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Capgemini and Orano deploy the first intelligent humanoid robot in the nuclear sector

Innovation leverages physical AI - a major technological breakthrough with potential benefits for the sector's performance.

Paris, November 4, 2025 – Orano, a recognized industrial leader in the recovery and transformation of nuclear materials, and Capgemini, an AI-powered global business and technology transformation partner, announce the deployment of the first intelligent humanoid robot in the nuclear sector. This project marks a major step forward for a strategic industry that has long been a pioneer in innovation.

Deployed at the Orano Melox *Ecole des Métiers*[1] in the Gard region of France, the robot named Hoxo is equipped with embedded artificial intelligence (AI) and advanced sensors for real-time perception, autonomous navigation, execution of technical gestures, and interaction. Its purpose is to replicate human movements and operate alongside teams within nuclear facilities, including in challenging intervention environments.

Over the next four months, Orano Melox's innovation teams will conduct a testing phase to validate the robot's range of applications, combining mobility, precision, and artificial intelligence (AI). By offering an agile, scalable robotic platform, this initiative is expected to enhance industrial performance and potentially support operators through robotic assistance.

"Hoxo opens new perspectives for our operations by combining an intelligent and ergonomic robotic solution with the expertise of our on-site teams. It's an innovation we aim to evolve to meet our industrial needs, contributing to both safety and competitiveness as we tackle the challenges of today and tomorrow," said Arnaud Capdepon, Director of Orano Melox.

"This project, led by our AI Robotics & Experiences Lab, embodies the convergence of robotics, artificial intelligence, computer vision, and digital twins. It redefines human-machine interaction in sensitive environments and pushes the boundaries of industrial automation. Through this initiative, we harness the potential of physical AI to address Orano's most demanding industrial challenges," added Pascal Brier, Chief Innovation Officer at Capgemini and member of the Group Executive Committee.

About Orano
As a leading international operator in the field of nuclear materials, Orano delivers solutions to address present and future global energy and health challenges. Its expertise and mastery of cutting-edge technologies enable Orano to offer its customers high value-added products and services throughout the entire fuel cycle. Every day, the Orano group's 18,000 employees draw on their skills, unwavering dedication to safety and constant quest for innovation, with the commitment to develop know-how in the transformation and control of nuclear materials, for the climate and for a healthy and resource-efficient world, now and tomorrow. Orano, giving nuclear energy its full value.

About Capgemini
Capgemini is an AI-powered global business and technology transformation partner, delivering tangible business value. We imagine the future of organizations and make it real with AI, technology and people. With our strong heritage of nearly 60 years, we are a responsible and diverse group of 420,000 team members in more than 50 countries. We deliver end-to-end services and solutions with our deep industry expertise and strong partner ecosystem, leveraging our capabilities across strategy, technology, design, engineering and business operations. The Group reported 2024 global revenues of €22.1 billion.

[1] Created in early 2018, Ecole des Métiers is dedicated to promoting and developing the Orano's technical training: https://www.orano.group/en/nuclear-expertise/comprehensive-range-of-services/vocational-training-in-the-nuclear-environment

Discover the humanoid robot Hoxo in pictures: