



# Business Solutions



**orano**  
Giving nuclear energy its full value



## **Giving nuclear energy its full value.**

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

Our unique and internationally-recognized expertise in the nuclear fuel cycle enables us to offer our customers efficient products and services that are adapted to their needs, right across the cycle from uranium mining to waste management, through to chemistry, enrichment, used fuel management, nuclear packages, transport, engineering, services and decommissioning. It is this expertise that provides the foundation for the relationship of trust that we have built up over time with our customers.

Our priority is to create value for our customers and for society as a whole: needs for clean, safe, sustainable and affordable energy, economic competitiveness and good jobs are challenges that nuclear energy can address.

Giving nuclear energy its full value is a conviction our 16,000 employees commit to share with nuclear operators.

# Orano

around the world



Revenue  
**€3,623 m**

Backlog  
**€31.8 bn**

**Worldwide leader**  
in our activities

**16,000**  
employees in  
the world

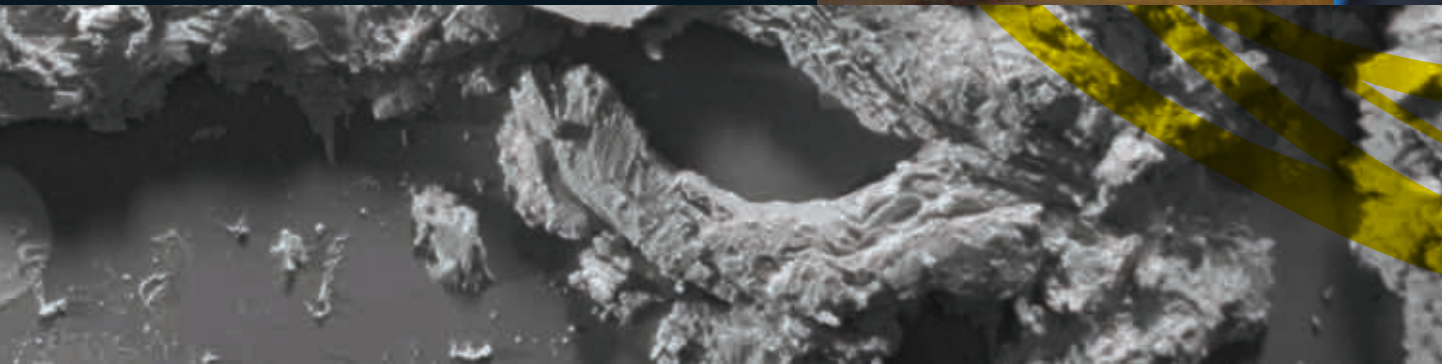
**53 %**  
of revenue from  
export markets



The first stage in the nuclear fuel cycle, Orano's mining operations encompass worldwide uranium exploration, production and marketing, as well as mining site rehabilitation. With 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.



Mining







Backed by an unrivalled, integrated industrial platform and the world's most modern facilities – the Comurhex II conversion plants 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 footprint.



## Uranium conversion and enrichment







Orano offers adaptable solutions for used fuel recycling, combined with innovative interim storage, for a comprehensive range of used fuel services based on decades of international experience and proven capabilities. Thanks to the performance of its large-scale la Hague and Melox production plants, Orano is positioned as a leading international player in used fuel treatment and recycling. Its ability to recycle reusable materials and to produce safe and stable radioactive waste packages saves approximately 25% of natural uranium resources and divides final waste volumes by 5 and their toxicity by 10.



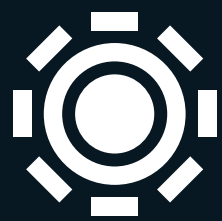
Used fuel  
recycling



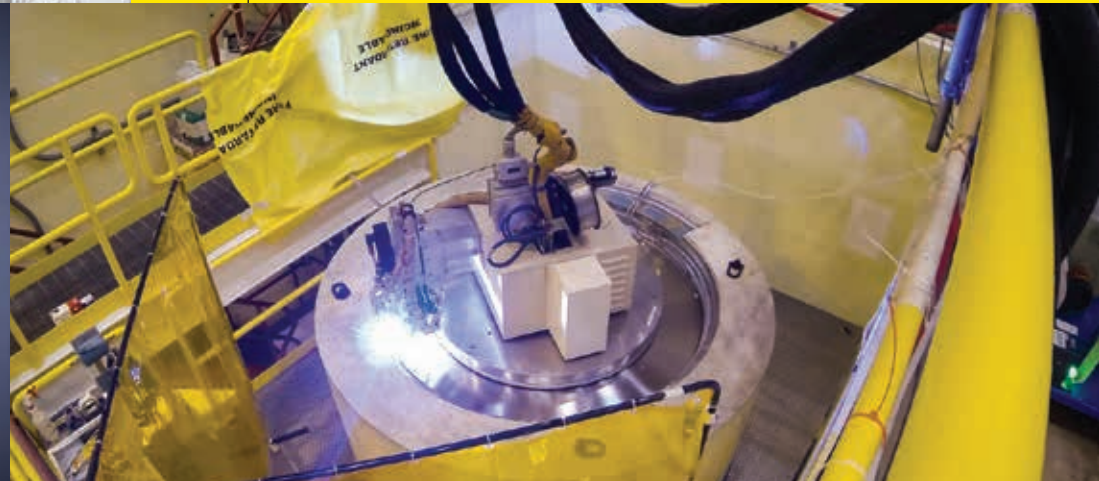




Orano has been offering customers integrated nuclear logistics solutions for more than fifty years. Across the fuel cycle, the group provides unique expertise in the design, licensing and manufacturing of casks, in storage and shipping operations, whatever the purpose, destination and means. Orano provides certainty to the key steps of transportation and storage for all type of nuclear material with licensing expertise, multi-purpose packages, routing management and fleet ownership.



## Nuclear packages and transport

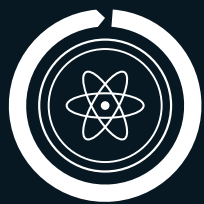






Orano provides full-scope and optimized strategy as well as technical expertise for nuclear waste management from characterization to disposal, through treatment, conditioning and volume optimization.

Orano has built over the years a sound expertise for the customized management of all types and levels of nuclear waste, covering needs from low to high complexity.



## Nuclear waste management



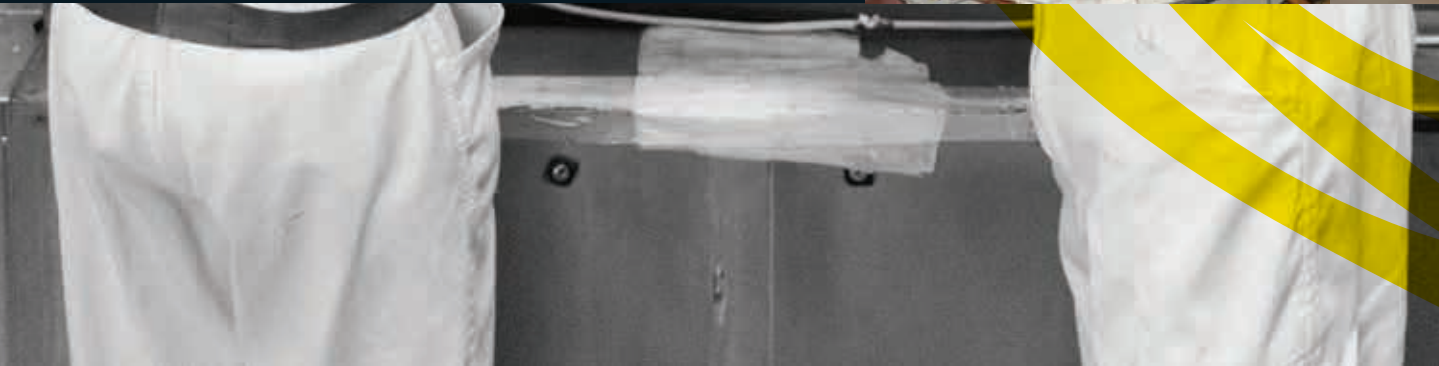




O rano deploys leading capabilities for the end of life of nuclear facilities, power plants and fuel cycle facilities. Thanks to a unique experience as an operator and a supplier, the group combines proven and new technologies as well as transversal expertise to deliver reliable projects, from scenarios to operations, including waste management strategies.



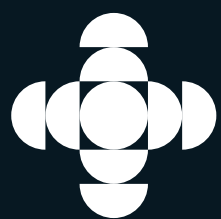
## Dismantling and Decommissioning







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



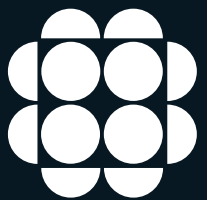
Support  
to Operations



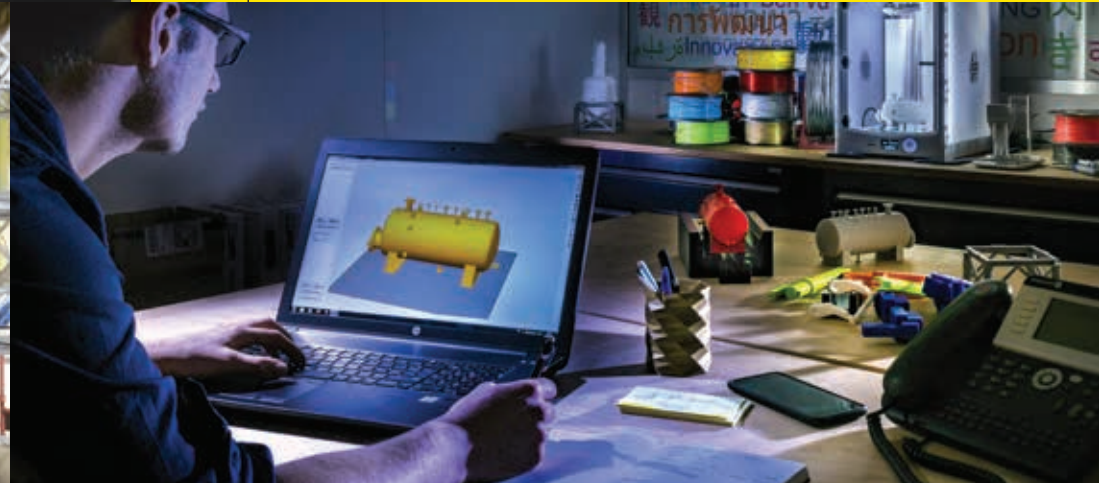


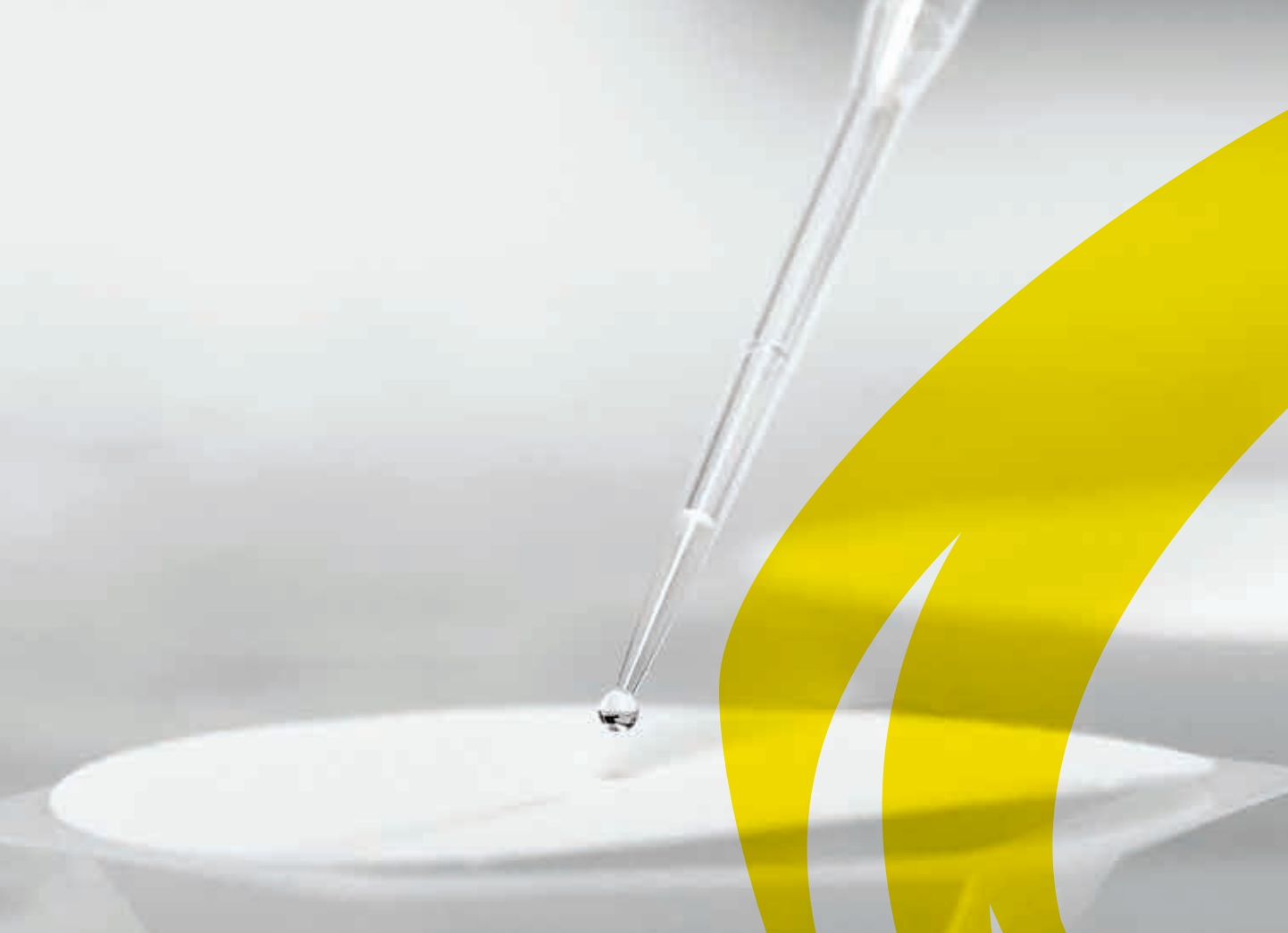


Recognized expert in nuclear fuel cycle engineering, Orano works for external customers as well as for its own facilities. Its services range from operational support engineering to full Engineering, Procurement, Construction and Management (EPCM) missions. Its engineering teams are involved in all of the group's operations. Orano is also aiming to develop non-fuel-cycle operations and non-nuclear applications.



Engineering





With its Orano Med subsidiary, the group is at the forefront of research in nuclear medicine and is developing targeted new therapies against cancer. In 2013, a unique laboratory in the world, specialized in the production of high-purity lead-212, was inaugurated in Bessines-sur-Gartempe (France) and since 2016 a second facility has opened in Plano, Texas (USA). Lead-212 is a radioactive isotope coming from thorium, and is very promising in alpha therapy, an innovative form of radiotherapy that limits the impact on healthy cells.



Nuclear  
medicine





Orano transforms nuclear materials so that they can be used to support the development of society, first and foremost in the field of energy.

The group offers products and services with high added value throughout the entire nuclear fuel cycle, from raw materials to waste treatment. Its activities, from mining to dismantling, as well as in conversion, enrichment, recycling, logistics and engineering, contribute to the production of low carbon electricity.

Orano and its 16,000 employees bring to bear their expertise and their mastery of cutting-edge technology, as well as their permanent search for innovation and unwavering dedication to safety, to serve their customers in France and abroad.

Orano, giving nuclear energy its full value.

Let's talk more about it; join us on



[www.orano.group](http://www.orano.group)



**orano**

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**Energy is our future. Don't waste it!**