

# Artificial Intelligence



Facts and figures / February 2022

## In summary

Orange believes that Artificial Intelligence will only truly matter if it serves a purpose to humankind and addresses people's most essential day-to-day needs. Making AI useful to people and society is key for Orange, which is why the company has decided to put AI at the heart of its innovation model, as stated in the company's Engage2025 strategic plan. AI, and data, will support the company's growth and support its social and environmental goal, through 3 main priorities: making networks smarter, improving operational efficiency and reinventing customer experience.

Orange, through its enterprise branch, Orange Business Services, also helps corporate customers benefit from AI and data, and transform their business through innovative customer experience services, the optimisation of business processes, consulting and cybersecurity services.

## Key figures

**300+**

live AI initiatives

more than **30**  
years

of experience in neural networks  
and AI

**500**

patents filed in the field of AI  
and Big Data

**2,200**

AI and Data experts at Orange  
Business Services

**Orange Bank**

first mobile bank in France to rely  
on AI-based customer service model

# Find out more

## Orange's AI values:

AI must be well-thought-out, and should be inclusive, responsible (respecting both the data security and the privacy of the user). This means:

- developing business practices to improve our ability to detect and/or correct the various issues with some AI systems such as bias and results that aren't easily explainable;
- developing AI within an ethical and transparent legislative framework;
- ensuring the use of well targeted, good quality data sets, under the right data governance.
- AI must contribute to the Group's objective of achieving carbon neutrality by 2040, by helping reduce energy consumption in our networks and datacenters despite the explosion of usages.

## Our top 3 priorities around AI and Data:

### 1. Make networks smarter

#### Avoid mobile network traffic overloads:

To improve efficiency of our radio access network, we've deployed, as a proof-of-concept, an AI algorithm that is able to predict traffic congestion by analyzing and learning the behavior of radio quality indicators over several cells.

#### Reducing mobile network energy consumption:

By analyzing usage data from the various cells in the 5G network, AI identifies which ones it can turn off or reduce power during low usage periods such as nights or weekends, without degrading the quality of service perceived by customers.

### 2. Improve operating efficiency

#### Mobile network roll out:

AI is used to optimize the roll out of mobile network antennas in Spain. By combining commercial and technical KPI analysis on a Big Data and machine learning tool, Orange is able to make better decisions and optimize its mobile network investments.

#### Optimize customer support operations:

In France, thanks to the implementation of AI-assisted online diagnostic tools to test consumers' FTTH boxes, we've been able to avoid 280,000 field interventions yearly, resulting in substantial cost reductions.

### 3. Reinvent customer experience

#### Orange has implemented conversational agents based on AI, such as Djingo,

to understand, interpret and process customer requests made either by text or voice and loop it back to a different media. These conversational interfaces bring a fundamentally new way for Orange customers to interact in natural language with Orange services and customer support - thus improving customer experience. Djingo has been integrated into the Orange Bank application in France and in Spain, through the 'MyOrange' app and orange.es, as well as in a voice-controlled TV remote in France.

#### A voicebot for a more inclusive access to Orange

**services in Africa:** Orange researchers have developed a conversational voicebot in Wolof, a lingua franca used by 90% of the inhabitants of Senegal, and for which there are few available language resources. The prototype is being tested to answer questions on Orange Senegal's customer loyalty program.

# Other key AI activities:

## Orange helps customers optimize their business with AI

- The Port of Antwerp, second largest in Europe, is using a large-scale data analysis solution, provided by Business & Decision (an Orange Business Services subsidiary) to improve the monitoring of vessel traffic levels and optimize the port's operational chain.

## Orange contributes to the development of a responsible and sustainable AI

- Orange has joined the Board of Directors of Impact AI, a 'think & do' tank that addresses ethical and social challenges and supports innovative and positive projects for tomorrow's world.
- Orange has launched a Data and AI Ethics Council in 2021, made up of 11 independently recognized experts. This independent and advisory body supports Orange's implementation of ethical principles governing the use of data and AI.
- Orange is experimenting AI tools to reduce its environmental impact. e.g. comparing the energy consumption of cellular base stations in order to detect and fix abnormal power usages.
- Orange is conducting research on «Green AI» with the objective of developing good quality AI with less computation and therefore less energy consumption.

## Orange is making increasing efforts to support the AI ecosystem in France and in Europe

- Orange supports AI start-ups through the Orange Fab accelerator program.
- Orange is co-financing research activities carried out by public institutions and 2 technological research institutes: SystemX and B<>Com.

## Data and AI skills development

- Orange provides access to platforms such as Coursera and Open Classroom to allow employees to develop AI and Data skills autonomously.
- Certification programs available for people undergoing reskilling in partnership with DataScientest, as well as a Data Analyst program as part of its Apprentice Training Center.
- Business & Decision launched a «Data School» in 2019, to offer young graduates additional training in Data engineering and Data science and participate in real customer projects.

