Business Solutions

orano
Giving nuclear energy its full value

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The nuclear sector is an industry of the future. Its capacity to provide massive, safe, low carbon and competitively priced electricity gives nuclear energy its place among the energies of tomorrow.

Orano is a recognized international operator and reliable long-term partner in the field of nuclear materials, mastering cutting-edge technologies. We offer customers high value-added products and services throughout the entire fuel cycle and beyond through innovation and operational excellence in a competitive and profitable way.

We provide customers with efficient products, services and technologies in uranium mining, chemistry and enrichment, as well as used fuel and nuclear waste management, nuclear packages and transport, engineering, support for operations and maintenance, and decommissioning.

In addition, beyond nuclear market, we provide a wide range of standard and tailored-made radioactive sources for various applications and have started production of stable (non-radioactive) isotopes. Furthermore, our Innovation Center for Extractive Metallurgy develops solutions for the recovery of radioactive and nonradioactive materials, and our ambition is to become a leader in the recycling of lithium-ion electric vehicle batteries. Last but not least, we aim to become an important player in nuclear medicine.

Orano contributes to the fight against global warming, to the preservation of natural resources, and to human health, all of which are major challenges of our century. We are making them central to our purpose: **to develop know-how in the transformation and control of nuclear materials, for the climate, for a healthy and resource-efficient world, now and tomorrow.**

Our vision, for creating value while meeting the needs of society.

Humanity is facing a triple challenge:

- **It has to find answers to the challenge of climate change by decarbonizing human activities as much as possible to reach carbon neutrality by the middle of the century, while at the same time guaranteeing access to low-carbon, affordable, and continuously available energy:** The IPCC scenarios confirm that in order to limit global warming to 1.5°C and for us to be able to continue to live in a viable world, nuclear power energy - without being the sole solution - is essential. The Paris Agreement on combating climate change calls for a sharp reduction in CO_2 emissions, and the European Union has set a target of climate neutrality by 2050. Orano intends to contribute to this collective mobilization. Electricity is a basic necessity, which must be affordable. This is of major societal importance for all countries and necessary to support the electrification of economies, itself a condition for reducing reliance on fossil fuels.
- **It has to preserve resources by developing the circular economy and recycling solutions:** Natural resources are finite. Orano is convinced that the recycling of nuclear materials is a responsible and sustainable initiative within a circular economy approach. The French nuclear industry has been one of the first to implement recycling by processing used fuel to reduce the volume of waste and save raw materials. The acquired know-how, enabling the development of the recycling of other strategic materials, has a positive impact on public engagement, promotes circular economy and responsible waste management with limited environmental impacts, while not leaving burden for future generations.
- **It has a duty to work to enable a healthier society:** Orano's expertise goes beyond protecting the health of our employees, our contractors, and the communities around our operations. The nuclear materials we control can help save lives through their use in cancer treatments or in medical research in the form of isotopes.

Our values

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

Our commitments to

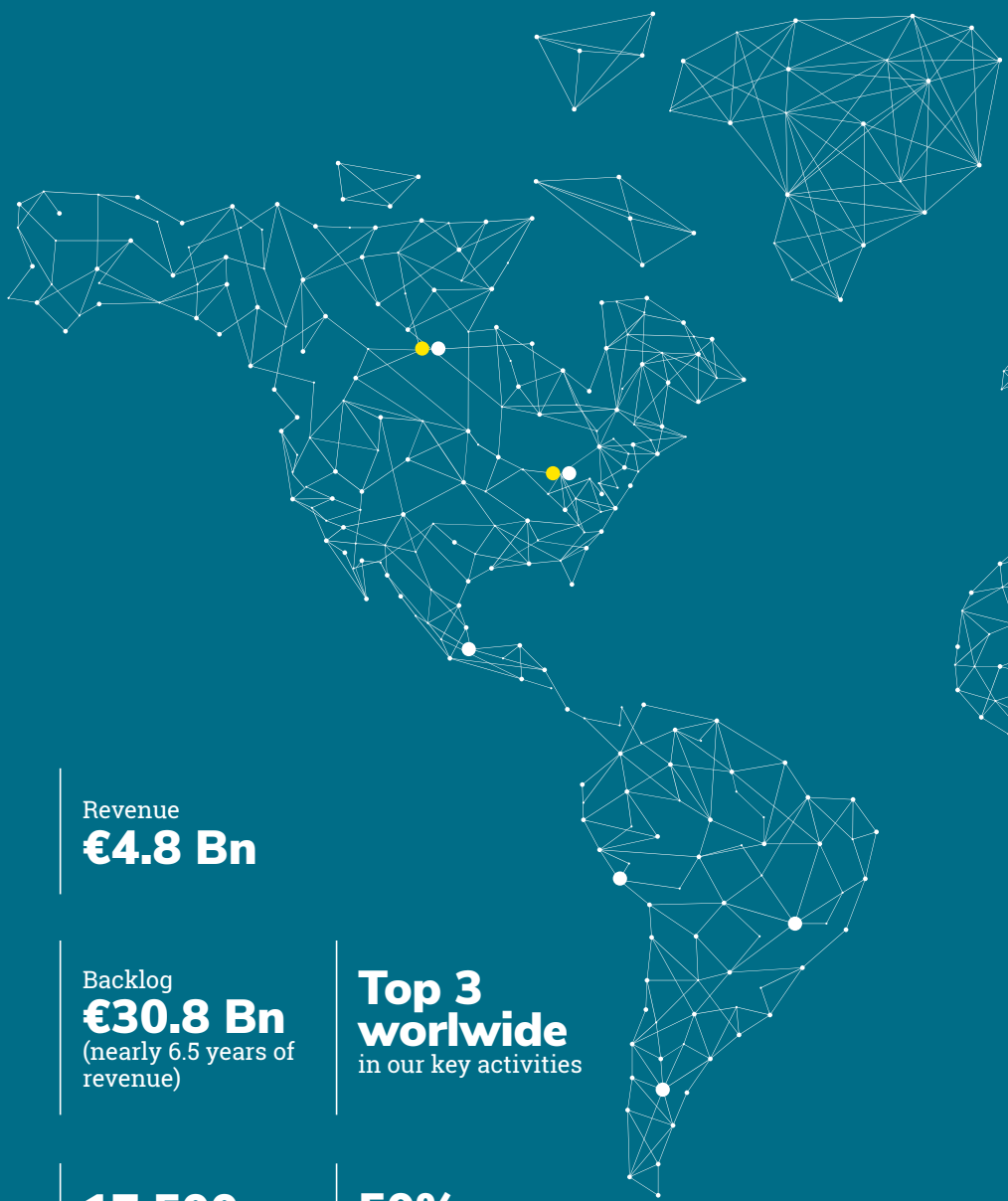
- Communities
- Climate
- Competencies
- Customer growth
- Cash

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:

Orano
around the world



Revenue
€4.8 Bn

Backlog
€30.8 Bn
(nearly 6.5 years of revenue)

Top 3 worlwide
in our key activities

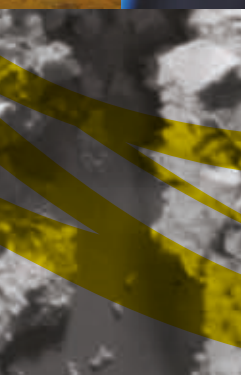
17,500
employees in the world

50%
of revenue from export markets

- Countries with Orano Mining and production operations
- Countries with Orano commercial presence

Uranium Mining

The first stage in the nuclear fuel cycle, Orano's mining operations encompass worldwide exploration, production and commercialization, as well as the remediation of exploited mines. Operating mines in Canada, Kazakhstan and Niger, the group is one of the world's leading uranium producers, with competitive production costs and mining techniques at the cutting edge of innovation, protective of the environment. With diversified resources and reserves equivalent to 20 years of production, customers are assured of sustainable access to uranium.



Learn more:

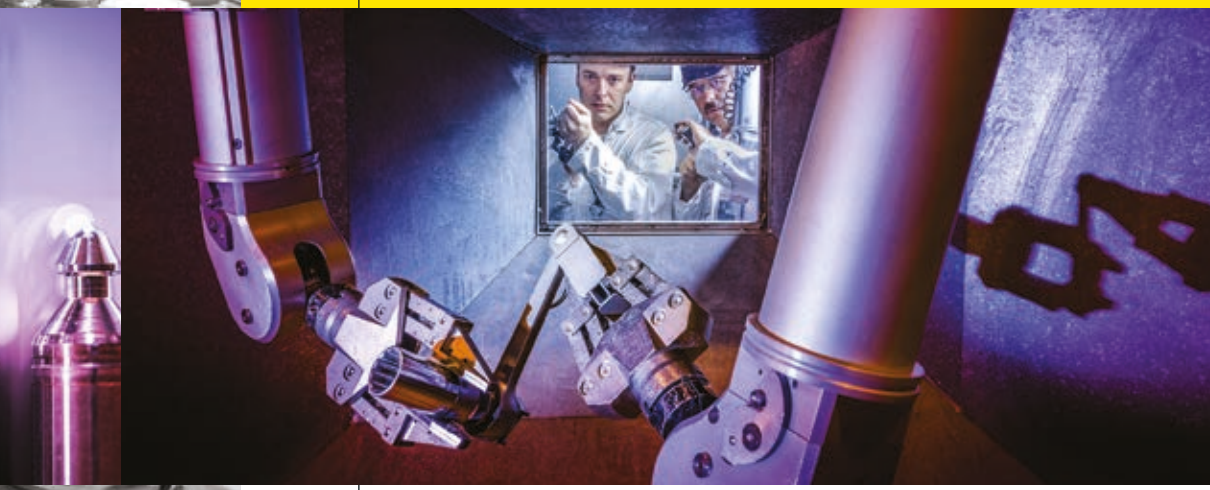
Uranium conversion and enrichment

Backed by an unrivalled, integrated industrial platform and the world's most modern facilities – the Philippe Coste conversion plant and the Georges Besse II enrichment plant – Orano is recognized by the industry for its technical skills and processes at the forefront of innovation. The group has solid industrial assets to provide high added-value services to customers, including the best processes and practices in terms of safety, competitiveness, and environmental protection.

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 performance of its large-scale production plants La Hague and Melox, Orano is positioned as a leading international player in used fuel processing and recycling. Its ability to recycle materials and to produce safe and stable radioactive waste packages can save from 25% up to 40% of natural uranium resources and reduce final high-level radioactive waste volumes by 5 and their toxicity by 10.

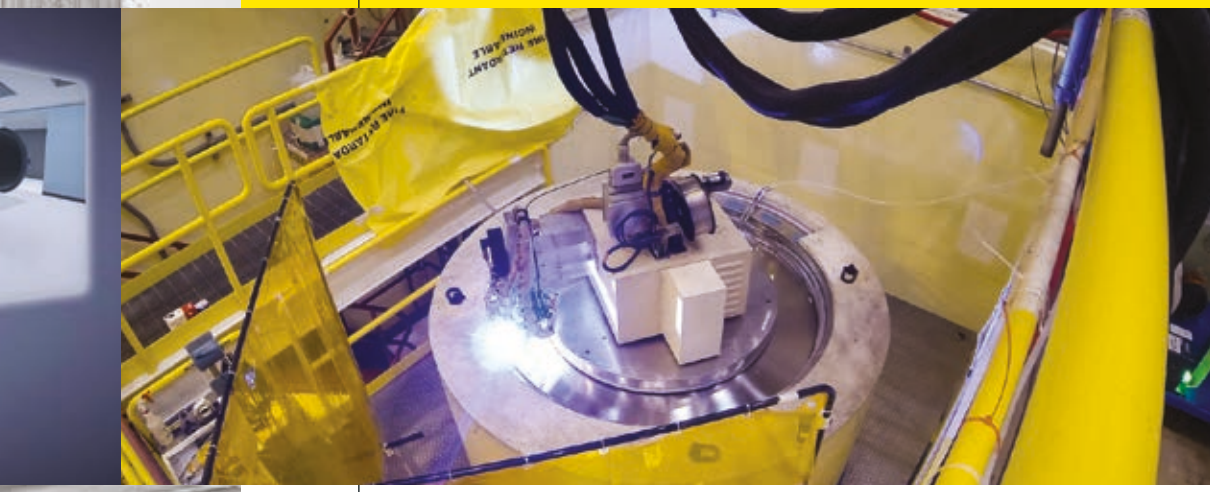


Learn more:

Nuclear packages and transport

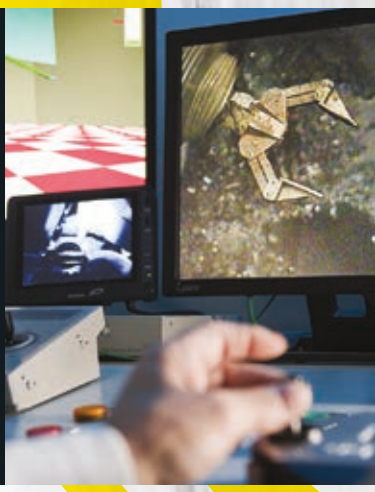
Orano has been providing customers with integrated nuclear logistics solutions for more than fifty years. Across the fuel cycle, the group provides unique expertise in the design, licensing and manufacturing of casks, as well as in storage and shipping operations, whatever the purpose, destination and mode of transport (by land, sea, or rail).

Orano provides certainty to the key steps of transportation and storage for all types of nuclear material with licensing expertise, multi-purpose packages, routing management and fleet ownership.



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 and levels of nuclear waste, covering needs from low to high complexity.

Learn more:

Dismantling and Decommissioning

Orano deploys leading capabilities for the end-of-life management of nuclear reactors and nuclear fuel cycle facilities. Thanks to its unique experience as an operator and a supplier, the group combines proven and new technologies as well as comprehensive expertise to deliver reliable projects, from scenarios and planning to operations, including waste management strategies.

Learn more:

Support for Operations

As a nuclear operator, Orano has a world-renowned expertise in every phase of the plant equipment and nuclear facility lifecycle. Fifty years of experience have made Orano a leading supplier of support services to nuclear site operations spanning the entire nuclear lifecycle from facility management, operations, maintenance, and logistic support to radiological analysis, safety, and training.

Learn more:

Engineering

With widely acknowledged expertise in nuclear fuel cycle engineering, Orano works both for external customers and for its own needs. Services range from operational support engineering to complete EPCM (Engineering, Procurement, Construction, Management) missions. Its engineering teams are experienced across the full scope of the group's operations. Orano is also aiming to develop its business in nuclear segments outside of the fuel cycle as well as in non-nuclear applications.

Learn more:

Extractive Metallurgy

Orano's Innovation Center for Extractive Metallurgy (CIME) develops end-to-end or tailor-made solutions for the recovery of radioactive and nonradioactive materials, from technical studies through to the implementation and commissioning of industrial pilots, benefitting from a state-of-the-art environment.

The CIME meets the needs of customers in the fields of energy, environment, industrial recycling, health, minerals and ores processing, and engineering.

With facilities renewed in 2021, the CIME is strengthening its support to its customers and continuing its diversification into innovative projects in the broader fields of energy transition and the circular economy.

Learn more:

Nuclear medicine

With its Orano Med subsidiary, the group is at the forefront of research in nuclear medicine and is developing new targeted therapies against cancer.
In 2013, a unique laboratory in the world, specialized in the production of high-purity Lead-212 (^{212}Pb), was inaugurated in Bessines-sur-Gartempe (France) and was further extended in 2020 doubling its surface area for a five-fold increase of its Lead-212 (^{212}Pb) production capacity. In 2016, a second facility was opened in Plano, Texas (USA). In 2020, a dedicated R&D center was also built in Bessines-Sur-Gartempe. Lead-212 (^{212}Pb) is a radioactive isotope from thorium and is very promising in alpha therapy, an innovative form of radiotherapy that targets the cancer cells and limits the impact on healthy cells.

Learn more:

Sources and Radioactivity standards

Orano, through the LEA (Radioactivity Standards Laboratory - Laboratoire d'Etalons d'Activité), provides a wide range of standard and tailored-made radioactive sources for various applications (medical, industrial, environment, radiation protection, research ...). LEA's highly reliable sources production contributes to calibrate, control and secure multiple sectors equipment. It also offers turnkey project management solutions, including high activity sources' supply, installation and used sources recovery.

Learn more:

Stable isotopes

Harnessing its expertise and mastery of cutting-edge technologies in the transformation, conversion and enrichment of uranium, Orano started the production of Stable Isotopes in 2023. These non-radioactive forms of atoms, produced in very high isotopic and chemical purity levels and in multiple chemical forms (oxide, metal, gas, etc.), are used in a large number of applications, notably in the fields of medical imaging and oncology, microelectronics industry and basic research.

Learn more:

Electric vehicule batteries

Orano's goal with the Battery Program is to become a key player in the lithium-ion (Li-ion) electric vehicle battery ecosystem and particularly in battery recycling for the Gigafactory market in France and Europe. Batteries contain rare metals such as cobalt, nickel, lithium and manganese, for which Orano is developing a completely new low-carbon process to efficiently recover these valuable materials, ready for industrialization by 2026. The battery program will build on its operational industrial pilot, which is testing the safe and efficient pre-processing of end-of-life batteries and the hydro-metallurgical purification of the recycled metals, which will then be reused in the production of new cathode active materials (CAM) and their precursors (PCAM) required for electric batteries.

Learn more:

Organization and contacts

The Orano Executive Committee's aim is to set the course for the Orano Group and ensure consistency in the implementation of decisions under the authority of the Chief Executive Officer. It provides support to the Chief Executive Officer as he leads the company and implements the strategy and general policy set out by the Board of Directors.

Orano sales teams located in the European, North America and Asian markets maintain close relationships with each customer. They provide innovative, tailor-made and competitive solutions and support customers' needs all around the world.

Learn more:

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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orano

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Energy is our future. Don't waste it!

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