

## Internet of Things (IoT)

The Internet of the future is the Internet of Things (IoT), within which devices come to life, become attentive, talk to each other and above all, talk with us, with our friends, family, colleagues, and with our day-to-day contacts.

### Our vision for IoT: inclusive, smart and trusted

For Orange, IoT technology must be inclusive and useful, accessible to everyone, everywhere and adapted to multiple needs. IoT technology must also be smart, delivered through secure, reliable networks. And we believe that it must take shape through an ethical approach, from its design to the way it operates, building trust with end users and with industrial, commercial, institutional and academic partners.

### Orange's ambition: relying on assets to cover the value chain

Orange's ambition is to become a key IoT player in Europe and to cover the entire value chain. To do that, Orange relies on its historical assets, starting with its networks and its close proximity to customers, whom we support through four activities:

- Connectivity solutions adapted to customer uses.
- The distribution of connected objects in its physical and digital sales channels.
- Business services, supporting its corporate customers through digital transformation.
- Services to consumers, offering value-added services in the connected home, healthcare and wellness sectors in various European markets.

### Orange's mission

As an IoT market leader at European level, our research has contributed to a number of technologies that are essential for both current and future networks. We have applied LoRa® and LTE-M technologies to our historical networks, and we contribute to the standardisation of 5G for IoT, that will be integrated in the evolution of these technologies.

We have national coverage of LoRaWAN® in France with further LoRa deployments in Romania and Slovakia. Orange deployed LTE-M in France, Romania, Belgium, Poland and Spain with further launches planned in Europe. To extend our LTE-M footprint in Europe and North America, we have signed a roaming agreement with AT&T, KPN and Swisscom. And because the IoT revolution will be collective, we have chosen to join forces with partners (device manufacturers, service providers, integrators...) in order to build an open ecosystem and bring our customers the most innovative offers.

Finally, we think that trust is essential for IoT to succeed and each user must have control over the way their data is used. Orange is designing and deploying increasingly reliable and secure networks and platforms, as well as stronger cybersecurity capabilities. This also means defining clear and transparent guarantees for data access and confidentiality, in line with Europe's regulatory framework for protecting personal data (GDPR).

### Orange's consumer ambition and achievements

Orange designs secure and useful products and services that are accessible for everyone, covering all the needs of each individual. Here are a few examples:

#### In Spain:

- **Smart home** (2019): a home automation service and security product for customers with four Smart Home packs that will help customers improve their lives by facilitating their daily routines.

#### In Belgium:

- **Smart Home** (2020): Domotics portfolio helping customers turn their home into a smarter and funnier home that makes life easier. It is structured around three main types of devices: connected light bulbs, smart cameras and smart power plugs.

### In France:

- **Maison Connectée** (2019): A smart home service enabling remote monitoring of connected objects through a single application accessible via a smartphone or, in the future, a TV.
- **Maison Protégée** (2019): A home security offer, developed in partnership with Groupama.

## Orange's business ambition and achievements

IoT presents opportunities in all business sectors to create value. To support customers in their projects, Orange Business Services (OBS) has developed vertical expertise in:

- **Automotive and Connected Products**, by supporting car manufacturers and service providers in their connected vehicles projects,
- **Smart Cities and buildings**, to support the digital transformation of cities and regions;
- **Industry 4.0** with its team of experts to address the challenges of automation and data exchange in technology and processes within the manufacturing industry.

OBS has built a **complete end-to-end IoT value chain** allowing customers to collect and ingest the data into cloud-based applications:

- **Devices**: On **Datavenue Market**, OBS' marketplace dedicated to IoT objects and connectivity, businesses can find more than 100 devices to support their projects.
- **IoT Managed Connectivity platforms** to manage cellular connectivity.
- **Live Objects** platform to manage multi-connectivity, devices fleet and data collection, allowing customers to enrich their data to be ingested onto Azure, AWS and Orange cloud-based platforms, as well as smartphone and web portals.
- Dedicated applications such as **Smart Tracking**, application development and data analytics.
- Connectors to build customers solutions with various partner leveraging on its rich ecosystem, such as **ABB France** (world leader in energy technologies and automation) on Smart Building Services and **Quoppa**, for Smart Tracking solutions

**And to scale up IoT industrialization**, Orange, Lacroix Group, ST Microelectronics and Sierra Wireless have created in June 2021 the "IoT Continuum" partnership. By bringing together for the first time expertise across the entire IoT value chain (Connectivity, Design & Manufacturing, Hardware and Software) under one roof, partners of the IoT Continuum will support European businesses accelerate the deployment and industrialization of Massive IoT over LTE (including Cat M, Cat 1 and 5G).

## IoT solutions have been adopted by large numbers of customers, including:

- [De Beers Marine](#) (2020): geofencing solution to enhance crew safety in offshore mining.
- [KDDI](#) (2020): Connectivity management solution integrated into KDDI's platform, providing secure, reliable IoT connectivity for Toyota and Mazda to enhance the driver experience through advanced services.
- [SHV Energy](#) (2020): IoT connectivity to deploy smart telemetry and meters on gas tanks across Europe and the United States.
- [Port of Antwerp](#) (2020): 5G network to connect a tugboat of the Antwerp Port Authority, allowing the ship to stream real-time images and other data (radar, sonar) to the control room.
- [Saint-Quentin-en-Yvelines urban area](#) (2019): smart operations solution to monitor and prevent flooding risks.

## Key Figures

- **21.1M** connected objects (B2B market).
- **700** IoT experts at OBS
- LTE-M network deployed in **5 countries**
- Connected devices distributed in our stores, including **1,320** Smart Stores

## For more information:

- [White paper: "Industrial IoT: it's high time to get started!"](#)
- [White paper: Security of IoT](#)
- [White paper: IoT and LPWA](#)