



# SmartLivingPlat

Plataforma Tecnológica de la Domótica  
y las Ciudades Inteligentes



## Boletín de Vigilancia Tecnológica

MARZO - ABRIL 2023

SMART BUILDINGS  
SMART CITIES  
INDUSTRIA 4.0

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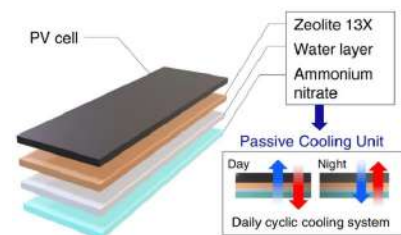
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## NOTICIAS

### Passive solar module cooling tech based on water sorption

Publicada en <https://www.pv-magazine.com>, 28/04/2023.

South Korean scientists have developed a WD-ER cooling system that can lower the operating temperature of a PV panel by up to 14.9 C, with an average heat transfer coefficient of 64.1W/m<sup>2</sup>.



[ver más...](#)

### Meet the RBR50 Robotics Innovation Awards Winners

Publicada en <https://www.cobottrends.com/>, 19/04/2023.

Robotics Business Review, sister publication of Collaborative Robotics Trends, today announced the winners of the 2023 RBR50 Robotics Innovation Awards (RBR50). For more than a decade, the annual RBR50 list celebrates forward-thinking organizations and their original, impactful creations. Recognized throughout the world, the RBR50 is also a critical measure of robotics sector growth.



[ver más...](#)



## Brain-computer interfaces (BCIs): The future of human-computer interaction

Publicada en <https://uxdesign.cc/>, 14/04/2023.

Would brain chips make us cyborgs? How should HCI contribute to BCIs? A broad analysis, insights, and human-computer interaction concepts for the product of the future.

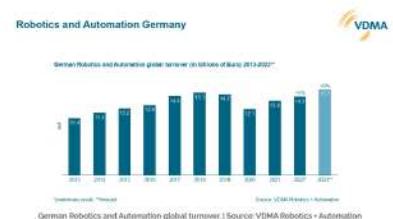


[ver más...](#)

## German robotics industry to grow 9% in 2023

Publicada en <https://www.cobottrends.com>, 03/04/2023.

German robotics and automation experts expect the industry's gross revenue to grow by 9%, reaching 15.7 billion euros (over \$17 billion) by the end of 2023, according to the VDMA Robotics + Automation Association.



[ver más...](#)

## 'Wohlers Report 2023' Finds Double Digit Growth Continuing in Additive Manufacturing

Publicada en <https://www.robotics247.com>, 02/04/2023.

Wohlers Associates, powered by ASTM International, last week announced the release of Wohlers Report 2023. This year's report examined the growth of the additive manufacturing, or AM, industry with insights from 10 industry sectors.



[ver más...](#)

## How to design a Passivhaus and sustainable building

Publicada en <https://build-up.ec.europa.eu>, 24/03/2023.

It is important to make informed decision when start designing a sustainable home. Here are some points to consider: using Passivhaus methodologies can help to reach the highest energy performance and highest comfort without increasing costs. knowing well the site where you want to build since it influences your design and performance form factor: it is the ratio of building envelope area to useable floor area. The higher this number the less efficient the form is.



[ver más...](#)

## EMPRESAS Y MERCADOS

### How Collaborative Robots Can Help Prevent the Welders Shortage in 2023

Publicada en <https://www.jakarobotics.com>, 24/04/2023.

You know that feeling when you're in the middle of a welding project and suddenly realize you're running out of skilled welders? Well, fear not, because cobots are here to save the day, and prevent a welders shortage in 2023! Yes, you heard it right, robots to the rescue, and they're not just any ordinary robots, they're cobots – the funniest and friendliest robots in town!

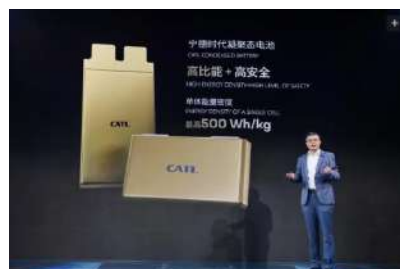


[ver más...](#)

### World's largest battery maker announces major breakthrough in energy density

Publicada en <https://thedriven.io>, 21/04/2023.

In one of the most significant battery breakthroughs in recent years, the world's largest battery manufacturer CATL has announced a new "condensed" battery with 500 Wh/kg which it says will go into mass production this year. "The launch of condensed batteries will usher in an era of universal electrification of sea, land and air transportation, open up more possibilities of the development of the industry, and promote the achieving of the global carbon neutrality goals at an earlier date," the company said in a presentation at Auto Shanghai on Thursday.



[ver más...](#)

## Announcing Google DeepMind

Publicada en <https://www.deepmind.com>, 20/04/2023.

Earlier today we announced some changes that will accelerate our progress in AI and help us develop more capable AI systems safely and responsibly.

[ver más...](#)

## Mastercard to settle transactions for stablecoin wallet in APAC

Publicada en <https://cointelegraph.com>, 20/03/2023.

Mastercard has entered a collaboration that would allow retail customers in the APAC region to spend their stablecoins anywhere Mastercard is accepted. Global payment provider Mastercard is launching a stablecoin digital wallet integration with the Australian stablecoin platform Stables. Mastercard and Stables on March 20 announced a collaboration to allow retail customers in the Asia-Pacific (APAC) region to spend their stablecoins anywhere Mastercard is accepted.

[ver más...](#)

## Introducing Microsoft 365 Copilot – your copilot for work

Publicada en <https://blogs.microsoft.com>, 16/03/2023.

Today, we are bringing the power of next-generation AI to work. Introducing Microsoft 365 Copilot — your copilot for work. It combines the power of large language models (LLMs) with your data in the Microsoft Graph and the Microsoft 365 apps to turn your words into the most powerful productivity tool on the planet.

[ver más...](#)



## SONOFF iHost Smart Home Hub enables local control of SONOFF, Tasmota, Matter home automation devices

Publicada en <https://www.cnx-software.com>, 09/03/2023.

SONOFF iHost is a Smart Home Hub that enables local control of SONOFF smart switches, lightbulbs, Zigbee sensors, and so on without having to require a connection to the cloud (e.g. eWelink). Future software upgrades will also add more devices such as the ones flashed with Tasmota firmware and any device compatible with the Matter IoT protocol.



[ver más...](#)

## Philips highlights AI-powered integrated diagnostic approach at ECR 2023

Publicada en <https://www.philips.com>, 01/03/2023.

Fully interoperable smart imaging systems and informatics solutions connect teams in radiology, oncology, cardiology and pathology to enhance clinical confidence and advance precision in diagnosis and treatment

[ver más...](#)

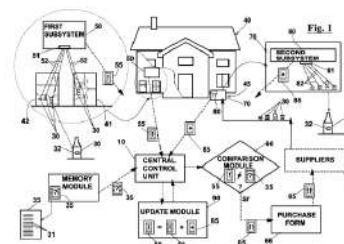
## PATENTES

### Home delivery system of consumer goods

Publicada en Patentscope\_Domótica, 26/04/2023.

Solicitante: ALFA HOLDING DI ANNARITA CAPONI E C SAS

A home delivery system for consumer goods including: a central control unit (10); a memory module (20) communicating with the central control unit (10) and configured to contain a list (35) of goods to be monitored, each of the goods (30) being associated with an article code



[ver más...](#)

### Systems and methods for fault diagnostics in building automation systems

Publicada en Patentscope\_Domótica, 26/04/2023.

Solicitante: SIEMENS INDUSTRY INC

Methods for failure analysis in a building automation system (100) and corresponding systems and computer-readable mediums (1126). A method includes receiving (1002) device event data (622) for a plurality of devices (112) and executing (1004) a fault diagnostics inference engine (608) to determine faults (630) corresponding to the device event data

[ver más...](#)

## Method for automatic autonomous control of a packing machine

Publicada en Patentscope\_Domótica, 12/04/2023.

Solicitud: HP3 REAL GMBH

The invention relates to a method for automatic autonomous control of a packing machine (C) having a position-measuring device (WMS, GPS, 32) for precise detection of the position of the track-building machine in a track, and signal detection by actuators of working assemblies (23, bv, 18, 26) of the packing machine (C).

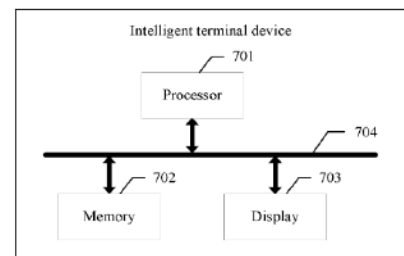
[ver más...](#)

## Method for securely controlling smart home appliance and terminal device

Publicada en Patentscope\_Domótica, 12/04/2023.

Solicitante: HUAWEI TECH CO LTD

A method for securely controlling a smart home, and a terminal device are provided, to resolve a prior-art problem that an intelligent terminal device is counterfeited.



[ver más...](#)

## Subcarrier spacing restriction for ssb, csi-rs for l3 mobility, and pdcch/pdsch

Publicada en Patentscope\_Domótica, 12/04/2023.

Solicitante: Apple Inc.

Technology is provided for supporting different numerologies for concurrent intra-frequency measurements and downlink data reception. A user equipment (UE) may send a message to the a wireless network to indicate whether the UE supports a mixed numerology

[ver más...](#)

## Redevelopment system of intelligent street lamps

Publicada en Patentscope\_Domótica, 22/03/2023.

Solicitante: ASYMMETRICA S R L

The general field of application of this invention is in the sector of infrastructure adaptation, to support the transition towards the progressive computerization of urban environments, in line with the evolutionary scenarios typically identified with the expression "Smart City".

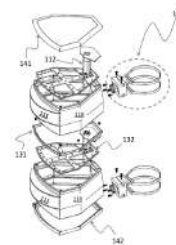


Fig. 1

[ver más...](#)

## Artificial intelligence object control method and apparatus, device, and storage medium

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: TENCENT TECHNOLOGY (SHENZHEN) COMPANY LIMITED [CN]

An artificial intelligence object control method and apparatus, a device, and a storage medium, relating to the technical field of artificial intelligence. The method comprises: a terminal displays a virtual scene interface (201), the virtual scene interface displaying a controlled virtual object of the terminal

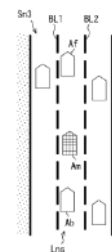
[ver más...](#)

## Automated driving control device and automated driving control program

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: DENSO CORPORATION [JP]

In the present invention, an automated driving ECU functions as an automated driving control device for enabling an own vehicle (Am) to travel by autonomous traveling control in which a driver is not obliged to perform peripheral monitoring.



[ver más...](#)



## Biomimetic decoding of sensorimotor intension with artificial neural networks

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: WEST VIRGINIA UNIVERSITY BOARD OF GOVERNORS ON BEHALF OF WEST VIRGINIA UNIVERSITY [US]

Various examples are provided related to biomimetics and use of ANNs for decoding and control. In one example, a method includes generating muscle model parameters by a musculoskeletal kinematic transformation implemented by a first artificial neural network

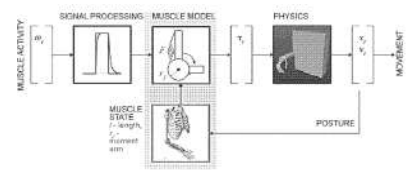


FIG. 1

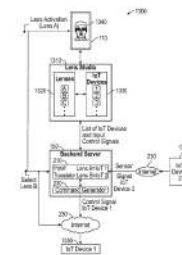
[ver más...](#)

## Building augmented reality experiences with iot devices

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitantes: Yu Jiang Tham, Rajan Vaish, Andrés Monroy-Hernández Sven Kratz, Ana Maria Cardenas Gasca

Systems and methods enable users to build augmented reality (AR) experiences with Internet of Things (IoT) devices. The system includes an AR object studio that includes a list of IoT devices and control signals for the respective IoT devices and a list of AR objects (e.g., an AR lens)



[ver más...](#)

## Early warning method and system for regional public security management in smart city based on the internet of things

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: CHENGDU QINCHUAN IOT TECHNOLOGY CO., LTD.

An early warning method and system for a regional public security management in a smart city based on the IoT are provided. The early warning method includes: sending, based on a sensing network sub-platform, a monitoring image of a target region to the management sub-platform;

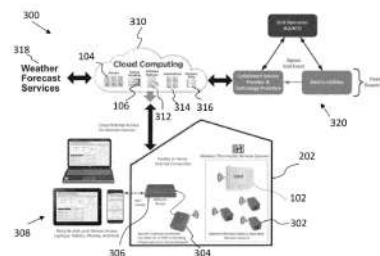
[ver más...](#)

## Energy management and smart thermostat learning methods and control systems

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: Emerson Electric Co.

A method of HVAC system performance monitoring using a computing device connected to at least one thermostat of an HVAC system in a building includes receiving thermostat data from the thermostat, the thermostat data including temperature setpoint data, measured building temperature data, and HVAC operation data for a time period



[ver más...](#)

## Global internet of things (iot) quality of service (qos) realization through collaborative edge gateways

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: AT&T Intellectual Property I, L.P.

Global Internet of things (IoT) quality of service (QoS) is provided through self-forming, self-healing, and/or collaborative edge IoT gateways. Moreover, global IoT services are provided by logically extending cellular networks with roaming partners to backhaul, track, and/or manage the globally deployed edge IoT gateways.

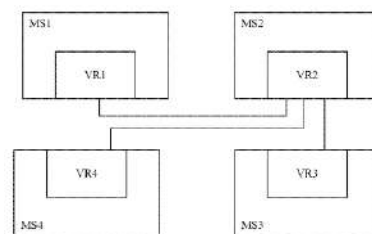
[ver más...](#)

## Intelligent dataset slicing during microservice handshaking

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: INTERNATIONAL BUSINESS MACHINES CORPORATION [US]

A computer-implemented process of intelligent dataset slicing within a network having a plurality of microservices is disclosed. Handshaking between a first microservice and a second microservice is initiated. A vertical reduction of a dataset is required by the second microservice and from the first microservice.



[ver más...](#)

## Intelligent manufacturing industrial internet of things based on platform networks in post-sub type and control methods thereof

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: CHENGDU QINCHUAN IOT TECHNOLOGY CO., LTD.

The embodiments of the present disclosure disclose an intelligent manufacturing Industrial Internet of Things based on a platform network in a post-sub type and control methods thereof.



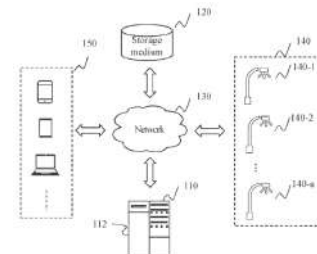
[ver más...](#)

## Method and system for controlling intelligent street lamps in a smart city based on internet of things

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: CHENGDU QINCHUAN IOT TECHNOLOGY CO., LTD.

The embodiments of the present disclosure provide a method and a system for controlling intelligent street lamps in a smart city based on an Internet of Things



[ver más...](#)

## Method for suppressing overshoot of output voltage or output current, charging device, and medium

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: SHENZHEN WINLINE TECHNOLOGY CO., LTD. [CN]

The present application discloses a method for suppressing overshoot of an output voltage or an output current, a charging device, and a medium. The method for suppressing overshoot of the output voltage or the output current comprises: determining a loop in an open-loop state in a closed-loop control circuit

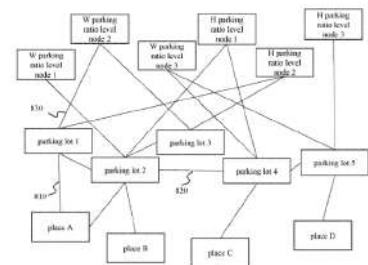
[ver más...](#)

## Methods and systems for managing parking lots in smart cities based on the internet of things

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: CHENGDU QINCHUAN IOT TECHNOLOGY CO., LTD.

The present disclosure provides a method for managing a parking lot in a smart city based on an Internet of Things, which is executed by a management platform. The method comprises obtaining a user position of a user platform based on a service platform, determining a candidate parking lot that meets a preset conditio



[ver más...](#)

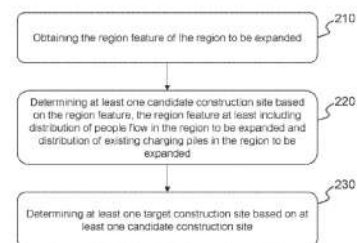


## Methods for construction planning of charging piles in the smart cities and internet of things systems thereof

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: CHENGDU QINCHUAN IOT TECHNOLOGY CO., LTD.

The embodiments of the present disclosure provide a method for construction planning of a charging pile in a smart city. The method is implemented based on a management platform of an Internet of Things system for construction planning of the charging pile in the smart city.



[ver más...](#)

## Methods for determining restriction schemes in smart cities, internet of things systems, and medium thereof

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: CHENGDU QINCHUAN IOT TECHNOLOGY CO., LTD

The disclosure provides a method for determining a restriction scheme in a smart city, which is implemented based on an Internet of Things system for determining the restriction scheme in the smart city.

[ver más...](#)

## Network restoration method and apparatus for smart device, and smart gateway

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: SHENZHEN SCIENBIZIP INTELLECTUAL PROPERTY AGENCY CO., LTD.

The present application relates to the technical field of the Internet of Things. Disclosed are a network restoration method and apparatus for a smart device, and a smart gateway.

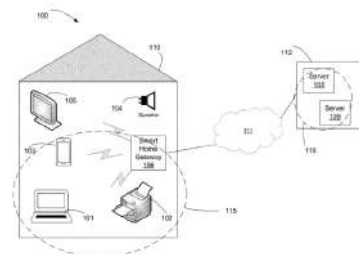
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## Securing corporate assets in the home

Publicada en Patentscope\_Domótica, 02/03/2023.

Solicitante: AT&T Intellectual Property I, L.P.

A method includes creating a secured connection between a home network and a remote corporate network via a smart home gateway; detecting a plurality of devices are connected with the smart home gateway, wherein the plurality of devices are within the home network



[ver más...](#)



## PUBLICACIONES CIENTÍFICAS

### A Systematization of Cybersecurity Regulations, Standards and Guidelines for the Healthcare Sector

Publicada en <https://arxiv.org>, 28/04/2023.

The growing adoption of IT solutions in the healthcare sector is leading to a steady increase in the number of cybersecurity incidents. As a result, organizations worldwide have introduced regulations, standards, and best practices to address cybersecurity and data protection issues in this sector.

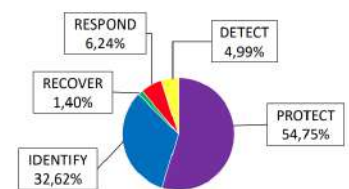


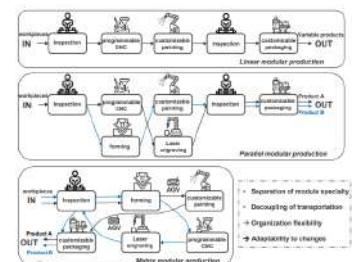
Figure 4: Mapping (Functions)

[ver más...](#)

### Towards autonomous system: flexible modular production system enhanced with large language model agents

Publicada en <https://arxiv.org>, 28/04/2023.

In this paper, we present a novel framework that combines large language models (LLMs), digital twins and industrial automation system to enable intelligent planning and control of production processes.

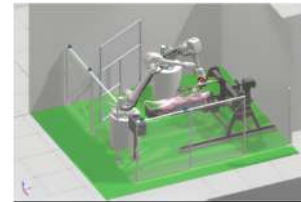


[ver más...](#)

## Current Safety Legislation of Food Processing Smart Robot Systems The Red Meat Sector

Publicada en <https://arxiv.org>, 27/04/2023.

Ensuring the safety of the equipment, its environment and most importantly, the operator during robot operations is of paramount importance. Robots and complex robotic systems are appearing in more and more industrial and professional service applications.



[ver más...](#)

## Improved Trust in Human-Robot Collaboration with ChatGPT

Publicada en <https://arxiv.org/>, 25/04/2023.

Human robot collaboration is becoming increasingly important as robots become more involved in various aspects of human life in the era of Artificial Intelligence. However, the issue of human operators trust in robots remains a significant concern, primarily due to the lack of adequate semantic understanding and communication between humans and robots.

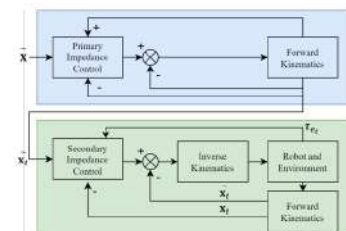


Fig. 3. Dual-stage Impedance control

[ver más...](#)



## Causal Analysis of Customer Churn Using Deep Learning

Publicada en <https://arxiv.org>, 20/04/2023.

Customer churn describes terminating a relationship with a business or reducing customer engagement over a specific period. Two main business marketing strategies play vital roles to increase market share dollar-value: gaining new and preserving existing customers.



Fig. 3 Churn propensity modeling

[ver más...](#)

## Cyber Security in Smart Manufacturing (Threats, Landscapes Challenges)

Publicada en <https://arxiv.org>, 20/04/2023.

Industry 4.0 is a blend of the hyper-connected digital industry within two world of Information Technology (IT) and Operational Technology (OT). With this amalgamate opportunity, smart manufacturing involves production assets with the manufacturing equipment having its own intelligence, while the system-wide intelligence is provided by the cyber layer.



Fig. 2 CIA Triad [12]

[ver más...](#)



## Mobile Robot Control and Autonomy Through Collaborative Simulation Twin

Publicada en <https://arxiv.org/>, 10/03/2023.

When a mobile robot lacks high onboard computing or networking capabilities, it can rely on remote computing architecture for its control and autonomy. This paper introduces a novel collaborative Simulation Twin (ST) strategy for control and autonomy on resource-constrained robots.

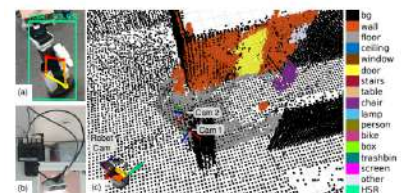


[ver más...](#)

## External Camera-based Mobile Robot Pose Estimation for Collaborative Perception with Smart Edge Sensors

Publicada en <https://arxiv.org/>, 07/03/2023.

We present an approach for estimating a mobile robot's pose w.r.t. the allocentric coordinates of a network of static cameras using multi-view RGB images. The images are processed online, locally on smart edge sensors by deep neural networks to detect the robot and estimate 2D keypoints defined at distinctive positions of the 3D robot model.



[ver más...](#)

