

## Immersive, inclusive, sustainable and responsible design underpins Orange demos at MWC 2023

Co-creation within the telecoms industry lies at the heart of how tomorrow's use cases are being designed today. Networks serve as the backbone of the digital ecosystem. Orange has today launched 5G across all seven of its European countries and in Botswana, and is the leading fibre operator in Europe with 46 million FTTH connections deployed by the Group at the end of 2022. In 2023, Orange Spain is the first European country in the Group to launch a new 5G Stand Alone (SA) core network.

At Mobile World Congress 2023, Orange will illustrate how new transformations in the way we design, build and maintain our networks will continue to support the transformation and security of businesses whilst becoming more energy efficient. Orange will also showcase how tomorrow's networks will unleash new experiences in sports and entertainment.

### SPORTS ZONE

#### Immersive run



Sport generates a wealth of emotions, passion and values that Orange recognises and shares. For more than 20 years, from cycling, tennis to football, Orange has supported numerous sports events that reflect its values, such as team spirit, partnership, and going over and beyond. For Orange, sports events are also a playground to create, test and develop responsible tech innovations that will improve the visitors' experience, and make sport more inclusive and

accessible to everyone.

At MWC, Orange invites visitors to feel the sensation of running a marathon in Paris, in a new interactive way, with **Immersive Run**. Held in a 30 m<sup>2</sup> dome, with a 360° screen and spatial audio system, this three-minute experience immerses visitors into the runner's mental space. Throughout the run, visitors will feel the same emotions and sensations as a marathon runner and see along the way various iconic places of Paris, captured by photogrammetry. Body tracking cameras and a real-time data processing system located in the dome will give visitors a unique experience.

#### Touch2See

Today, there are 217 million blind or visually impaired people across the world, but sports events are still largely inaccessible for them. Orange believes technology should be designed and used to promote inclusion and will show at MWC a solution it is developing in its 5G Lab at the Orange Velodrome with the startup Touch2See. This solution enables the blind and visually impaired to experience and enjoy sports competitions, beyond audio description, whether they are in stadiums with 5G or in the comfort of their home using their WIFI.

A tablet, with a magnetic disc will mirror the movements of the ball across the pitch, in real time, thanks to the French Football League (LFP) and Stats Perform's AI cameras, placed in the Orange Velodrome and running on edge computing and a 5G network. The user will be able to follow the movements of the magnetic disc with his/her hands to know exactly where the action is taking place and understand tactical moves from the players and their placement on the pitch by the way they pass the ball to each other.



Thanks to 5G and edge computing, the user has a unique experience at the Orange Velodrome, feeling the action on the pitch, including when a goal is scored, like every Olympique de Marseille supporter, without the latency previously experienced with audio description. This demo will show the key role of 5G's low latency, edge computing and AI to develop such solutions for digital inclusion, by transmitting and analysing sports data in real-time and converting it into a more immersive experience.

## IMMERSIVE ENTERTAINMENT ZONE

### 5G and metaverse



Orange Spain will show visitors how 5G's super-bandwidth and low-latency can provide new immersive experiences and enable people to join events and concerts held thousands of kilometers away from the comfort of their home.

Four visitors wearing a VR headset will be immersed into a metaverse universe and will be joined by another participant, who will be located in the Orange shop in Malaga (almost 1,000 km away). A dancer, located on the Orange stand at MWC and wearing a motion-capture suit will guide the group in this metaverse universe. The dancer's movements will be transmitted in real-time thanks to 5G's ultra-reliable low latency.

Visitors passing the Orange stand at the Fira will be able to follow the experience, thanks to a large screen located on top of the stage projecting the metaverse universe and the avatars of the participants.

## NETWORKS ZONE

### API networks generation

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Orange has been active for many years in the development and exposure of Application Programming Interfaces (APIs), notably through the Orange Developer platform. Orange is now using this experience to support network APIs by contributing to the design and development of APIs in the CAMARA opensource community. The benefits are numerous for developers and the industry as they don't just simplify the developer's experience, but they also give access to new mobile network capabilities. It enables the building of new real-time services and provides an improved quality of service. At MWC, Orange will show two different use cases for network APIs:

- The first one will show how user experience can be significantly enhanced in real time mobile gaming and in interactive high-density video applications, thanks to operators' exposure of advanced network functionality
- The second, developed in partnership with Deutsche Telekom and MATSUKO will illustrate how edge routing APIs and network APIs can improve the hologram quality displayed on Nreal glasses during a call.



## SUSTAINABILITY ZONE : ENERGY EFFICIENCY

### Home energy efficiency



Orange is continuously working to reduce its carbon footprint and become net zero by 2040. At MWC, Orange will present solutions that help reduce the energy consumption of its equipment while enabling customers to reduce their own energy consumption when using the Internet and digital devices. These include:

- solutions developed with the Orange subsidiary, **SoftAtHome**, using technologies such as AI, data analytics and automation to reduce the energy consumption of WIFI at home today and tomorrow by turning off the WIFI when it is not needed.
- a video player developed by the Orange subsidiary **Viaccess-Orca** embedded on an energy efficient network delivery solution (NESTED project) capable of switching formats and modes (unicast/ multicast) automatically. This reduces traffic congestion and enables the end-user to control the device's energy consumption while maintaining the quality of experience.

### IoT Continuum, a positive impact solution with tiko

The IoT Continuum program was driven and presented by Orange in 2021 to offer a simplified model for the design and deployment of IoT projects thanks to the association of key players in the value chain: Orange, Sierra Wireless, LACROIX, and STMicroelectronics. With its IoT Continuum partners, Orange is supporting tiko to design, produce and deploy a fleet of 800,000 connected devices in France over a period of five years. This project will be shown on the Orange stand at MWC.



The solution uses cellular communications technology and enables households to easily set the ideal temperature for each room in the house according to daily habits, saving up to 35% on electricity bills (*source: cabinet Pouget Consultants*). In addition, the

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solution enables electrical heaters to be remotely controlled and shift presets by a degree or two in case of voltage peaks - without changing the comfort level for customers – to help stabilize the French electrical grid and avoid opening up additional power plants.

With this project, tiko estimates the IoT Continuum partnership has allowed them to accelerate their project by up to six months.

## INDUSTRY 4.0 ZONE

### Infrastructure for smart industry



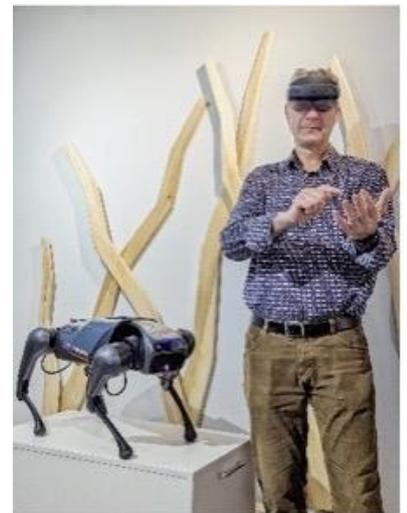
Orange will show through a couple of use cases the work and research it is doing to provide solutions that meet Smart Industry needs and to develop digital and smarter infrastructures at scale. The use cases will show how a combination of technologies such as AI, geolocation, edge computing, supervisory control and 5G can be used to tailor an infrastructure to specific industrial needs. Improving the core business processes in this degree provides advanced operational precision, agility, security and traceability whilst reducing cost and manufacturing downtime of enterprises.

### 5G XR digital twin, robot control

This shows how mixed reality (XR) and robotics, linked with 5G and digital twin technologies can be used in industrial environments to provide training to employees, to monitor machinery or remote sites, when human access is impractical or dangerous.

Using a Microsoft HoloLens2 mixed reality headset or a Meta Quest Pro virtual reality headset connected to the Orange 5G network, visitors will be able to visualize in a mixed reality environment a digital twin of the Xiaomi CyberDog robot. Visitors will be able to remotely control the physical robot and direct it from one place to another by acting on the digital twin, who will send the information from the headset to the robot via the 5G network. The mixed reality environment reproduces the robot's physical behaviour and location thanks to the reliability of the 5G connection between the headset and the robot.

This solution is compatible with multiple types of headsets and robots, the application works on multiple technologies and the control of the robot is done via APIs.



## CYBERSECURITY ZONE

### Industrial equipment hacking simulation

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Operational technology systems (OT) commonly refer to the use of hardware and software that controls and monitors industrial equipment. Sectors such as transportation, energy and manufacturing heavily rely on OT and people are surrounded in their daily lives by it, when taking the underground, using air conditioning or switching lights for example.

Cyberattacks against this kind of system are becoming more and more common. Orange Cyberdefense will enable visitors to visually see what a cyberattack on the system's OT network looks like, through a pumping system operating in a closed water tank. They will discover the actions that need to be done when an attack happens on the OT system and how to prevent one from happening.

## ANIMATION ZONE

### Orange 5G Lab with Gany

On the Orange stand, visitors will be able to discover Gany, a robot created by the service robotics company, Ganylab tested on Orange's 5G network with Orange 5G Lab experts.

Gany is a marketing robot running on 5G that can be used at events to increase brand awareness and collect data to measure ROI on the event thanks to data analytics. It autonomously navigates the crowd, engages with participants and rewards them with a fresh cocktail of their choice.

This demo will show how 5G's speed and low latency provides an enhanced user experience and a more fluid communication with the robot, while opening the path to new applications such as remote monitoring and operations.



## STARTUPS ZONE

Orange will welcome 13 innovative start-ups to its stand to present their latest developments for B2B and B2C customers around the cloud, networks, AI, data and financial services. Find out more information below.

### Monday 27th February

- **LabLabee:** LabLabee is the first worldwide virtual hands-on platform in telco cloud. The platform enables to access a large number of technologies (5G, IoT, NFV...) in a few minutes and cost-effectively. <https://www.lablabee.com/>
- **Lichens:** Lichens provides a passive solution for windows that extends indoor mobile coverage, while limiting electromagnetic wave emissions. <https://www.lichens.io/>
- **Dataiku:** Dataiku is the platform for Everyday AI, enabling data experts and domain experts to work together to build AI into their daily operations. Together, they design, develop and deploy new AI capabilities, at all scales and in all industries. More than 500 companies worldwide use Dataiku, driving diverse use cases, from predictive maintenance and supply chain optimization to quality control in precision engineering, to marketing optimization, and everything in between. <https://www.dataiku.com/>
- **InsideBoard:** InsideBoard's Digital Success Platform provides secure user adoption of new business management tools (such as CRM, ERP tools) and improves business performance,

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leading to successful digital transformation and the capture of tangible business value. InsideBoard offers a stimulating environment to enable large companies to reach their goals and achieve success and performance from the adoption of these new tools and processes. The platform offers a set of AI powered success boosters including, gamification, training paths, news feeds, collaboration, and more, that constantly nudge every employee to do their part for their success and their community's success.

<https://www.insideboard.com>

## Tuesday 28th February

- **LatenceTech:** LatenceTech offers a real-time cloud-native monitoring and prediction solution for cellular networks with a focus on ultra-low latency connectivity. The solution helps mobile operators, telecom vendors and advanced industries to track, predict and secure new benefits of low latency networks to support the deployment of time-sensitive innovations. <https://latencetech.com/>
- **Firecell:** Firecell accelerates companies' digital transformation by providing private 5G networks that are as simple to use as WiFi. Firecell eliminates the complexity of deploying private 5G networks and reduces the overall network cost to achieve faster ROI for businesses. <https://firecell.io>
- **Dataiku :** (see details above)
- **Julaya:** Julaya is a B2B digital platform enabling African businesses to send and collect payments seamlessly. This includes making bulk payments through all mobile money channels, process travel or online expenses with a corporate prepaid card tailored to their needs, and easily import all transactions into their accounting system. <https://julaya.co/>

## Wednesday 1st March

- **Sporty Peppers:** Sporty Peppers spices up sports practice through play! With their sports video games everyone practices sports alone or with a community on a mobile or a PC. Sporty Peppers aims to build the most natural interaction between the user's movements and the video game with body tracking technology. <https://www.sportypeppers.com/>
- **Predictive Layer:** Predictive Layer provides enterprises with best-in class AI-powered predictive solutions to help with pricing (price lists, B2B quotations, ...) and forecasting (volume, margin, price, cashflow, supply, demand). In addition, they also provide strategic solutions around energy and decarbonisation. <https://www.predictivelayer.com/>
- **Terragon:** Terragon is Africa's leading data and marketing technology company. Unlike other MarTech companies, their cloud-based SaaS solutions and robust data marketplace are uniquely powered by Telcos, data partners and proprietary data, which provide valuable insights needed for enterprises and SMBs to "intelligently" connect with African consumers, on mobile. <https://terragongroup.com>
- **SympliFi:** SympliFi addresses the micro and SME credit gap in emerging markets by transforming the way credit works. Their credit on-demand platform allows anyone, anywhere in the world to access affordable capital for productive uses in one-click. This is enabled by an embedded finance model that utilizes smart contracts to autonomously facilitate micro credit globally, at a fraction of the cost. <https://www.symplifi.co>

## Thursday 2nd March

- **CloudConnecte:** Cloud Connecte's technology platform enables the creation of personalised and interactive mobile marketing campaigns for retailers. Any smartphone becomes a digital interactive remote control for digital signage screens (DOOH). They measure consumer journeys and media performance for advertisers. <https://www.cloud-connecte.com/>

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- **Ignitia:** Ignitia is a tropical weather forecasting company. With over 84% reliability, Ignitia's proprietary forecasting model predicts tropical weather patterns down to a hyperlocal range. The weather forecasts are delivered to West African farmers via SMS in partnership with mobile network operators such as Orange, enabling farmers to build resilience to climate change, reduce risks from extreme weather events, and increase profitability.  
<https://www.ignitia.se/>
- **Terragon:** (see details above)
- **SyimpliFi :** (see details above)

#### About Orange

Orange is one of the world's leading telecommunications operators with sales of 43.5 billion euros in 2022 and 136,000 employees worldwide at 31 December 2022, including 75,000 employees in France. The Group has a total customer base of 287 million customers worldwide at 31 December 2022, including 242 million mobile customers and 24 million fixed broadband customers. The Group is present in 26 countries. Orange is also a leading provider of global IT and telecommunication services to multinational companies under the brand Orange Business. In February 2023, the Group presented its strategic plan "Lead the future", built on a new business model and guided by responsibility and efficiency. "Lead the future" capitalizes on network excellence to reinforce Orange's leadership in service quality.

Orange is listed on Euronext Paris (symbol ORA) and on the New York Stock Exchange (symbol ORAN).

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