

Press Release

Paris, May 6th 2025

Orange Business and Institut Curie optimize AI to fight rare cancers of unknown primary origin

Orange Business is leveraging its expertise to support the Curie Institute in optimizing an artificial intelligence (AI) tool used by doctors. This partnership, initiated by an Orange Business employee affected by the disease, aims to improve the diagnosis of cancers of unknown origin and personalize their therapeutic approach.

Cancers of unknown primary origin (CUP) account for approximately 2 to 3% of cancers diagnosed each year in France, representing around 7,000 patients. In France, Institut Curie is the national coordinator of the multidisciplinary consultation meeting (réunion de concertation pluridisciplinaire - RCP) dedicated to cancers of unknown primary. Since its establishment in 2020, 442 patients have been enrolled in this RCP, and the number of enrollments continues to rise.

Rare and complex, cancers of unknown primary are most often discovered at an advanced stage, through the presence of metastases, without being able to identify the primary organ involved in the pathology, complicating therapeutic treatment.

In 2019, at the Institut Curie, under the leadership of Dr. Sarah Watson, oncologist and researcher affiliated with the Chemistry Biology of Cancers unit (CNRS / Inserm), an innovative artificial intelligence tool was developed to identify the origin of these cancers. Utilizing high-throughput RNA sequencing technology that allows for the analysis of the expression of all genes in a tumor, researchers created a diagnostic classifier called TransCUPtomics. This tool, based on a deep learning algorithm, can now determine the origin of tumors with high precision by associating RNA profiles with specific tissues and organs. This major advancement has not only improved the diagnosis of cancers of unknown primary origin but also allowed for more targeted treatment adaptations.

A Unique Collaboration to Improve the Diagnosis of Cancers of Unknown Primary

Charles Delobel, an Orange employee affected by the disease, connected his professional network with the researchers working on this project. In collaboration with Dr. Nicolas



Servant's team, co-director of the bioinformatics platform at Institut Curie, experts from Orange Business are now assisting the institute in developing a new version of the AI algorithm that is more efficient and precise, directly impacting patient care.

Orange Business data scientists are working on developing a module for better biological and clinical interpretation of the results provided by the AI, to better guide medical decisions. Orange Business is focusing on two areas: the visualization of results through the automatic generation of a report containing all patient information, and the explainability of AI decisions. This approach will highlight the genes contributing to each patient's diagnosis to enhance healthcare providers' trust in the technology used and the results obtained.

Charles Delobel is also actively supporting research through his association Rock4Life (www.rock4life.fr), which organizes concerts to raise funds and assist the Institut Curie. This initiative reinforces collective commitment and demonstrates a united effort against cancer.

"My research work and my involvement in establishing a network of experts have brought me closer to patients, particularly through the Rock4Life association, of which I am the patron. It plays a major role in supporting our projects. This virtuous circle between research and medicine is particularly illustrated today through the collaboration with the Orange Business teams to continuously optimize our technology for the benefit of patients," says Dr. Sarah Watson.

For Claire Scotton, Vice President, B2B Healthcare, Orange Business, *"in the healthcare sector, the greatest advances often come from human encounters. This project is a perfect illustration of this. With the expertise of its 1,000 specialized healthcare experts and consultants, Orange Business is reaffirming its commitment to clinical research. Artificial intelligence is opening up revolutionary prospects for optimizing patient care. As a partner in the digital transformation of a vital sector, we are proud to support medical research."*

About Orange Business

Orange Business, the enterprise division of the Orange Group, is a leading network and digital integrator, supporting customers to create positive impact and digital business. The combined strength of its next-generation connectivity, cloud, and cybersecurity expertise, platforms, and partners provides the foundation for enterprises around the world. With 30,000 employees across 65 countries, Orange Business enables its customers' transformations by orchestrating end-to-end secured digital infrastructure and focusing on the employee, customer, and operational experience. More than 30,000 B-to-B customers put their trust in Orange Business globally.

Orange is one of the world's leading telecommunications operators with revenues of 40.3 billion euros in 2024 and 291 million customers worldwide at 31 December 2024. In February 2023, the Group presented its strategic plan "Lead the Future", built on a new business model and guided by responsibility and efficiency. "Lead the Future" capitalizes on network excellence to reinforce Orange's leadership in service quality.

Orange is listed on the Euronext Paris (ORA). For more information: www.orange-business.com or follow us on LinkedIn and on X: @orangebusiness

Orange and any other Orange product or service names included in this material are trademarks of Orange or Orange Brand Services Limited.



Press Contacts Orange Business

Jean Luc Corinthien: jeanluc.corinthien@orange.com

Séverine Belhomme Moisand: severine.belhommemoisand@orange.com

About the Institut Curie

The Institut Curie, France's leading cancer research center, combines a world-renowned research center with a state-of-the-art hospital that treats all cancers, including the rarest. Founded in 1909 by Marie Curie, the Institut Curie brings together over 3,800 researchers, physicians, and caregivers across its three sites (Paris, Saint-Cloud, and Orsay) around its three missions: care, research, and education. As a recognized public utility foundation authorized to receive donations and legacies, the Institut Curie can, thanks to the support of its donors, accelerate discoveries and thus improve treatments and the quality of life for patients.

For more information: curie.fr, Facebook, LinkedIn, Instagram, Bluesky

Press Contacts Institut Curie:

Elsa Champion: elsa.champion@curie.fr / 07 64 43 09 28