Orano Solutions

orano
Giving nuclear energy its full value

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As a large-scale, low-carbon, reliable, and cost-competitive energy source, nuclear power plays a vital role in addressing today's climate, sustainability, and energy challenges.

Orano is a trusted partner of leading nuclear utilities for over 50 years. Our purpose: developing know-how in the transformation and control of nuclear materials, for the climate, for a healthy and resource-efficient world, now and tomorrow. With proven industrial, technological, and human skills, we deliver innovative, sustainable, and competitive solutions across the entire fuel cycle—from uranium mining and chemistry to enrichment, recycling, packaging, logistics services, waste management, decommissioning, and engineering. Beyond the fuel cycle, we offer a wide range of calibration sources, stable isotopes, and solutions for extracting strategic metals—radioactive or not. We are also advancing nuclear medicine through targeted cancer therapies and are innovating in low carbon mobility including the production and recycling of strategic materials for electric vehicle batteries and gigafactories.

« Over the past few years, Orano has reached a major turning point by significantly increasing its investments to strengthen its industrial capabilities and expand its workforce to meet growing global demand. This includes new uranium production in Kazakhstan and Canada, the extension of our enrichment facility, a manufacturing facility for used nuclear fuel transport-storage packages, a stable isotopes facility, and a global nuclear medicine platform through Orano Med, focused on developing lead-212-based cancer therapies.

We have new promising projects, such as the life extension and renewal of our reprocessing and recycling platform. While the global nuclear fuel cycle continues to evolve, we remain committed to supporting the needs of all types of nuclear reactors—large, small, and advanced—with reliable, responsible solutions. We're proud to contribute to a secure energy future today and tomorrow. »

Nicolas Maes, Orano CEO

Our fundamentals

to rise to the challenges

Our values

The foundation we share

- Safety and security
- Customer satisfaction
- Continuous improvement
- Respect and people development
- Cohesion and team spirit
- Ethics, transparency and dialogue

Our commitments

Our framework for action

- Communities - by being engaged and responsible locally in our environment
- Climate - by contributing to carbon neutrality
- Competencies - by mobilizing proud and committed employees, who embody our purpose
- Customer growth - by innovating to preserve resources and protect health
- Competitiveness - by operating efficiently

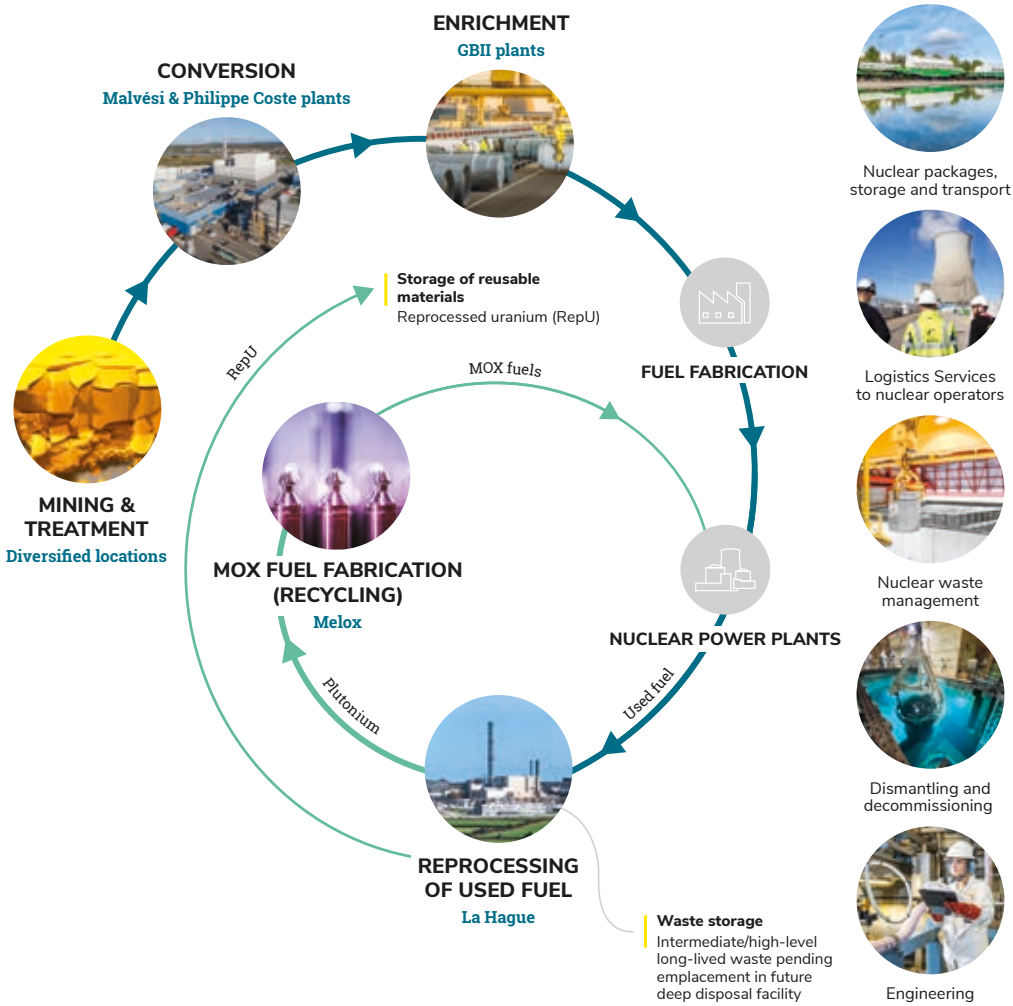
Our strengths

- An uncompromising culture of industrial and occupational safety
- A strong portfolio of nuclear customers
- Recognized industrial expertise and modern facilities
- Technologies that have set worldwide standards
- Teams renowned for their skills, their commitment, and their ability to succeed

Learn more:

Comprehensive range of solutions

throughout the nuclear fuel cycle and beyond




Extractive Metallurgy

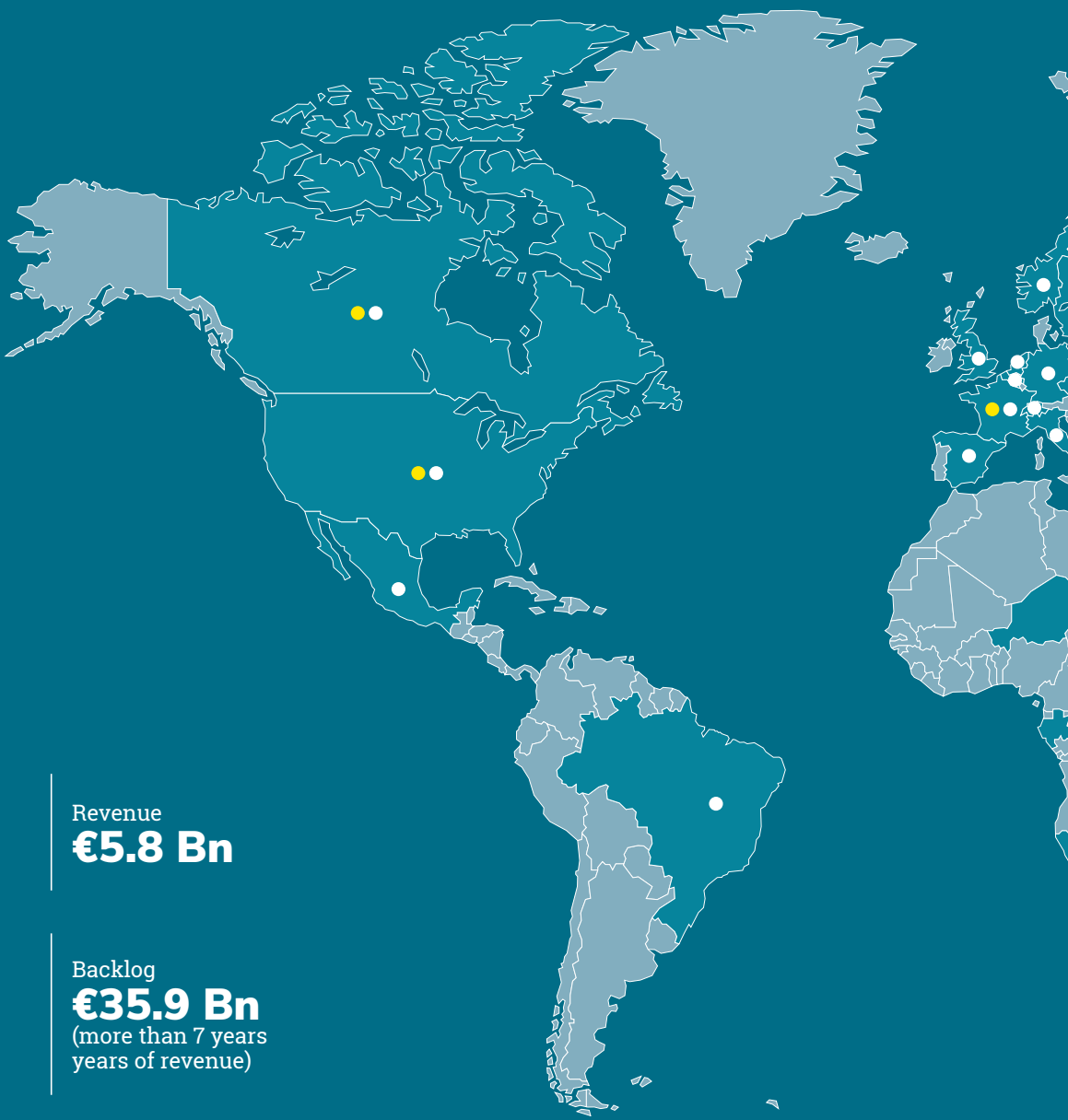

Nuclear Medicine


Calibration sources and standards


Stable isotopes


Electric vehicles batteries (recycling)

Orano
around the world

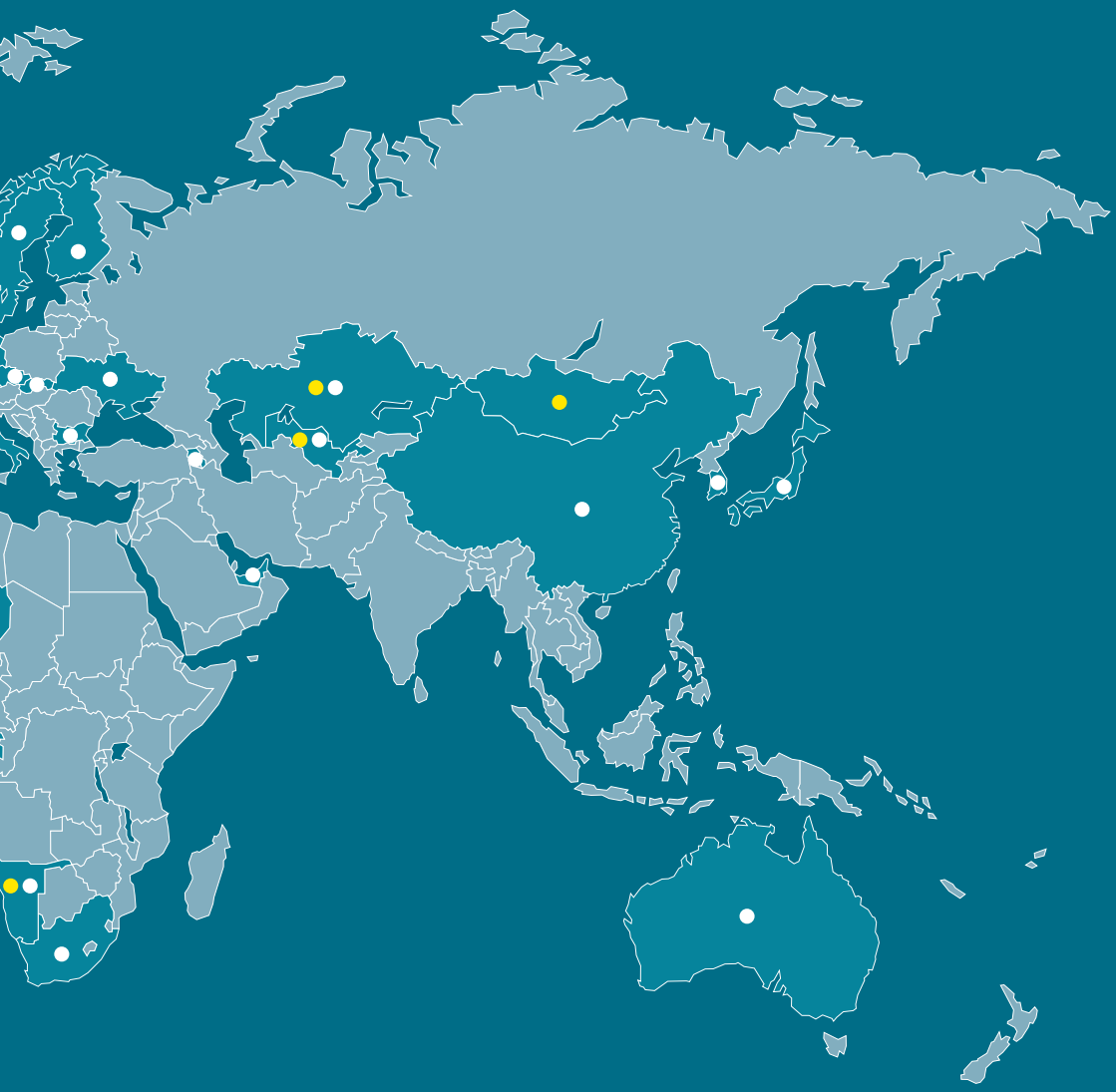


Revenue
€5.8 Bn

Backlog
€35.9 Bn
(more than 7 years
years of revenue)

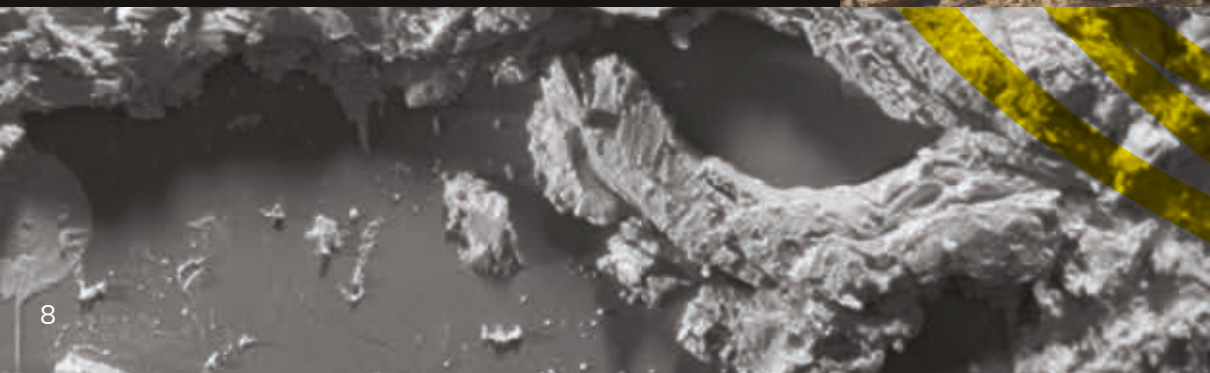
17,500
employees in
the world

51%
of revenue from
export markets



- Countries with operational activities
- Countries with sales activities

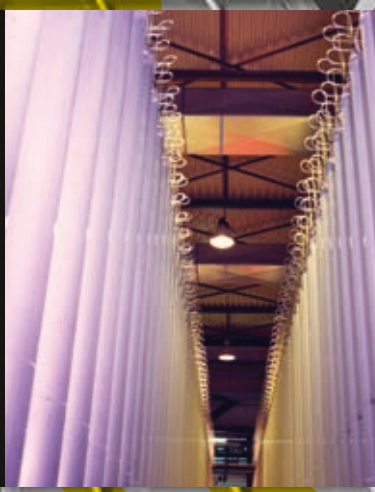
Uranium Mining



As the first stage in the nuclear fuel cycle, Orano's mining operations encompass uranium exploration, project development, production, and commercialization, as well as site remediation and redevelopment. Leveraging its production assets in Canada and Kazakhstan, the group is one of the world's leading uranium producers, distinguished by its competitive costs and advanced extraction technologies. To secure a sustainable, competitive, and diversified supply for its customers, Orano continues to invest significantly in exploration to identify new resources, and in innovation to optimize its production, improve existing projects, and develop new ones. The group has projects in various stages of development – in Canada, Mongolia, Uzbekistan, and Namibia – and is expanding its opportunities by introducing innovative technologies, such as uranium recovery from phosphates.

Learn more:

Uranium conversion and enrichment



Backed by a unique, modern, and integrated industrial platform – featuring the Malvési and Philippe Coste uranium conversion plants and the Georges Besse 2 enrichment plant – Orano is recognized for delivering robust, competitive, and high value-added services, with operations adhering to the highest standards in safety and environmental stewardship.

In response to shifting market dynamics and rising demand, the group has demonstrated strong responsiveness and is currently expanding its enrichment capacity, supported by long-term contracts. Beyond producing LEU and LEU+, Orano is keen to develop HALEU production, leveraging its full expertise (including deconversion from uranium hexafluoride gas to metal or oxide forms) to support both current and next-generation nuclear technologies.

Learn more:

Used fuel recycling

Orano provides adaptable solutions for used fuel management, including recycling, innovative interim storage, and a comprehensive range of used fuel services based on decades of international experience and proven capabilities. Thanks to the long-term continuity project for our existing industrial assets at La Hague and Melox, combined with the renewal program for our Back-end platform, Orano will ensure the ongoing improvement and reliability of its reprocessing/recycling services. These solutions in LWRs save between 25% and 40% of natural uranium resources, while reducing the final volume of highly radioactive waste by a factor of 5 and its toxicity by a factor of 10. Orano supports the development of the fuel cycle for new nuclear, including SMRs and AMRs, by adapting used fuel management solutions to evolving market requirements.

Learn more:

Nuclear packages, storage and transport

For decades, Orano has been providing its worldwide customers with comprehensive solutions and services for nuclear packaging, transport and storage with the highest levels of safety, security and competitiveness. Across the entire nuclearfuel cycle, the group delivers certainty to the key steps for storage of all types of nuclear material (design, licensing and manufacturing of casks), as well as logistics operations (transports, services to operators, routing management, DN30 fleet leasing), whatever the location and means of transport (by land, sea, or rail). Orano implements innovative packaging solutions to adapt to new market requirements both for the front-end (DN30) and back-end with dual-purpose solution for the transport and dry storage of used nuclear fuel and radioactive waste (TN Eagle family).

Learn more:

Logistics Services to nuclear operators

As a long-standing nuclear operator, Orano brings world-class expertise across all phases of the nuclear facility and equipment lifecycle. With over 50 years of industrial experience, Orano provides comprehensive support services to nuclear site operations – from facility management, operations, scaffolding, thermal insulation, maintenance, radiological monitoring, safety, and training – helping operators run their facilities efficiently, improve performance, and extend asset lifetime under the highest safety standards.

Learn more:

Nuclear waste management

Orano provides full-scope services with optimized strategies and technical expertise for nuclear waste management from characterization to disposal, including treatment, conditioning and volume optimization.
Over the years, Orano has built a sound expertise for the customized management of all types of nuclear waste, from very low-level to high-level radioactive waste, covering low to high complexity projects.

Learn more:

Dismantling and Decommissioning

Orano deploys leading capabilities for the end-of-life management of nuclear reactors and fuel cycle facilities. With its dual experience as both operator and service provider, Orano combines proven and emerging technologies with comprehensive expertise in decommissioning and dismantling (D&D) projects. Drawing on strong industrial resources and solid experience in France and internationally, Orano provides tailored support throughout the D&D lifecycle. In France, Orano offers a complete range of services, from studies to execution, either on demand or through fully integrated solutions, leveraging innovative tools and technologies to ensure safe, efficient, and cost-effective project execution.
Internationally, Orano delivers targeted support through tooling, consulting, technical expertise, and training services, adapted to the specific needs of customers and in partnership with local players.

Learn more:

Engineering

With widely acknowledged expertise in nuclear fuel cycle engineering, Orano support its customers at every stage, from operational support engineering to complete EPCM (Engineering, Procurement, Construction, Management) missions. Orano engineering teams integrate innovation into their projects on a daily basis to support the performance of their customers. Services range from its teams are ensuring seamless project completion in the nuclear, defense and other high technology industries such as health pharmaceuticals, biotechnology, fine chemicals with strong regulatory and environmental contexts.

Learn more:

Extractive Metallurgy

The Innovation Center for Extractive Metallurgy (CIME) designs comprehensive, tailor-made solutions for the extraction of strategic metals, whether radioactive or non-radioactive. It supports clients throughout every stage of development – from laboratory testing and technical analysis to process validation at industrial pilot scale. CIME's expertise covers a wide range of projects, including ore processing, effluent treatment, and advanced recycling. Notable examples include pioneering work on end-of-life electric vehicle battery recycling *(see page 33)*, as well as uranium extraction from mining operations or from phosphoric acids. Located on a remediated former uranium mine, CIME collaborates with clients across diverse sectors such as energy, environment, recycling, healthcare, mineral processing, and engineering –actively contributing to the energy transition and the development of a circular economy. As a trusted partner, CIME supports industrial players recover added value from mining and industrial operations.

Learn more:

Nuclear medicine

Through its Orano Med subsidiary, the group is at the forefront of research in nuclear medicine, developing innovative targeted therapies against cancer using the unique properties of lead-212. These promising treatments selectively target cancer cells while limiting toxicity to healthy cells. Orano Med is positioning itself as a leader in this field, with a strong pipeline of lead-212-based therapies being developed at its R&D center in Plano, Texas (USA).
To produce and distribute these treatments, Orano Med has built a global industrial platform. This includes a thorium-228 production facility in Bessines-sur-Gartempe (France), supplying pharmaceutical facilities that produce lead-212 and the final treatments. Orano Med has two such sites: one in Indianapolis (USA), and another under construction in Onnaing (France). This marks a major milestone towards the large-scale production of these innovative treatments.

Learn more:

Calibration sources and standards

Orano, through the LEA (Radioactive Standards Laboratory - Laboratoire d'Etalons d'Activité), offers a comprehensive range of calibration sources tailored to the needs of medical, industrial and nuclear applications. Our radioactive sources are distinguished by their high relevance and precision, supported by measurement chains certified to the highest standards (COFRAC accreditation measurement). We also provide expert management of high-activity sources and the safe retrieval of spent sources, ensuring reliable and secure solutions for all radiological applications.

Learn more:

Stable isotopes

Leveraging its expertise in uranium transformation, conversion, and enrichment, Orano has been producing and delivering stable isotopes since early 2024 from its new facility – the “Jean Fourniols Laboratory” – located in Tricastin, France. These isotopes are supplied to our customers worldwide, on time and in compliance with the required quality specifications.
Produced in a various chemical forms (oxide, metal, gas, etc.), and at high isotopic and chemical purity, these non-radioactive atoms are essential for a wide range of applications: medical imaging, oncology as precursors for radiopharmaceuticals, semiconductors, quantum technologies, as well as fundamental research and big science.

Learn more:

Electric vehicules batteries (recycling)

Orano aims to be a key player in the battery ecosystem for electric vehicles (EV) and the gigafactory markets in France and Europe. Batteries contain critical materials (Co, Ni, Li, Mn). At its Innovation Center for Extractive Metallurgy (see page 25), Orano is developing an innovative process for the safe, efficient pre-treatment of end-of-life batteries and hydrometallurgical purification of recovered metals. These will be reused to produce new cathode active materials (CAM) and their precursors (PCAM), essential for EV batteries. Orano and XTC New Energy have created in December 2024, two joint ventures for the production of EV battery components in order to develop an efficient and integrated industrial platform at Dunkirk, France. In March 2025, Orano's hydrometallurgy project was recognized as a "strategic project" by the European Commission under the Critical Raw Materials Act (CRMA), alongside 46 other European initiatives.

Learn more:

Organization and contacts

With 18,000 skilled employees worldwide, and under the strategic direction of the CEO and Executive Committee, Orano is committed to working hand-in-hand with its customers every day.

Our sales teams, based in Europe, North America, and Asia, maintain close relationships with each customer, offering innovative, tailored and competitive solutions to meet your needs - worldwide.

Learn more:

July 2025 - Marketing Department
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As a recognized 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 17,500 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.

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Let's talk more about it; join us on

www.orano.group

orano

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Energy is our future. Don't waste it!