAUD CENTRO DE INVESTIG DA FUNDACA	Automated device for controlled feeding of substances to animal containment recipients, related system and method
WO 2022189871 A1	PREC PLANTING LLC	Methods and systems for measuring duty cycle and pulse frequency of sensors to determine seed or particle metrics
WO 202211622 A1	CROONWOLTER& DROS B V	Apparatus and method for treating seeds
WO 2020034039 A1	HORTAU INC	Systems and methods for monitoring and regulating plant productivity
WO 2022197233 A1	DELAVAL HOLDING AB	Milking system comprising a milking robot
WO 2022200062 A1	SIGNIFY HOLDING BV	System and method for supplying sustenance to an animal species
WO 2022192920 A1	MUNRO DAN	A device for dispensing material consumed by an animal and monitoring the animal's consumption of the material
WO 2022203160 A1	A LIFE CORP	Meat aging system using meat aging apparatus, and manufacturing method therefor
WO 202215095 A1	ETHIRAJAN ARULMANI	A self-balancing smart unmanned straddle carrier for carrying agriculture implements
WO 2022208219 A1	EARTHSENSE INC	Agricultural analysis robotic systems and methods thereof
WO 202217331 A1	CNH IND BRASIL LTDA	System and method for detecting foreign objects in an agricultural harvester, and agricultural harvester
WO 2022258392 A1	TEAM ENERGY TECH S R L	Plant and method for antiparasitic treatment of crops or spaces
WO 202213180 A1	SUPERIOR RADIANT PRODUCTS LTD	System and method of heating livestock barns using modulating radiant emitter
WO 2022192219 A1	GROUNDTRUTH AG INC	Systems and methods for real-time measurement of soil carbon sequestration using non-invasive multimodal sensors
WO 202220317 A1	ULIKEKOREA CO INC	Ingestible health sensor for animal
WO 202232096 A1	SALVUS LLC	Systems and methods for chemical and biological authentication

WO 2022234370 A1	AGCO CORP	Crop monitoring system and method
WO 2022224130 A1	MAIR ASHLEY DEAN	Germination device
WO 2022240281 A1	SIME DARBY PLANTATION INTELLECTUAL PROPERTY SDN BHD	Fertiliser device
WO 2022238766 A1	PREC PLANTING LLC	Integrated communication and lighting system
WO 2022218883 A1	DATAMARS SA	Improvements in, or related to, applicators and data acquisition therefor
WO 202224551 A1	KAWASHIMA HIROE	Fish collection device and fishing method using fish collection device
WO 2022219679 A1	NIPPON TELEGRAPH & TELEPHONE	Sensor management mobile device, mobile body management base, and environment information collection system
WO 2022240512 A1	MICROSOFT TECHNOLOGY LICENSING LLC	Audit ledger for externality tracking and reporting
WO 2022226518 A1	SOLI ORGANIC INC	Control systems and methods for managing a localized growing environment
WO 2022186406 A1	WEAROME	System for monitoring livestock
WO 2022254123 A1	EGG CHICK AUTOMATED TECH	Method for inspecting, as they pass, eggs placed in containers
WO 2022219415 A1	MOHAMMADNEJA D ZAHRA	Intelligent climate control system for greenhouses
WO 2022258802 A1	MONITORFISH GMBH	Sensor apparatus and sensor system for fish farming
WO 2022197214 A2	OBSHCHESTVO S OGRANICHENNOI OTVETSVENNOST YU AGROTESTER	Device for rapidly assessing the nitrogen status of plants
WO 2022252201 A1	YUSENSE INFORMATION TECH AND EQUIPMENT QINGDAO INC	Unmanned aerial vehicle multispectral remote sensing data collection and processing integrated system
WO 2022231404 A1	SEOUL NAT UNIV R&DB FOUNDATION	Method for monitoring object, and system therefor
WO 2022255662 A1	SB SOLUTIONS INC	Method and system for continuously measuring animal body temperature
WO 2022232510 A1	ROOT APPLIED SCIENCES INC	Device for collecting material from air
WO 2022242953 A1	BOSCH GMBH ROBERT	Method for treating a usable agricultural area, recording and spraying device for an agricultural vehicle, and computer program product
WO 2022243944 A1	AUGMENTA HOLDING	Apparatuses for facilitating managing cultivation of crops based on monitoring the crops
WO 2022260843 A1	HGCI INC	Heater for an indoor grow facility
WO 202224268 A1	SKY BLIX AGRO SCIENCE PRIVATE LTD	System for controlled farming
WO 2022212952 A1	PROVENDER TECH LLC	Livestock feed management and handling system
WO 2022243785 A1	AGCO INT GMBH	Residue spread monitoring
WO 2022187960 A1	NESTING SAFE INC	Underground, sub-surface and surface monitoring technology and asynchronous distributed system
WO 2022193021 A1	VERTIKAL GREEN TECH LTD	Method and systems for indoor farming
WO 2022240365 A1	NAT UNIV SINGAPORE	A method and system for determining equipment settings of a building management system of a building
WO 2022243806 A1	PREC PLANTING LLC	Methods of analyzing one or more agricultural materials, and systems thereof
WO 2022232783 A1	ZORDI INC	Autonomous greenhouse control system
WO 2022236400 A1	VERICATCH SOLUTIONS INC	System, apparatus, and method for collecting and sharing fishing catch reporting and monitoring data
WO 2022244900 A1	ECINU CO LTD	Control device for supplying gas
WO 2022243863 A1	LELY PATENT NV	Camera device for monitoring and recognising animals or portions thereof, and associated livestock shed

WO 2022232914 A1	AIRM CONSULTING LTD	Field monitoring and data collection systems and methods for a precision agriculture system
WO 2022243718 A1	ASADI ASHRAF	Cow breast heating system to increase lactation and disinfection
WO 2022232939 A1	EKIDNA SENSING INC	Systems and devices for estimating substance concentration
WO 2022246508 A1	PESTRAC PTY LTD	Remote monitoring device for animals or insects
WO 2022226601 A1	BIO OPTICS AUSTRALIA PTY LTD	Handheld fibre test device
WO 2022239006 A1	SEETREE SYSTEMS LTD	Accurate geolocation in remote-sensing imaging
WO 2022251355 A1	ARTHUR AI INC	Systems and methods for detecting drift between data used to train a machine learning model and data used to execute the machine learning model
WO 2022241504 A1	AGTECNIC PTY LTD	Controlling spray heads
WO 2022198274 A1	CENTRAL QUEENSLAND UNIV	A system and method for dispensing water
WO 2022197671 A2	NELSON IRRIGATION CORP	Variable rate irrigation using motion sensor

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REDES DE SENSORES PARA ENTORNOS URBANOS O PÚBLICOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2022199696 A1	HUAWEI TECH CO LTD	Controller system and control method
WO 2022207192 A1	BRITISH TELECOMM	Method of operating a telecommunications network
WO 2022211608 A1	UNIV INT RABAT	Housing and smart system for managing mechanical meters
WO 2022238742 A1	BELLANTENNA S R L	Array antenna
WO 2022256536 A1	CMS TECH INC	Systems and methods for improved antimicrobial application and related data collection
WO 2022203593 A1	GRABTAXI HOLDINGS PTE LTD	System and method for predicting road traffic speed
WO 2022199225 A1	BEIJING WODONG TIANJUN INFORMATION TECHNOLOGY CO LTD	Decoding method and apparatus, and computer-readable storage medium
WO 202212079 A1	UNIV SOUTH FLORIDA	Deep reinforcement learning for adaptive network slicing in 5g for intelligent vehicular systems and smart cities
WO 2022229750 A1	PIXIES S R L	System for collecting litter in an urban area, corresponding method of operation and computer program product
WO 2022229788 A1	HITACHI LTD	Method and system for managing waste collection
WO 2022248784 A1	ORANGE SA	Device and method for processing a digital model of a system
WO 2022229706 A1	KAYRROS	System and method of monitoring floods
WO 2022198260 A1	SOUTH EAST WATER CORP	Method and system of leak detection
WO 2022235968 A1	ORIGINCLEAR INC	System and method for water treatment incentive
WO 202217332 A1	ECOSYSTEM INFORMATICS INC	Monitoring an ambient air parameter using a trained model
WO 202217342 A1	ECOSYSTEM INFORMATICS INC	Monitoring an ambient air parameter using a trained model
WO 2022204206 A2	AIZACO LTD COMPANY	Methods, apparatus, and systems for detecting and removing microplastics from water
WO 2022249635 A1	KONICA MINOLTA INC	Action sensing system and action sensing program
WO 2022243581 A1	SENSACTIVE TECHNOLOGY S L	System for the continuous detection and logging of the levels of microbes of interest in waters
WO 2022234873 A1	WATA CO LTD	Unsupervised spatial data generation method using hybrid data collected by smartphone sensor, server, computer program, and automatic route generation method using same

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REDES DE SENSORES PARA DETECTAR INCENDIOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2022213095 A1	JOHNSON CONTROLS FIRE PROT LP	Systems and methods for simulating control panel state and control panel responses
WO 2022210252 A1	NOHMI BOSAI LTD	Smoke detector
WO 2022215841 A1	RWAVE CO LTD	Building fire safety management system and method
WO 2022210258 A1	NOHMI BOSAI LTD	Smoke detector
WO 2022197333 A1	CHEMOURS CO FC LLC	Thermal protection of lithium ion batteries
WO 2022204458 A1	FIKE CORP	System and method for detecting and suppressing dust explosions
WO 2022214888 A1	3M INNOVATIVE PROPERTIES CO	Remote sensing system and method for article of personal protective equipment
WO 2022210256 A1	NOHMI BOSAI LTD	Smoke detector
WO 2022251928 A2	ABASZADE IBRAHIM ELSHAD OGLU	Fire extinguishing system
WO 2022233808 A1	ASSA ABLOY ENTRANCE SYSTEMS AB	Automatic door operator in entrance system
WO 2022221381 A1	LION GROUP INC	Simulator array training system
WO 2022183272 A1	UNIV ALBERTA	End-of-life sensors for fabrics
WO 202221595 A1	NEC LAB AMERICA INC	Distribution transformer localization and monitoring using distributed fiber optic sensing
WO 2022234513 A1	3M INNOVATIVE PROPERTIES COMPANY	Respirator mask with physiological monitoring system
WO 2022256749 A2	SMART CELLULAR LABS LLC	Integrated smoke alarm communications system
WO 2022265920 A1	VICTAULIC CO OF AMERICA	Calibrated flow rate sensing and flow control device
WO 2022234395 A1	3M INNOVATIVE PROPERTIES COMPANY	Device, system, and method for testing article of personal protective equipment
WO 2022249009 A1	3M INNOVATIVE PROPERTIES COMPANY	Article of personal protective equipment and method for use with article of personal protective equipment
WO 2022249171 A1	ESSENCE SECURITY INT E S I LTD	lot SECURITY DEVICE
WO 2022238946 A2	HEIMDALL AEROSPACE LTD	Drone land condition surveillance

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OTRAS REFERENCIAS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2022201144 A1	BEN DAVID SIMON	Controller for small scale proofing chamber
WO 2022197219 A1	ERICSSON TELEFON AB L M	Detect weather changes via ground plane reflection coefficients
WO 2022212825 A1	ARMAMENTS RES COMPANY INC	Real-time streaming of weapon usage information on disconnected networks
WO 2022271480 A1	EVERACTIVE INC	Monitors for pressurized systems
WO 2022198345 A1	CAPTA HYDRO SPA	Vandal-proof installation system for the monitoring of physical variables in water, comprising: a first member; a second member; a third member and a fourth member; where the first member comprises a plurality of compartments for housing a plurality of devices. Assembly method
WO 2022200923 A1	EMAK SPA	Data acquisition device
WO 2022215086 A1	KARMARKAR SAMEER MADHUSUDAN	System and method for containerization of internet of things devices
WO 2022195383 A1	3M INNOVATIVE PROPERTIES CO	Systems and methods for worksite safety compliance
WO 2022202686 A1	FANUC CORP	Control device
WO 2022215184 A1	FABRIC TOKYO INC	Information processing system
WO 202221214 A1	NEC LAB AMERICA INC	Utility pole hazardous event localization
WO 2022229198 A1	SIEMENS GAMESA RENEWABLE ENERGY AS	Monitoring of wind direction measurements in wind parks
WO 2022253538 A1	SIEMENS AG	Automated application service detection for configuring industrial communication networks
WO 2022194263 A1	HUAWEI TECH CO LTD	Communication method and communication apparatus
WO 2022204105 A1	MARMAC WATER LLC	Automated methods and systems for optimized zeta potential chemical dosing in water treatment systems
WO 2022212204 A1	CALIFORNIA INST OF TECHN	Laser doppler velocimetry-based flow sensor for downhole measurements in oil pipes
WO 2022231785 A1	SAUDI ARABIAN OIL CO	Non-metallics enhanced reliability via embedded sensors (nerves): optical and electrical sensory nerves
WO 2022204495 A2	RUBIDEX LLC	Cryptographic data entry and transmission of sensor data
WO 2022241440 A1	AIRMAR TECH CORPORATION	Networking module for instrumentation and control devices
WO 2022226216 A1	CAPITAL ONE SERVICES LLC	Automatic model selection for a time series
WO 2022228156 A1	GUANGZHOU METRO GROUP CO LTD	Policy orchestration processing method, apparatus, device and system and storage medium
WO 2022220879 A1	APPLETON GRP LLC	Providing industrial network reliability using luminaires
WO 2022258616 A1	CONSUMIX	Device for monitoring a room
WO 202224067 A1	REEL SRL	System and method for detecting condensing humidity and/or impurities in an electronic device
WO 2022190972 A1	NTN TOYO BEARING CO LTD	State monitoring system
WO 2022192836 A1	MOTOROLA SOLUTIONS INC	Monitoring system and method for identifying an object of interest after the object of interest has undergone a change in appearance
WO 2022235892 A1	RITE HITE HOLDING CORP	Method and apparatus to reduce dew condensation
WO 2022191163 A1	NGK SPARK PLUG CO	Electrochemical gas sensor, ozone generator, and humidifier
WO 2022200427 A1	JOTUN AS	Monitoring a vessel
WO 2022271348 A1	MICROSOFT TECHNOLOGY LICENSING LLC	Generating fan control signal for computing device
WO 2022203294 A1	KOREA INST ENERGY RES	Prediction method and systems of wind turbine load and life-time based on vibration data

WO 2022220730 A1	PLAYREPLAY AB	Apparatus, method and computer program for tracking, capturing and observing sports-related events
WO 2022238714 A1	AIRBUS DEFENCE & SPACE LTD	Transmission of sensor data
WO 2022242799 A1	MTU AERO ENGINES AG	Data processing system and method for temporally synchronizing analogue and digital data sets of production machines
WO 202223774 A1	INVISENSE AB	Probe and method for collecting data on curing concrete
WO 2022226532 A1	ALARM COM INC	Dynamic retrofit control of ductless mini-split systems
WO 2022243120 A1	ENDRESS HAUSER SE CO KG	Remote sensor arrangement
WO 202221178 A1	LAM RES CORP	Control of semiconductor manufacturing equipment in mixed reality environments
WO 2022226602 A1	IQM SYSTEMS PTY LTD	Scaffold safety device and monitoring system
WO 2022236059 A1	REDKIK OY	Risk probability assessment for cargo shipment operations and methods of use thereof
WO 2022225581 A1	SONALYSTS INC	System and method of situation awareness in industrial control systems
WO 2022232174 A1	UNIV COLORADO REGENTS	Wireless home identification and sensing platform
WO 2022235572 A1	EMERSON CLIMATE TECHNOLOGIES	Refrigerant leak sensor with extended life
WO 2022232094 A1	THRIVE BIOSCIENCE INC	Device, method and apparatus for controlling humidity in an incubator
WO 2022242973 A1	ENDRESS HAUSER WETZER GMBH CO KG	In situ temperature calibration
WO 2022251833 A1	SAUDI ARABIAN OIL CO	Contactless real-time 3d mapping of surface equipment
WO 2022260340 A1	SAMSUNG ELECTRONICS CO LTD	Electronic apparatus having display including optical sensor
WO 2022225506 A1	SIEMENS MOBILITY AUSTRIA GMBH	Novelty detection in railway bogies
WO 202227395 A1	UNIV JIANGSU	Portable airborne fungus real-time collection and detection device and method
WO 2022256915 A1	SMART WAVE TECH INC	Beer keg tracking and beer quality monitoring system
WO 2022248004 A1	KK WIND SOLUTIONS AS	Establishing health indicator of a rotating component
WO 202221234 A1	VIEW INC	Temperature and thermal comfort mapping of an enclosed environment
WO 2022236137 A1	NILE GLOBAL INC	Methods and systems of wireless sensor authentication
WO 2022251105 A1	AS AMERICA INC	Connected faucet systems
WO 2022240046 A1	HANWHA CORP	Drilling device and drilling management system comprising same
WO 2021177542 A2	ESCOM ENERJI SANTRALLERI MUEH HIZ INS TAAH SAN VE TIC LTD STI	Valve monitoring system in two and four stroke internal combustion engines/machines
WO 202221212 A1	NEC LAB AMERICA INC	Dynamic anomaly localization of utility pole wires
WO 2022248164 A1	RWE RENEWABLES GMBH	Method for training a machine learning model able to be used to determine a remaining life of a wind power installation
WO 2022248594 A1	BUEHLER AG	Optimized industrial bioreactor and method thereof, with mutually dependent, coupled process control loops
WO 2022249466 A1	YOKOHAMA RUBBER CO LTD	Tire shape measurement device and method
WO 2022236064 A2	STRONG FORCE IOT PORTFOLIO 2016 LLC	Quantum, biological, computer vision, and neural network systems for industrial internet of things
WO 2022248932 A1	HAJGHOLAMI MOHAMMADREZA	System for making risk reduction protocol in oil and gas industry tanks
WO 2022243938 A1	UNIV NAT COLOMBIA	Device for locating improvised explosive devices by means of the backscattering of thermal neutrons
WO 2022250601 A1	ZENZR SVERIGE AB	A system and method for determination of humidity of concrete

WO 2022244012 A1	CYIENT LTD	System and method for performing failure mode and effect analysis in an edge gateway
WO 2022240963 A2	PENN STATE RES FOUND	Embedded sensor system for measurement and monitoring of the pore solution electrical resistivity in concrete materials and structures

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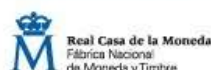
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