Be certain
Unsurpassed excellence in nuclear logistics

Orano TN

Conception et réalisation : éditions stratégiques – 01 49 48 97 98. Photos credits: Orano, Eric Larrayadieu
Our mission for more than 55 years has been to provide our customers with reliable and safe logistics services. In addition to our comprehensive international transportation schemes, we provide used fuel interim storage management and nuclear waste logistics solutions throughout the nuclear cycle.

With more than 1,500 operational systems worldwide, Orano TN is the leading player in the used fuel dry storage market.

Our two core technologies have been conceived with our unique capabilities in design and licensing:
- TN®24 family of forged metal casks
- NUHOMS® systems of stainless steel canisters stored in concrete modules

In addition to storage systems, Orano TN’s wide range of solutions for long-term management of used fuel includes:
- Pool cleaning
- Loading assistance
- Aging Management of packages
- Construction and management of storage facilities

Waste logistics: A comprehensive customized approach

With its cutting-edge expertise in robust cask design and the transport and storage of radioactive materials, Orano TN provides nuclear waste management and logistics solutions for operations and dismantling. To meet the customer-specific needs of nuclear operators, our “triple-purpose” interim storage/transport/final storage casks are state-of-the-art. And our customized services cover 100% of the waste spectrum, from decision support to maintenance, including engineering, packaging and transportation.

Orano TN is the only nuclear player proposing totally integrated transportation solutions, from uranium mines to recycling plants, mastering the highest level of safety and security. We are a reference in the design and manufacture of transport casks as well as in the organization and oversight of nuclear transport by road, rail, sea or air. This unique expertise, combined with high value-added services such as our Transport Risk Management (TRM™), regulatory monitoring and training, makes a significant difference to our customers.
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 TN key figures**

<table>
<thead>
<tr>
<th>WORLDWIDE POSITION IN NUCLEAR LOGISTICS</th>
<th>EMPLOYEES</th>
<th>SHIPMENTS ORGANIZED PER YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N°1</strong></td>
<td><strong>900</strong></td>
<td><strong>5,000</strong></td>
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</table>

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<thead>
<tr>
<th>SPECIALIZED WAGONS FOR HEAVY PACKAGES</th>
<th>INDUSTRIAL VEHICLES</th>
<th>NUMBER OF DIFFERENT CASK DESIGNS TO MEET THE SPECIFIC NEEDS OF OUR CUSTOMERS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>50</strong></td>
<td><strong>200</strong></td>
<td><strong>150+</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>NUMBER OF PATENTS FILED WORLDWIDE</th>
<th>NUMBER OF DRY STORAGE PACKAGES LOADED AROUND THE WORLD</th>
<th>ONE SEAMLESS SUPPLY CHAIN COVERING EUROPE AND THE UNITED STATES</th>
</tr>
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<tbody>
<tr>
<td><strong>400</strong></td>
<td><strong>1,500</strong></td>
<td><strong>SEAMLESS SUPPLY CHAIN</strong></td>
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4BY-type cylinder for the transport of natural uranium hexafluoride.
An international network

Orano TN is the only industrial player able to carry out multi-modal and multi-zone operations at all stages of the fuel cycle. With know-how accumulated over 55 years and the operational excellence of its 900 employees located in the main nerve centers of the nuclear industry, Orano TN works in tandem with its customers ensuring all their requirements. To accomplish the missions entrusted to us, we have built reliable networks of proven, efficient and closely monitored local partners.

**FRANCE**

**TN International**
Design, licensing and manufacturing of transport and dry storage casks for nuclear materials, used fuel interim storage management, transport commissioning
*Headquarters*
St Quentin-en-Yvelines  •  400 employees

**LMC**
Transport of nuclear materials, management of rail and maritime terminals
*Headquarters*
Valognes  •  180 employees

**UNITED STATES**

**TN Americas**
Design and licensing of transport and dry storage casks for used fuel, transportation commissioning
*Headquarters*
Columbia (Maryland)  •  150 employees

**CHT**
Manufacturing of equipment for used fuel dry storage
*Headquarters*
Greensboro (North Carolina)  •  90 employees

**ASIA**

**TN Tokyo**
Packaging and transport of nuclear material in Asia and the Pacific.
*Headquarters*
Tokyo  •  40 employees

**Japan**

**China and Korea**
*Sites: Beijing, Seoul*
•  10 employees

**NIGER**
Support for Orano’s Mining operations in the transportation of uranium concentrate to enrichment plants.

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Our priorities

Customer satisfaction in delivering safe, competitive, innovative and reliable products and services

In all its activities, Orano TN puts nuclear safety, personal safety, the protection of materials, and quality at the top of its priorities. On a daily basis, this is demonstrated in the deployment of structured and regularly audited processes:

- **Design casks** in compliance with international safety and security regulatory requirements, including the use of unique engineering capabilities and test facilities
- **Obtain the necessary licensing** from numerous international safety authorities
- **Select, audit and inspect** the industrial partners who produce the packaging
- **Deliver on time**, reliable products and services on a day-to-day basis
- **Secure our logistics routes** with comprehensive risk analysis, detailed inspections at key milestones, and an emergency response system ready for deployment

Driven by an entirely customer-focused R&D team in France and the United States, our innovation approach is primarily aimed at better meeting today's needs while anticipating the needs of tomorrow.

**Technological innovation**

The launch of new game-changing products - the next generation of TN®G3 used fuel transportation casks and the NUHOMS® Matrix system, a ground-breaking concept in the world of dry storage - is confirmation of Orano TN's state-of-the-art technologies. Our teams are actively working on an even more innovative and competitive «dual purpose» storage/transport cask.

In partnership with communities of experts, we are developing new materials and new processes such as additive manufacturing.

**Innovative services for new business models**

In addition to products, we also develop new solutions to enable our customers to deal with the emerging issues of nuclear power, whether reactor shutdowns or aging management. It is this aspiration that led to the design of the NUHOMS® Matrix Inspection System and to reflections on the conception of a Consolidated Interim Storage Facility (CISF) in the United States.

Unexcelled innovation culture

Specialized wagons for heavy packages.

Engineering teams, St. Quentin-en-Yvelines, France.

Real-time tracking of transport.

NUHOMS® Matrix dry storage system.

Certifications

Orano TN is certified:
ISO 9001 (quality management),
ISO 14001 (environmental management) and
OHSAS 180001 (health and safety management).
State-of-the-art training centers

Orano TN has two training centers specifically dedicated to the dry storage business: NUHOMS® University in the United States and the Cask University in France. Open to our internal teams as well as to our partners and customers, they are equipped with mockups of advanced technical equipment and offer courses combining theory and practice on cask operations and maintenance.

Customer-specific assistance services

Orano TN offers many customized technical assistance solutions for cask handling, loading, transport and maintenance as well as operator training and regulatory inspection services. Support services focus on operational excellence reducing ionizing radiation exposure, limiting costs, and ensuring safe operations.

Simulation tools with high added value

Decision assistance, new design concepts, training in sensitive operations, operational support... Orano TN has developed a vast range of services backed by immersive digital technologies such as virtual and augmented reality.

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