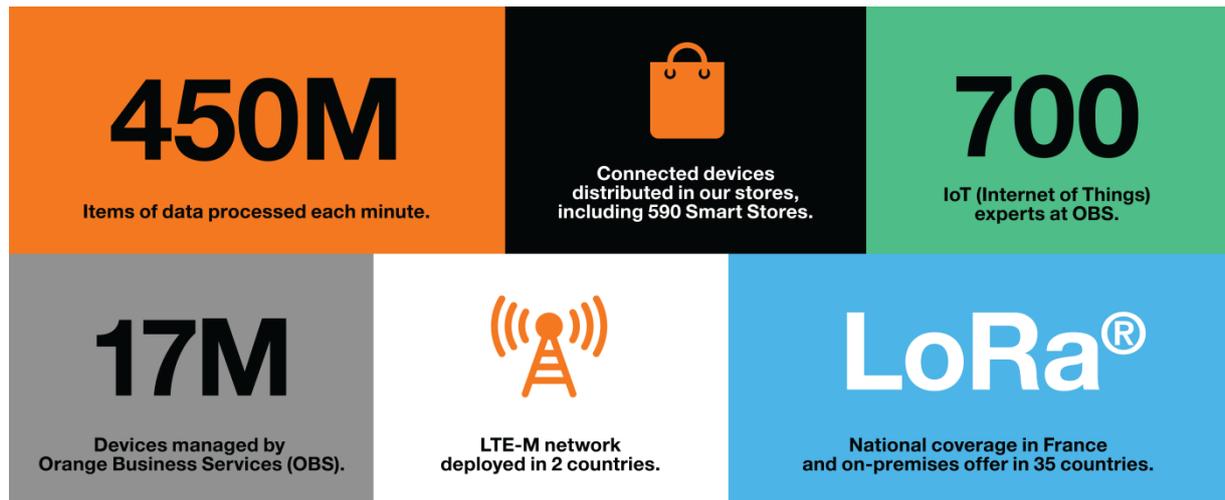




Internet of Things (IoT)

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, the IoT technology must be inclusive and useful, accessible to everyone, everywhere and adapted to multiple needs (for business, cities, etc.). IoT technology must also be smart, delivered through secure, reliable networks that can be adjusted in line with users' needs, and through devices, attentive to their environment. Trust is essential and each user must have control over the technology. From its design to the way it operates, we think IoT technology must take shape through an ethical approach, building trust with end users and with industrial, commercial, institutional and academic partners.

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

IoT is one of the core pillars of Orange's plan to diversify, announced as part of its Essentials2020 strategic plan. **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.

Orange supports its consumer and business customers regardless of their needs, 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 the general public, 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 are preparing the arrival of 5G, that will be integrated in the evolution of these technologies.

We have national coverage of LoRa® in France with further LoRa deployments in Romania and Slovakia. Orange has been deployed LTE-M in France and Romania with further launches in Europe planned in 2019.

Our mission is also to empower users to adopt IoT, by offering simple products and services, adapted for each user's needs, whatever the level of understanding of connected devices is. Because the IoT revolution will be collective, we have chosen to join forces with partners (device manufacturers, service providers, integrators, etc.) 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.

Examples of how Orange is designing and developing innovative consumer offers and services, with local markets include:

- **Alarma de Orange** in Spain (2018) and **Smart Security** in Luxembourg (2017): from their smartphones, users can activate and deactivate their alarm system, send a message to their nearest control centre, or, if their home is equipped with an IP camera, view their home in real time, all with one dedicated app.
- **Serena** in Spain (2018): a nationwide telecare service for elderly people available through a mobile device and a dedicated app. It includes emergency alerts, communication with qualified telecare experts, agenda notification system for personal and family events, relating to medication, medical appointments or family occasions, among others.
- In France, two innovations presented during the last Show Hello, will be available in Spring 2019: The "**Maison connectée**" service will make it possible to directly link connected objects to the home's Livebox to manage them remotely, control their use and analyse their consumption through a single application accessible via a smartphone or, in the future, a TV. "**Maison protégée**" is a complementary security offer for home, developed in partnership with Groupama.

Orange's business ambition and achievements

Orange supports all businesses, from start-ups to SMEs to multinationals but also cities, leveraging digital technology that will serve their teams, their projects and their customers. This is a process along each step of the data journey, from collecting and transporting it on the best networks, to storing, analysing and protecting it. IoT presents opportunities in all business sectors, and Orange Business Services has developed particular vertical expertise in:

- **Automotive**, by supporting car manufacturers and service providers in their connected vehicles projects, and through the acquisition of OCEAN in 2015, which strengthened the position of Orange Business Services in the vehicle fleet management segment and made it a new leader in France and across Europe with over 140,000 vehicles managed;
- **Smart Cities and territories**, with the creation of the smart cities programme in 2011 to support the digital transformation of cities and regions;
- **Industry and manufacturing** with its team of experts to address the challenges of Industry 4.0 and digital factories;

- **Daily life** including smart home, healthcare and well-being via the health entity Orange Healthcare.

In 2018, Orange acquired a 59.10% stake of the capital of **Business & Decision**. This has bolstered Orange Business Services' ambition to become a European front-runner in connected data, digital experience and business intelligence, helping our companies make better decisions, improve their activities and reinvent their businesses.

Datavenue is Orange's IoT and data analytics offer for businesses, offering a modular approach allowing customers to select an object and data within an object partnership programme. With a growing device catalogue to connect objects/devices, manage them securely and ensure full control, the solution offers customers a complete IoT approach with a strong focus on objects and security. And through the Datavenue Market, companies can find solutions on the Orange Business Services marketplace dedicated to IoT objects and connectivity.

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

- **Nova Veolia and its subsidiary Birdz (Dec 19, 2018):** With more than three million water meters connected to visualise and predict consumption and detect atypical consumption (water leaks)
- **Enedis (Nov 15, 2018),** the leading European energy distributor: Connecting hundreds of thousands of industrial objects to develop energy flow data collection, real-time surveillance of electrical surveillance and remote management capacities.
- **Dobroflot (May 22, 2018):** An IoT solution which helps to optimise fuel consumption, analysing weather and vessel position, to save up to 10% of fuel costs, and help to prevent unauthorised fuel usage.
- **Meeza for the biggest smart city project in Doha, Qatar (Feb 21, 2017):** a multimillion dollar consulting deal with Meeza through which M-Sheireb district will be equipped with 500,000 embedded sensors, with the goal of improving daily lives thanks to smarter operations (building access control, fire alarms, car parking, waste collection, street lighting...)

For more information:

2019/01/22: White paper. "Industrial IoT: it's high time to get started!"

<https://www.orange-business.com/en/library/whitepaper/industrial-iot>

2019/01/14: White paper on security of IoT

https://hellofuture.orange.com/app/uploads/2019/01/181220_OrangeTGI_LivreBlanc_III367_VA.pdf

2018/02/23: IoT & LPWA White Paper

https://developer.orange.com/orange_explains/iot-lpwa-white-paper/

Recent news:

November 8, 2018: [Orange launches LTE-M-network in France and confirms further LTE-M network launches in two other European markets](#)

June 5, 2018: [Orange announces acquisition of majority stake of Business & Decision](#)