

INDUSTRY 4.0

# Remote Operation

## HOW CAN TELEFÓNICA TECH HELP?

We use Augmented Reality technology to remotely guide and assist front-line workers in their manual manufacturing, maintenance and/or intralogistics tasks.

80% of front-line workers currently feel that they lack the tools and technology necessary to perform their daily tasks correctly. (Forrester Consult on behalf of Microsoft - Sept 2018-).

**Common challenges** faced by the companies:

- › **Extensive training times:** The need to constantly train personnel in a context of high labor turnover. High hardware and installation costs: Significant initial investments.
- › **Inefficiency in manual processes:** Especially in picking, where error rates are high.
- › **Low OEE (Overall Equipment Effectiveness):** Due to frequent machine failures and long maintenance times.
- › **The use of obsolete technology:** Outdated tools that hinder the productivity and flexibility of front-line personnel.

Telefónica Tech has developed an end-to-end solution designed to meet these challenges:

- › **Create, execute, and control** work procedures focused on optimizing the tasks of front-line workers.
- › Provide modern, flexible, and efficient technology to overcome current operational and technological challenges.



## WHO IS THIS SERVICE FOR?

### › Remote expert

- **Industrial and logistic companies:** That require to train operators in a practical and telematic way.
- **Companies with technical and after-sales services:** requiring remote support for operators or customers.
- **Energy industry:** Companies that send workers to the field to perform maintenance or repairs.
- **Original Equipment Manufacturers (OEM):** Providing production logistics or own warehouses.

### › Digital inspection

- **Machinery, automobile or aircraft manufacturers:** Performing internal inspection of parts or equipment.
- **Service providers:** Responsible for specialized technical inspections.
- **OEMs with after-sales services:** For inspection and maintenance of equipment at customer facilities.

### › Guided operation

- **Manufacturing companies with complex processes:** Such as aviation or automotive, where advanced assembly tasks or configurable products are performed.
- **Logistics providers:** Offering product pre-assembly services.

### › Smart *picking*

- **Logistics providers (3PL):** To manage inventories or perform smart picking in logistics centers.
- **OEMs with production or own warehouses:** To improve internal logistics management.
- **Retail sector, FMCG and F&B:** For efficient delivery of goods and inventory optimization.
- **Manufacturing industry and utilities:** Where stock management is key to daily operations.
- **Companies with logistics plants and warehouses:** Where stock management and picking need to be optimized.

## OUR VALUE PROPOSITION

### Our service

Our **Augmented Reality** solution is designed to digitalize and optimize processes for front-line workers through visual workflows and remote video assistance, seamlessly integrated into mobile and wearable devices such as smartglasses. This enables **increased productivity, efficiency, and quality across the entire industrial value chain**, addressing critical operations remotely as if we were on site, thanks to **mobile connectivity**.

The service **includes a variety of solutions tailored to different use cases and sectors** to cover the most relevant operational needs:

- › **Remote expert:** Immediate technical assistance and telematics training for operators in the field.
- › **Guided operation:** Digitalization of manual workflows with visual indications for complex tasks.
- › **Digital inspection:** Efficient automation and supervision of technical inspections on machinery or processes.
- › **Smart picking:** Optimization of picking in logistics environments to increase accuracy and reduce time.



## OUR VALUE PROPOSITION

### What does it allow you to do?

#### › Remote expert

- **See What I See:** The remote expert can see exactly what the technician in the field observes, via a live video call. It also has the ability to add visual instructions on screen, guiding the technician step-by-step to solve problems.
- **Real-time assistance:** Front-line operators connect with remote experts using smart devices (smartglasses, smartphones or tablets). This enables immediate support to assess and troubleshoot devices, machines or systems efficiently.

#### › Guided operation:

- **Make-by-vision:** Using augmented reality, operators receive step-by-step instructions directly in their field of vision while executing manufacturing or production tasks.
- **Workflow optimization:** Paper lists are replaced, reducing errors and providing hands-free digital guidance, which comprehensively improves production processes.

#### › Digital inspection:

- **Maintenance digitalization:** Technicians access instructions, checklists, manuals, videos and workflow steps directly in their field of vision thanks to augmented reality.
- **Simplified documentation:** Operators can capture images, record videos, make confirmations and add annotations via voice commands, ensuring transparency and reducing errors in inspection processes.

### Benefits

#### › Remote expert:

- **Reduced "rework":** Up to 90% fewer tasks requiring rework.
- **Fewer field visits:** 20% reduction in the number of service desk visits.
- **Downtime optimization:** Up to 50% reduction in downtime.
- **Time savings:** Technicians save up to 20% of their time in their daily work.
- **Accelerated training:** Training times are up to 30% faster.

#### › Guided operation and digital inspection:

- **Speed in inspections:** Inspection processes up to 40% faster.
- **Reduced downtime:** Downtime during operations is reduced by up to 50%.
- **Optimized production changeover:** Up to 20% time savings during production changeovers.
- **More efficient training:** Training times reduced by up to 30%.

#### › Smart picking

- **Improved accuracy:** Achievement of up to 99.99% accuracy in picking processes.
- **Increased productivity:** Up to 15% improvement in operator efficiency.
- **Hardware savings:** Reduction of hardware and installation costs by 45%.
- **Optimized training:** Training times are reduced by up to 50%.
- **Reduction of errors:** Picking errors are reduced by up to 70%.



## Telefónica Tech's differential value



### End-to-end services integrated in our NOC:

Telefónica Tech offers a complete range of end-to-end services, managed from our NOC (Network Operations Center). This center centralizes and supervises all services provided, guaranteeing an efficient and reliable customer experience.



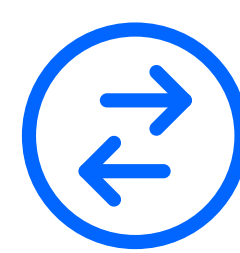
### Fully trusted and validated solutions:

Telefónica has TheThinX, an open IoT lab where our partners can certify and validate their new solutions and devices under real network conditions. This environment guarantees that all solutions launched on the market have passed rigorous quality and reliability tests.



### Industrial solutions adapted to your needs:

We have a wide portfolio of industrial solutions that, in many cases, require the deployment of a private mobile network for its correct implementation. Telefónica offers different types of private networks, designed to integrate with this and other industrial solutions.



### Integration in Telefónica's ecosystem:

The integration of our solutions within Telefónica's ecosystem allows an immediate response to any business opportunity. This agility results in the ability to quickly meet the needs of our customers, ensuring a seamless and uninterrupted experience.

## BUSINESS MODEL

Our end-to-end solution includes all the necessary elements for the deployment and operation of the solution, adapting to the specific needs of each customer:

- › **Smartglasses:** We offer several models compatible with the solution, specifically designed for industrial environments, guaranteeing robustness and functionality.
- › **Software:** The solution includes licenses, technical support, and maintenance, ensuring the correct operation of the platform.
- › **Standard services:** Initial server configuration, introductory workshops to ensure complete understanding, training for users and administrators, configuration of customized workflows according to customer needs.

- › **Optional services:** Integration with existing customer systems, advanced support for specific needs, additional configurations for advanced customization.

In addition to offering complete end-to-end projects, we offer the possibility of performing **Proof of Concept** (PoCs) in controlled environments. These tests allow our customers to evaluate the solution in their real environment for a given period of time (usually between 1 and 3 months), gaining a practical understanding of its benefits before full deployment.

## EQUIPMENT, TEAMS AND ACHIEVEMENTS

### Our teams

#### › Local and global capabilities

- A team of **more than 100 dedicated people** geographically distributed in the Telefónica Tech regions.
- **+30** experts in product development.
- **+50** experts as Pre-Sales, bid managers, and business development.
- **+20** experts in Operations, maintenance, and service management.

#### › Regional focus

- **Europe:** +20 sales and business development experts.
- **LATAM:** +15 sales and business development experts.
- **Global:** +5 sales experts and business development resources.

### Achievements

Telefónica has more than 350 million users managed and supported on its cellular networks worldwide and is internationally recognized by customers and analysts.

- › Industry IoT network leader (IDC & Analysys Manson).
- › Gartner Magic Quadrant leader for IoT for the 11<sup>th</sup> consecutive time.
- › Private LTE/5G Provider Champion (Kaleido Intelligence).
- › GSMA Smart Manufacturing Chairman.

## RELATED PARTNERS

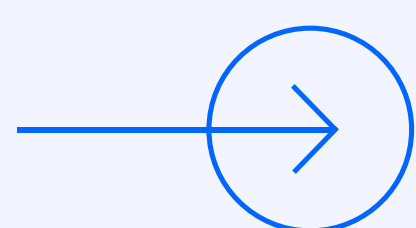




## RELATED SERVICES

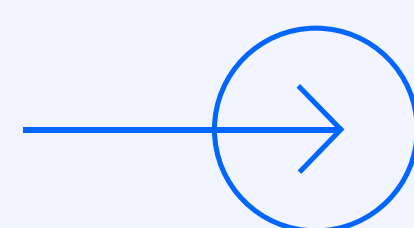
### Computer Vision

An integrated solution designed to optimize efficiency in end-to-end manufacturing processes. It enables the management of APS/SCM planning, DCS/SCADA/MES production, QMS quality control, SGA logistics, and GMAO maintenance.



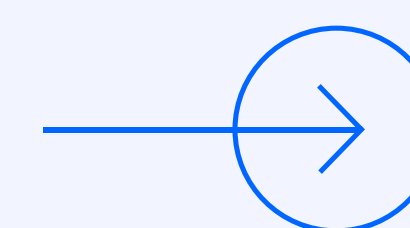
### Private Mobile Networks

An industrial network enables critical business operations by ensuring continuity, flexibility, and mobility in processes, supporting the rapid adaptation of production chains. It provides real-time responsiveness with low latency, depending on business criticality.



### Industrial Management Software

It is a comprehensive solution that optimizes efficiency in end-to-end manufacturing processes. It offers management of APS/SCM planning, DCS/SCADA/MES production, QMS quality, SGA logistics, and GMAO maintenance.



Contact us to start the digital transformation of your organization.

