

MOBILE WORLD CONGRESS

Smart Industry Demo

LEADING THE CHANGE, TRANSFORMING
INDUSTRY 4.0 WITH SMART SOLUTIONS:
DRIVING EFFICIENCY, GROWTH,
AND SUSTAINABILITY.

Technology Capabilities

We present the **Smart Industry** demo at MWC24 to showcase Telefónica Tech's **technological capabilities in Industry 4.0** and to highlight the integration of services and technological solutions shown in the different use cases presented.

The demo shows the **end-to-end production process** of a personalized keychain with the company's centenary logo and a QR code, with the traceability of the production process certified with Blockchain. It shows how we help to improve flows, quality, and efficiency in different industrial processes through the use of integrated technologies.



IOT



CONNECTIVITY



CYBER SECURITY



AI



BLOCKCHAIN



EDGE COMPUTING



BIG DATA

WAREHOUSE AND PRODUCTION ORDER MANAGEMENT

Sustainability thanks to the optimization of production and logistics management fully integrated in real time.

We can manage and control the level of production and logistics in real time through the **WMS and MES systems**. Therefore, when a production order is issued, the AMR goes to a rack where it picks up the drawers with the different parts, to deposit the material in the corresponding printing and assembly areas. The assembly area is where the key ring is assembled.



PRINT AREA

Improved efficiency, security, and productivity.

The printing area is automated by robots. These perform the printing on the different pieces of wood with the following elements:

- **A gray box** containing the wooden plates with a sensor in charge of alerting the AGV when there is no stock.
- **A robotic arm** with a gripper in charge of picking up the wooden plate and placing it for printing.
- **An artificial vision camera** that will record all the movements and tasks, as well as the efficiency of the process carried out.

The data generated by the previous elements are stored in order to later simulate environments with the **digital twin** and make the model more efficient.

OT CYBER SECURITY

Cyberintelligence in OT/IoT environments to protect robots widely used in industry and logistics that have exploitable vulnerabilities.

During the robotic printing process, attacks will be performed on the robotic arms. It will be shown how with OT cyber security none of the robots are affected by the attacks and continue with the production process as per usual and how by removing the OT cyber security measures the attacks on the robots paralyze the whole production process.

BLOCKCHAIN TRACEABILITY

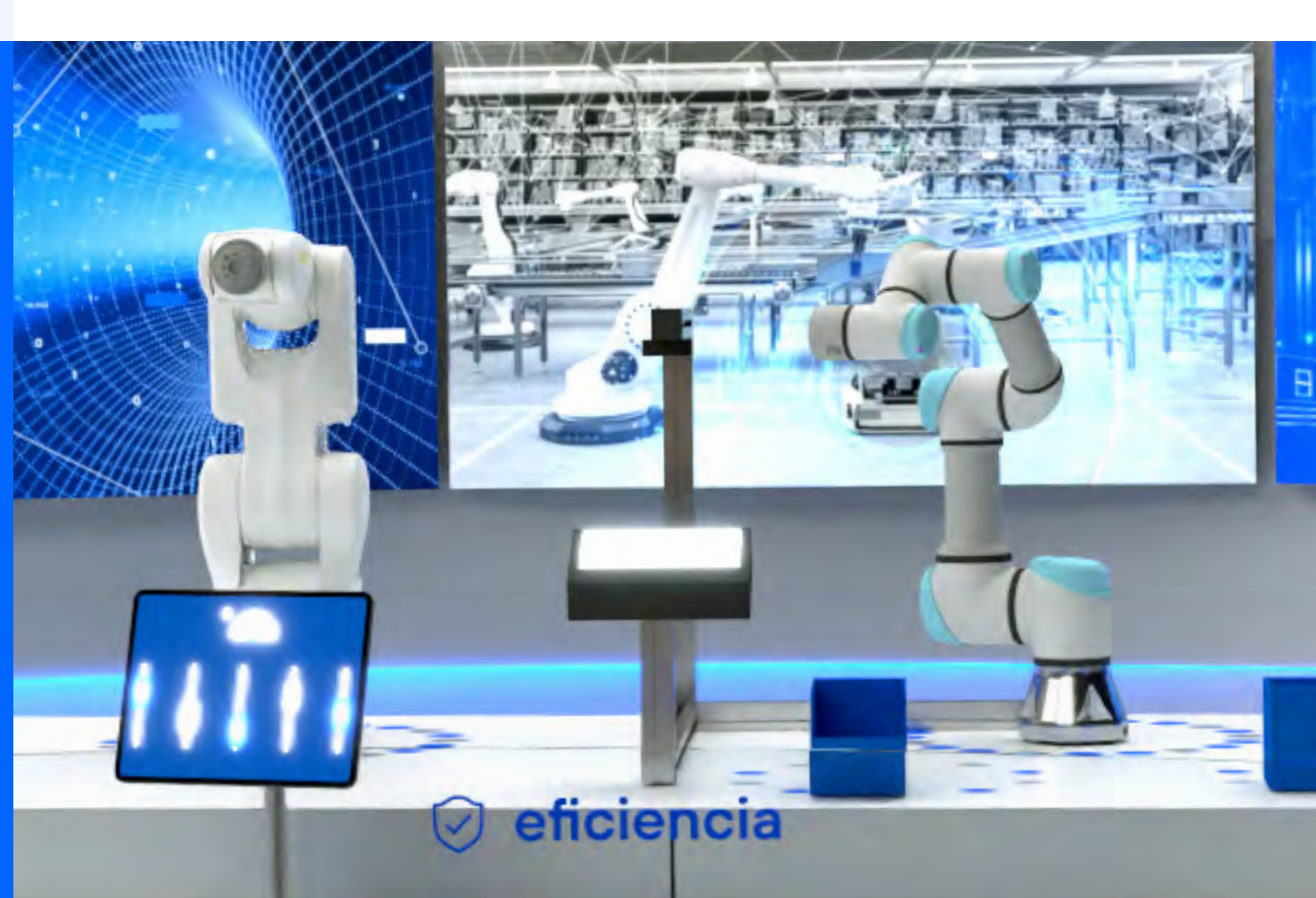
Thanks to the TrustOS solution, **we add Blockchain capabilities through a lightweight integration** to reflect in a single integrated platform, all relevant events of the production process of a given good.

Each key ring has a **digital certificate** issued by TrustOS that certifies the originality and authenticity of the key ring. It also allows to show the visitor the detailed traceability of the industrial process, from the date it was manufactured to the different analyses performed by the different elements.

DIGITAL TWIN DISPLAY

Thanks to **a camera that collects all the movements** and tasks that are performed during the production process and together with all the telemetry of the robot and the printer, the information is displayed into a digital twin.

A Digital Twin is a digital representation and simulation that allows to predict the different flows of the production processes.



Smart Industry: Leading the Change



For more information visit our website [telefonicatech.com](https://www.telefonicatech.com)