

Boletín VT

REDES DE SENSORES INALÁMBRICAS

47

3.º trimestre 2021

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 2021175859 A1	SIGNIFY HOLDING BV	Estimating a harvesting time for a plant section based on light measurement information
WO 2021182314 A1	NITTO DENKO CORP	Anomaly sensing system
WO 2021182204 A1	NITTO DENKO CORP	Anomaly sensing system
WO 2021177192 A1	SONY GROUP CORP	Path generation method, path generation device, and program
WO 2021178390 A1	INTELLIGENT AGRICULTURAL SOLUTIONS LLC	Stanley coupler
WO 2021170498 A1	YIELD SYSTEMS OY	A phenotyping device, method and system for measuring phenotypic traits of one or more plants in a target canopy
WO 2021123038 A1	LAPORTE URIBE JOSE A	Apparatus for monitoring nutrition, especially fermentation in the rumen of a ruminant
WO 2021136832 A1	STRIPS D O O	Beehivescale, beekeeping control device, apiary and beekeeping control system
WO 2021123726 A1	ZELP LTD	Gas monitoring device
WO 2021156630 A1	SPOTTA LTD	Systems and method for detecting the presence of pests
WO 2021173571 A1	ANIV8 INC	Animal health evaluation system and method
WO 2021161694 A1	NGK SPARK PLUG CO	Water quality measurement device and storage method for water quality measurement device
WO 2021165681 A1	RES & INNOVATION UK	Measuring snowfall
WO 2021125285 A1	CANON KK	Information processing device, computer program, and information processing method
WO 2021125541 A1	SAMSUNG ELECTRONICS CO LTD	Plant cultivation device and control method therefor
WO 2021144629 A1	PREC PLANTING LLC	Apparatuses for soil and seed monitoring
WO 2021128074 A1	TANGSHAN HARBIN SHIP TECH CO LTD	Marine organism boosted culturing and breeding apparatus, and method for using same
WO 2021165476 A1	UNIV LEUVEN KATH	Monitoring of a plant condition
WO 2021119838 A1	MARY AGROTECHNOLOGIES INC	Hydroponic system
WO 2021166008 A1	NILEWORKS INC	Drone and method for controlling drone
WO 2021158644 A1	X DEV LLC	Camera winch control for dynamic monitoring
WO 2021152774 A1	SAGRI CO LTD	Information processing device
WO 2021156653 A1	PONTIFICIA UNIV JAVERIANA	System and method for phenotypic characterisation of agricultural crops
WO 2021119363 A2	AGNETIX INC	Multisensory imaging methods and apparatus for controlled environment horticulture using irradiators and cameras and/or sensors
WO 2021163335 A1	TSI INC	Photoelectric sensor for seed dispensing system
WO 2021162998 A1	BLUE RIVER TECH INC	Upward facing light sensor for plant detection
WO 2021142068 A1	CLIMATE CORP	Using optical remote sensors and machine learning models to predict agronomic field property data
WO 2021168459 A1	HIPPO HARVEST INC	Grow method

WO 2021141896 A1	ADAVIV	Mobile sensing system for crop monitoring
WO 2021161294 A1	GOVERNMENT OF ISRAEL – THE ISRAEL INSTITUTE FOR BIOLOGICAL RES IIBR	System and method for activity monitoring of animals in homecages
WO 2021155204 A1	HERRING JAMISON WAYNE	System for detecting the concentration of gases in soil
WO 2021155013 A1	HUMEGY CORP	Methods, systems, and devices for a biophilia-based ecosystem to promote wellbeing and productivity using machine learning
WO 2021118368 A1	AUTOGROW LTD	Environmental sensors and sensing methods
WO 2021152594 A1	CLEAN SOIL AGRO LTD	Disinfection of soil by application of electric voltage
WO 2021156706 A1	IBM	Estimation of crop type and/or sowing date
WO 2021138539 A1	AG OX LLC	System for agricultural water oxygenation
WO 2021144785 A1	CENTURE APPLICATION LTD	System and method for real-time crop management
WO 2021144807 A1	TATA CONSULTANCY SERVICES LTD	System and method for monitoring health of low-cost sensors used in soil moisture measurement
WO 2021138741 A1	OTO INC	Lawn or garden maintenance device and related system
WO 2021140408 A1	UNIV RAMOT	Plant body channel communications
WO 2021150450 A1	AUSTRALIS AQUACULTURE LLC	Bioreactor and method for culturing seaweed

[...ver más](#)

REDES DE SENSORES PARA ENTORNOS URBANOS O PÚBLICOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2021175682 A1	STARSHIP TECH OUE	Method, system and device for analyzing pedestrian motion patterns
WO 2021180281 A1	KAMSTRUP AS	System and method for acoustic leak detection in a utility distribution system
WO 2021136719 A1	SIGNIFY HOLDING BV	A method of provisioning node devices of a network from a backend server, a node device and a backend server
WO 2021136723 A1	SIGNIFY HOLDING BV	A method of determining location addresses of node devices in a network of node devices and such a node device
WO 2021180843 A1	TRIDONIC GMBH & CO KG	Grid of a plurality of building technology sensor modules and system comprising such a grid
WO 2021180847 A1	TRIDONIC GMBH & CO KG	Method for monitoring the density and/or the movement of humans
WO 2021180467 A1	TRIDONIC GMBH & CO KG	Grid of luminaires
WO 2021124329 A1	EQ EARTHQUAKE LTD	Systems and methods for earthquake detection and alerts
WO 2021130275 A1	SCHREDER SA	System and method for driving and controlling light sources
WO 2021160558 A1	SWISS REINSURANCE CO LTD	Digital platform using cyber-physical twin structures providing an evolving digital representation of a real world asset for quantifying event occurrences measurements, and method thereof
WO 2021144030 A1	ERICSSON TELEFON AB L M	Method, system and network nodes for enhancing service provision in a network comprising a plurality of computing device nodes
WO 2021160906 A1	SEPULVEDA CRESPO BRIGIDO	System for managing and controlling atmospheric pollution
WO 2021160603 A1	TRIDONIC GMBH & CO KG	Determination of street condition by acoustic measurement
WO 2021136335 A1	HUAWEI TECH CO LTD	Method for controlling edge node, node, and edge computing system
WO 2021160806 A1	AIRMONT AS	Sensor network
WO 2020020261 A1	SI SHUCHUN	Method for improving monitoring coverage rate during atmospheric monitoring by using bus
WO 2021148778 A1	DETECTRONIC LTD	Open channel flow monitoring apparatus
WO 2021152392 A2	SURVIA LTD	Method and system for managing safety devices in a building during the detection of a threat event
WO 2021163395 A1	EVOQUA WATER TECH LLC	Autonomous chemical dosing system and methods of use thereof
WO 2021146927 A1	SIEMENS SCHWEIZ AG	Method and apparatus for sensor fault detection
WO 2021142397 A2	SELEVAN ADAM JORDAN	Devices and methods for channelizing vehicular traffic and enhancing workzone safety

[...ver más](#)

REDES DE SENSORES PARA DETECTAR INCENDIOS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

WO 2021177396 A1	PANASONIC IP MAN CO LTD	Display system, display method, and program
WO 2021174291 A1	STEPHEN CHRISTOPHER COLIN	An emergency response system and method
WO 2021178120 A1	ENLIGHTED INC	Device and method for managing communications
WO 2021181196 A1	3M INNOVATIVE PROPERTIES CO	Adaptive signal routing in a personal protective equipment network
WO 2021129919 A1	BOSCH GMBH ROBERT	Gaseous fluid monitor and method for monitoring properties of gaseous fluid
WO 2021129920 A1	BOSCH GMBH ROBERT	Sensor device and method for measuring gaseous fluid
WO 2021115728 A1	SIEMENS SCHWEIZ AG	Smoke detection unit for a fire alarm with basic pulse suppression, and suitable method for detecting smoke
WO 2021178292 A1	SOUTH TEK SYSTEMS LLC	Dry pipe fire protection system air maintenance device with pressure monitor
WO 2021130531 A1	INSTITUTO DE SIST E ROBOTICA	Method, device and system for the detection of a flame condition, in particular for the detection of a forest fire
WO 2021138410 A1	PACIFIC GAS AND ELECTRIC COMPANY	System, server and method for monitoring utility systems
WO 2021161663 A1	TATSUMI RYOKI CO LTD	Monitoring system
WO 2021160749 A1	DRYAD NETWORKS GMBH	Forest fire early detection method and forest fire early detection system
WO 2021159017 A1	FLECKNER KAREN	Method for fire protection and suppression with hydrogels and compressed air foam systems
WO 2021134148 A1	GONG BINLU	Door and window flame retardant performance detection device
WO 2021162919 A1	SAUDI ARABIAN OIL CO	Hazard detection and containment
WO 2021166735 A1	NEXT INNOVATION INC	Information providing system
WO 2021165972 A1	SHAVIT DAVID	Community outdoor fire defense
WO 2021164655 A1	AIPHAS CO	System for determining and notifying abnormal high-temperature of field
WO 2021150600 A1	MINIMAX VIKING RES & DEV GMBH	Fire suppression system and method for an enclosed area
WO 2021142827 A1	AI PRIME SHANGHAI COMPANY LTD	Video and sensor monitoring integration system
WO 2021142825 A1	AI PRIME SHANGHAI COMPANY LTD	Treatment system for priority of alarm event
WO 2021133267 A1	KALKAN YALCIN	Fire sensor gas detector
WO 2021153204 A1	AIR WATER SAFETY SERVICE INC	Fire extinguishing system and method for manufacturing same
WO 2021132784 A1	SUNG KI HYUN	Anti-freezing apparatus

[..ver más](#)

OTRAS REFERENCIAS

Nº PUBLICACIÓN SOLICITANTE CONTENIDO TÉCNICO

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
WO 2021178164 A1	HUBBELL INC	System and method for monitoring operation of a heating system for a space
WO 2021170888 A1	SENER ING & SIST	Ventilation control system for an underground
WO 2021176683 A1	NEC CORP	Optical fiber sensing system, optical fiber sensing method, and optical fiber sensing device
WO 2021178286 A1	SCHLUMBERGER TECHNOLOGY CORP	Systems and methods for enhancing data acquisition operations in seismic surveys
WO 2021176342 A1	IBM	Storage and communication environment for cryptographic tags
WO 2021173547 A1	CALIFORNIA INST OF TECHN	Infrared absorption-based composition sensor for fluid mixtures
WO 2021182965 A1	SHEARWATER INVEST AS	Steering of marine equipment towed by a vessel by a running block
WO 2021122347 A1	FOS4X GMBH	Method for determining a remaining service life of a wind turbine, and wind turbine
WO 2021182992 A1	JOINT STOCK COMPANY ROTEK	Method of acquiring data for monitoring the state of building structures
WO 2021130326 A1	TUBACEX INNOVACION A I E	Assembly for monitoring the temperature and strain of a pipe
WO 2021138468 A1	IND INTELLIGENCE LLC	Continuous dust accumulation monitoring system
WO 2021173138 A1	LM WIND POWER AS	System and method for monitoring wind turbine rotor blades using infrared imaging and machine learning
WO 2021172187 A1	PANASONIC IP MAN CO LTD	Failure diagnosis device, failure diagnosis system, household electrical appliance, sensor unit, and failure diagnosis method
WO 2021138569 A1	3M INNOVATIVE PROPERTIES CO	Monitoring system for evaluating a condition of an electrical grid
WO 2021170502 A1	SIGNIFY HOLDING BV	Real-time location of an object using radio frequency and infrared signals
WO 2021182994 A1	JOINT STOCK COMPANY ROTEK	Method of monitoring and predicting the state of structures
WO 2021124827 A1	MITSUBISHI POWER LTD	Earthquake monitoring system for boiler, and earthquake monitoring device for boiler
WO 2021130030 A1	INST MINES TELECOM	Devices and methods for low power adaptive channel sensing
WO 2021126765 A1	SAUDI ARABIAN OIL CO	Sensor network for subsurface impact protection system
WO 2021127529 A1	CATMASTERS LLC	Virtual reality to reality system
WO 2021154470 A1	SMART SCIENCE TECH LLC	System for providing a virtual focus group facility
WO 2021155950 A1	KONUX GMBH	System and method for analysing railway related data
WO 2021165407 A1	SONY GROUP CORP	A system and a method for generating a weather map
WO 2021136510 A1	HANGZHOU HIKROBOT TECH CO LTD	Data acquisition system, method, device, electronic apparatus, and storage medium
WO 2021134254 A1	JIANGSU NANGAO INTELLIGENT EQUIPMENT INNOVATION CENTER CO LTD	Modeling system for collected data of sensors on numerical control machine tool and method therefor
WO 2021173188 A1	NEC LAB AMERICA INC	Distributed sensing over switched optical fiber networks
WO 2021133938 A1	FEENEY JOHN	Contextualized sensor systems
WO 2021158591 A1	CALIFORNIA INST OF TECHN	Strain gauge flow meter for downhole applications
WO 2021132774 A1	HWASEUNG EXWILL CO LTD	Management system for artificial intelligence-type pneumatic fender
WO 2021119313 A1	ORIGIN ROSE LLC	Spectral analysis and machine learning to detect offset well communication using high frequency acoustic or vibration sensing
WO 2021132713 A1	LIGHTHOUSE INC	Information processing device, program, and method
WO 2021138500 A1	VISWESWARIAH CHANDU	Scalable systems and methods for assessing healthy condition scores in renewable asset management

WO 2021156287 A1	VENTUS ENG GMBH	Wake monitoring, wake management and sensory arrangements to such
WO 2021166260 A1	NIPPON TELEGRAPH & TELEPHONE	Data collection system, and data collection method
WO 2021126312 A1	OCEANEERING INT INC	System for identification of marine mammalian species present at an offshore construction site
WO 2021159180 A1	POST HARVEST LEARNING PTY LTD	A gas monitor and method of detecting gas, including a ripening monitor
WO 2021138207 A1	EMERA TECH LLC	Power distribution systems and methods
WO 2021166261 A1	NIPPON TELEGRAPH & TELEPHONE	Data collection system and data collection method
WO 2021138523 A1	BOOZ ALLEN HAMILTON INC	System and method for dynamic three dimensional command and control
WO 2021140135 A1	NORWEGIAN UNIV SCI & TECH NTNU	Wireless sensor system
WO 2021156821 A1	DX TECH PTY LTD	Methods and systems for detection, location and characterization of signal sources in electrical infrastructure using distributed sensors
WO 2021125437 A1	UNIV INJE IND ACAD COOP FOUND	Real-time electronic float fishing system
WO 2021150545 A1	ROSEMOUNT INC	Wireless sensor network gateway with integral intrinsic safety outputs for field mounted access point antennas
WO 2021151495 A1	HUAWEI TECH CO LTD	Devices, methods and computer programs for bootstrapping a group of node devices for wireless local area networking
WO 2021162841 A1	SENSATA TECHNOLOGIES INC	Wireless protocol for sensing systems
WO 2021165547 A1	AQUATRACE LTD	Leak detection system and method
WO 2021154677 A1	LEITNER POMA OF AMERICA INC	Aerial ropeway hazard sensing system and method
WO 2021134564 A1	SIEMENS AG	Method and device for processing sensor data
WO 2021153142 A1	NEC CORP	Sensing range limiting device, receiving device, transmitting and receiving device, optical fiber sensing range limiting method, and recording medium
WO 2021154344 A1	HALLIBURTON ENERGY SERVICES INC	Thermal analysis of temperature data collected from a distributed temperature sensor system for estimating thermal properties of a wellbore
WO 2021137907 A1	MASSACHUSETTS INST TECHNOLOGY	Remote meteorological sensing via aircraft mode selective enhanced surveillance
WO 2021166320 A1	HITACHI LTD	Moving body abnormal state monitoring system
WO 2021165954 A1	SHMUNIK ALEXANDER	A method and system of rfid tray for hotel rooms
WO 2021163287 A1	VIEW INC	Predictive modeling for tintable windows
WO 2021118908 A1	BARNES GROUP INC	Wireless sensor with beacon technology
WO 2021149528 A1	UNIV OSAKA	Event predicting system, event predicting method, and program
WO 2021156864 A1	OPGAL OPTRONIC IND LTD	System and method for tracking and analyzing an air contaminant plume
WO 2021152493 A1	NERKAR SARANG DILIP	Methods, devices, systems and computer program products for sensor systems
WO 2021142539 A1	SHUMKA THOMAS	Predictive modeling of health of a driven gear in an open gear set
WO 2021146106 A1	BROAN NU TONE LLC	Devices for use in an indoor air quality system
WO 2021142064 A1	SCHLUMBERGER TECHNOLOGY CORP	Systems and methods for performing seismic survey in shallow water areas
WO 2021138505 A1	UNIV CALIFORNIA	Multi-gas detection with cs-fet arrays for food quality assessment
WO 2021157971 A1	SAMSUNG ELECTRONICS CO LTD	Air conditioner
WO 2021130634 A1	IBM	Integration of physical sensors in data assimilation framework
WO 2021133254 A1	ANTWORKS PTE LTD	Method and system for robotic process automation
WO 2021154975 A1	SMART HOME PROT LLC	Security flashlights with threat detection
WO 2021158973 A1	UNIV BOSTON	Enzyme-based electrochemical nicotine biosensor

WO 2021147216 A1	SHANGHAI INST OPTICS & FINE MECH CAS	Distributed optical fiber acoustic sensing system and signal processing method
WO 2021148849 A1	NASH IND INDIA PRIVATE LTD	Smart-containers for an inventory management system

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