

# Artificial Intelligence



Facts and figures / February 2023

## 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. We advocate and work for the development and deployment of ethical and responsible artificial intelligence systems as illustrated by the adoption of a Data and Artificial Intelligence Charter. 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, to support the company's growth and its social and environmental goal, in 3 domain pillars: making networks smarter, improving operational efficiency and reinventing customer experience.

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

We ambition to untap the full potential of Data at scale through a "Data Democracy" strategy that consists in adopting the right Data architecture and tools while fostering an operational culture shift and training.

## Key figures

**350+** live initiatives

More than **30+** years of experience in neural networks and AI

More than **500+** patents filed in the field of AI and Big Data

**4,000** Data, AI and digital experts at Orange Business

Over **135,8k** hours of training mainly in GCP, data and AI, and programming courses.

Over **5,300** employees have enrolled in a course, earning over **11 803** training certificates.

# Find out more

## Orange's AI values:

AI must be well-thought-out, and should be inclusive, ethical and 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 environmental and societal well-being issues, and, amongst others, 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.

Orange has signed in November 2022 a Data and AI Charter to guide the principles that the Group is working every day to translate into actions.

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.

## 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 Cote d'Ivoire and in several European country. 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 Data & AI-assisted online diagnostic tools to test consumers' FTTH boxes, we've been able to avoid more than 180,000 field interventions yearly, resulting in substantial cost reductions

### 3. Reinvent customer experience

**Orange has implemented conversational agents based on AI 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 or field interventions for instance - thus improving customer experience. AI has been integrated in 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.

#### Orange helps customers optimize their business with AI

Veolia Water Technologies has strengthened its digital solutions with new monitoring and analysis features to optimize the technical, economic and environmental performance of customers' water treatment facilities.

## Orange is increasing its efforts to support the global AI ecosystem

Orange is increasing its efforts to support the academic and industrial AI ecosystem all over its business footprint (France, Europe and MEA), and also via its Research Labs (San Francisco and Beijing).

Orange supports AI startups through the Orange Fab accelerator program.

Orange is also co-funding research activities carried out by public institutions and agencies, Institute for Technological Research (IRT), SystemX and B<>Com, and Interdisciplinary Institutes for Artificial Intelligence (3IA).

## Data and AI skills development

As part as its Data Democracy strategy, Orange encourages trainings and new working methods that maximizes data and AI value at scale.

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.

