



Mobile World Congress 2024  
26 February to 29 February 2024

Orange stand, Hall 3, 3K10

## Orange showcases open, secure and software-centric connectivity at Mobile World Congress 2024

The need for powerful, resilient, secure connectivity has never been greater in a world where everything and everyone needs to be always connected, from everywhere. Coupled with the rapid digitalization of services and businesses, the shift to the cloud and the rise of artificial intelligence, telcos need to harness these technologies to adapt to new uses and needs. In this context, Orange is progressing its transformation to become a virtualised and software defined techco across Europe, Africa and the Middle East.

At Mobile World Congress, Orange will showcase its 'Open Innovation' approach and demonstrate how it is driving co-innovation through the sharing of expertise and exchange of ideas with multiple ecosystems, particularly in areas such as 5G, APIs, cybersecurity and artificial intelligence (AI). Orange will also demonstrate how it is using this open approach and prowess to connect the biggest sporting event in the world – the upcoming Paris 2024 Olympic and Paralympic Games.

### NETWORKS

#### Data-Driven radio propagation modelling

Networks need to be increasingly better performing in terms of coverage and speeds, requiring the implementation of precise antennae deployment tools. Visitors will be able to see the benefits of a radio wave propagation model called **Stardust** that calculates the coverage of mobile stations based on the latest advances in Deep Learning, opening perspectives on a future where the network will be self-optimising. Compared to current models, it works in "crowdsourcing" mode, enabling it to learn from mobile data available on the network instead of implementing the raw physical laws involved in radio propagation. It has the unique feature of being both adaptive – adjusting itself precisely to the characteristics of the environment – and scalable: it can be improved continuously, easily, and rapidly.

The demonstration provides an insight into Stardust's capabilities. Using a web application, the visitor will be able to position a data-emitting antenna anywhere on a map, set its parameters as they see fit (cell frequency, transmitting height and receiving height), and observe (in 2D and 3D) the coverage performance level being calculated in real time. With this new-generation model, the operator can improve network coverage more efficiently.

#### 5G Mobile Private Network Cloud Livestream

Being at the crossroads of the telco and IT worlds, Orange is also capable of deploying private 5G technologies in the cloud to provide on-demand management of connectivity and services, further supporting the digital transformation of enterprises. This technology, called 5G Mobile Private Network (MPN) cloud combines software-based 5G networks to the cloud to help businesses of various sectors (industry 4.0, logistics, events...) digitize their processes and increase performance. Already deployed at the Orange Velodrome for sports broadcasting, visitors will see how the solution is a step towards software-as-a- service (SaaS) TV production and enhances live filming capabilities to provide a more immersive viewing experience of sporting events.

### Bridge to sustainable tech

Evolving networks to customers' needs is essential for Orange, and this includes providing more energy efficient solutions. In this context, Orange Business will showcase some of its innovations, developed in collaboration with Cisco, to optimize energy consumption, enhance operational efficiency and reduce the use of natural resources.

- **Smart Office Solutions**, which utilize data from Cisco Webex devices and sensors integrated by Orange Business to optimize conference room management and energy consumption. This system effectively adjusts energy usage of the room based on occupancy and usage patterns, significantly reducing energy consumption and costs from heating, lights, screens, and IT systems.
- A **Smart Power Delivery Solution** that has been developed by both partners at the Orange Velodrome stadium in Marseille, France. This system intelligently turns on Wi-Fi access points through Power over Ethernet (PoE) only when needed, leading to a proven 52% reduction in Wi-Fi energy consumption at the Orange Velodrome, and is replicable for a wide range of customers.
- Finally, the **One Box**, an innovative appliance from Orange Business which seamlessly integrates SD-WAN and access routing functionality into a single device provided in this case by Cisco. By consolidating these essential components, One Box minimizes the need for multiple hardware components, reducing the environmental impact associated with their production and disposal, whilst reducing device-related energy consumption. Orange Business recent testing, using Cisco Meraki sensors, have measured more than 70% in energy savings.

## OPEN INNOVATION

### Telco APIs

To provide universal access to operator networks for developers and hyperscalers, and unleash new mobile network capabilities, Orange has been actively contributing to the design and development of Application Programming Interfaces (APIs) with the open-source community (CAMARA) and network operators (GSMA Open Gateway). As part of the GSMA Open Gateway initiative, Orange, together with its partner operators in Spain, Telefonica and Vodafone, launched two new APIs - SIM Swap and Number Verification, addressing key use cases around fraud prevention and detection. These APIs, which mark an important step on the path to making GSMA Open Gateway a reality, are commercially available in Spain and 'production' grade in France through the Orange developer portal.

Orange has the ambition to extend its work with CAMARA APIs and will showcase at MWC two further uses it is exploring for network APIs on mobile devices:

- The first one, used in logistics or personal tracking, leverages the CAMARA geofencing API and notifies the user when a given mobile or device enters or leaves a monitored area.
- The second one, used for fraud prevention leverages the CAMARA location retrieval API and location verification API, to enable a user to check if two mobiles are located in the same area.

### Utiq

Created a year ago by Orange, Deutsche Telekom, Telefónica and Vodafone, Utiq is a European AdTech company that delivers a Telco-powered Authentic Consent Service to enable responsible digital marketing, helping to build an ecosystem based on trust and transparency.

A demo will be available on the stand to show customers how Utiq enables brands and publishers to deliver relevant ad-funded experiences to their consented audiences while giving consumers full control over their privacy.

## CYBERSECURITY

### Industrial hacking process

Good quality networks go hand in hand with cybersecurity. Orange Cyberdefense will allow visitors to visually see what a cyberattack on the operational technology system (OT) network looks like in an industrial site, through a six-axis robotic arm manipulating plastic pieces. They will discover how Orange Cyberdefense maps and detects attacks to preserve the OT system and what can be done to prevent one from happening.

Operational technology systems (OT) surround us in our daily lives when taking the underground, using air conditioning or switching lights. It commonly refers to the use of hardware and software that controls and monitors industrial equipment. Cyberattacks against this kind of system are becoming more and more common.

## SPORTS TECHNOLOGY

### Sport All IP

For more than 20 years, Orange has gained unique and unprecedented expertise in providing connectivity at major sporting events across Europe, Middle East and Africa. To enable everyone to live unique and unforgettable experiences, these technological feats are also for Orange opportunities to innovate and develop the consumer, business uses and services of tomorrow.

The upcoming Olympics are no exception: as the only operator connecting the games, Orange will set a benchmark of excellence by deploying for the first time at an event of this scale an IP-native, unified architecture, enabling all users and partners to benefit from a unique interface and maximum performance.

At MWC, Orange will show an immersive “behind the scenes” view of the core technologies deployed at the Paris Olympics through an augmented reality experience. Thanks to a dynamic and interactive map on a tablet, the public will discover all the critical services (such as mobile and live TV broadcast and production, point of sales, ticketing and security) powered by Orange's infrastructure, networks and platforms. The technologies on display include secured All-IP infrastructure with 100 Gbps Ethernet links, high-density mobile public networks and advanced video broadcasting using private 5G.

### AI and Network slicing powers ultimate gaming

As 5G standalone has started to become a reality over the past year, capabilities for network slicing and virtualization have become more apparent, enabling us to adapt levels of latency, privacy and security according to specific needs and services. Orange Spain, who launched 5G SA in 2023, will show how network slicing capabilities available with 5G SA architecture, coupled with AI provide new speeds and more immersive capabilities for gaming.

Visitors will be able to play a revisited version of a 1980s video game. Before starting the game, the visitor will have his/her body scanned by 21 cameras that will collect data to create an avatar

lookalike. By pressing two buttons on a controller as fast as possible (each button moving one of the avatar's legs), the player will race in real-time his/her lookalike avatar on a 100m sprint with another player located in a different city who went through a similar scanning process.

## CUSTOMER EXPERIENCE

### Orange Max it

Since November 2023, Orange Middle East & Africa launched its super-app Max it in seven countries (Côte d'Ivoire, Cameroon, Senegal, Mali, Burkina Faso, Botswana, Tunisia). Adapted to each countries' specific needs, culture, language and accessible to all, Max it brings together the worlds of telecommunications, financial services, and e-commerce to meet all the daily needs of its users and simplify their digital experience.

The app is a typical use case of how Orange is leveraging its long-standing roots in Africa and the Middle East and its deep understanding of the needs of a rapidly changing continent to offer a comprehensive, personalized multiservice solution that goes beyond traditional telecoms.

### About Orange

Orange is one of the world's leading telecommunications operators with revenues of 44.1 billion euros in 2023 and 137,000 employees worldwide at 31 December 2023, including 73,000 employees in France. The Group has a total customer base of 298 million customers worldwide at 31 December 2023, including 254 million mobile customers and 25 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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