# Artificial Intelligence

orange™

## In summary

Orange's Data and AI mission is to "Generate value and accelerate Orange with every job, every network, and every customer interaction super-powered by responsible AI".
We advocate and work for the development and deployment of responsible AI systems as illustrated by the adoption of a Data and Artificial Intelligence Charter.

AI is central to Orange's innovation, driving growth and supporting social and environmental goals across three domains: smarter networks, operational efficiency and customer experience.
In the B2B area, we help enterprises with AI-driven customer services, business process optimization, consulting, and cybersecurity.

## Key figures

**300+** Use cases in the Data and AI Hub, with 100+ in production

**more than 30 years** AI expertise

**630** Patents in Data and AI

**2,000+** Data and AI experts across Orange Group

**27,00** Employees trained in Data AI Starter program, including ethical AI

**190,000+** Hours of technical training undertaken by 7400 employees in cloud, data and AI

**18,000+** Certificates issued

**15,000+** Users of Dinootoo, the internal AI tool, with 2000+ daily users

# Find out more

## AI values at Orange:

- AI should be inclusive, ethical, and responsible, ensuring data security and privacy.
- Improving detection and correction of AI issues including bias and unexplainable results.
- Using well targeted and good quality data sets, under the right data governance.

- AI should support environmental and societal well-being, aiming for carbon neutrality by 2040 by optimizing energy use in networks and data centers.

**Orange is committed to these principles by signing a Data and AI Charter in November 2022.**

- Orange is part of Impact AI's Board, a group focused on ethical, social challenges, and positive innovations.

- Since 2021, Orange is holding regular Data and AI Ethics Council with 11 independent experts to advise on ethical data and AI usage for specific Orange use cases.

## Top AI and Data use cases:

**Smarter Networks use cases:**

- **Energy Consumption:** AI analyzes cell usage data to identify when parts of the 5G network can be powered down or have reduced power during low usage times without impacting service quality.

- **Mobile Network Traffic Overloads**: AI predicts traffic congestion by learning from radio quality indicators, preventing network overloads.

- **Mobile Network Roll out:** AI optimizes mobile network planning in MEA countries by combining commercial and technical data with machine learning, saving significant investment costs.

- **Optimize network interventions using visual recognition:** AI verifies the accuracy of reported network damage, ensuring correct priority levels and ownership, reducing unnecessary interventions.

- **Autonomous Networks:** An AI platform detects anomalies and performs root cause analysis on network infrastructures, shaping future network supervision systems.

**Operational Efficiency use cases:**

- **Generative AI Solution:** A secure AI tool for Orange employees to generate text for various professional needs, ensuring data security.

- **Customer Support Operations:** Diagnostic Data & AI tools test FTTH boxes online, preventing over 180,000 field interventions annually and reducing costs.

- **Contract Screening:** A Proof of Concept uses GenAI to analyze contracts for sales, legal, and sourcing teams, with plans to expand in 2024.

- **Code Generation:** GenAI coding tools are being explored to streamline development and validation processes.

**Customer Experience use cases:**

- **Conversational Agents:** AI-powered agents process customer requests via text or voice, improving interaction with Orange services.

- **Customer Value Management:** Data and AI enhance understanding of customer needs, leading to more effective marketing campaigns and increased satisfaction observed in many Orange countries.

- **Information Search Acceleration:** GenAI technology helps call center operators find information quickly, reducing response times but it also helps marketing, Sales and Operations teams to speed up the reactivity and productivity.

# Data Democracy strategy:

"Data Democracy" strategy aims to make Data and AI more easily accessible for internal use cases, in a secured and controlled manner while preserving our commitment to responsible and ethical AI. This has been operationalized through a large multi-country and multi-year foundational program.

It consists of a combination of state-of-the-art tools, transformation of our data architecture and process using Data Mesh, as well as significant training to support the related culture shift towards being a data-driven company.
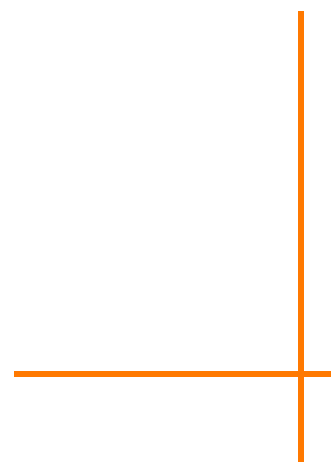
# Research:

**Orange has been working in the Data and AI domain for over 30 years, and more specifically in the areas of:**

- Deep learning and Model optimization
- Natural Language Processing (NLP) incl. LLMs
- Speech Recognition incl. live and offline transcriptions and voice analysis & anonymization,
- Knowledge engineering including Knowledge Graphs

Current hot topics are mainly related to LLM adaptations to Orange domain including Retrieval Augmented Generation (RAG), finetuning, etc

**Some of our recent achievements in those areas:**

- Challenge DSTC-11
- SIGTYP 2024
- Knowledge Graph opensourced

# Partnership and cooperation in the AI ecosystem

- We are supporting the **academic and industrial research ecosystem on AI** all over Orange footprint incl. France, Europe and MEA.

- Orange also supports **AI startups** through the **Orange Fab** accelerator program.

- Many **research activities** carried out by public institutions and agencies, such as ANR (Agence Nationale de la Recherche) projects, and European research projects, B<>Com, and Interdisciplinary Institutes for Artificial Intelligence (3IA) are cofounded by Orange.

- Orange's main Data and AI partner is **Google Cloud Platform (GCP) f**or leveraging their platform and their cutting-edge Data/AI tooling. Press release: Orange and Google Cloud - Newsroom Orange Groupe.

- Beyond Google (Bard/Gemini), Orange has **many other Generative AI partners** such as OpenAI/Microsoft. On open weight models we are exploring with Meta The Llama Ecosystem: Past, Present, and Future (meta.com) , Anthropic, Mistral, Hugging Face.

# 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.

- Orange offers a range of skills upgrading and professional reskilling courses for its employees, as well as 2 Data Analyst & Data Scientist courses as part of the Orange Apprentice Training Center.