





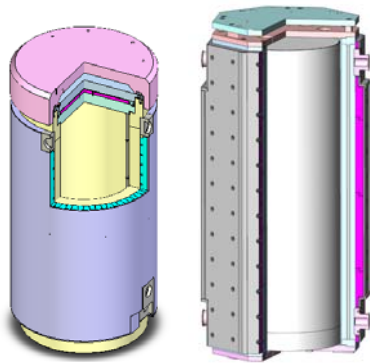
MEETING THE CHALLENGES OF INTERNATIONAL PROJECTS

Justo GARCIA

LOGISTICS



Challenges of AREVA Logistics BU



Dry Storage innovative Solutions

An increasing market for fuel management solutions worldwide

Nuclear Renaissance

Tough Competition

Be ready for higher enrichment, burn-up...

Need to anticipate regulatory evolutions

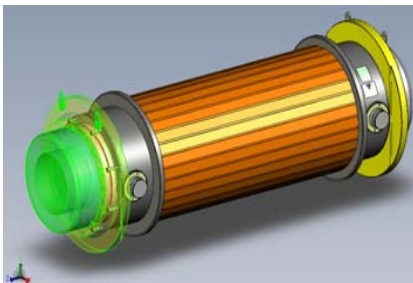
Adaptation to the dry storage market internationalization

Offer competitive casks with larger capacity

New fuel design (MOX,...)

Design casks compatible with decommissioning strategies

» To meet all these challenges, the Logistics BU is developing a dynamic policy of innovation & new management of the projects based on its multicultural entities.



New Transport cask

A reinforced worldwide network

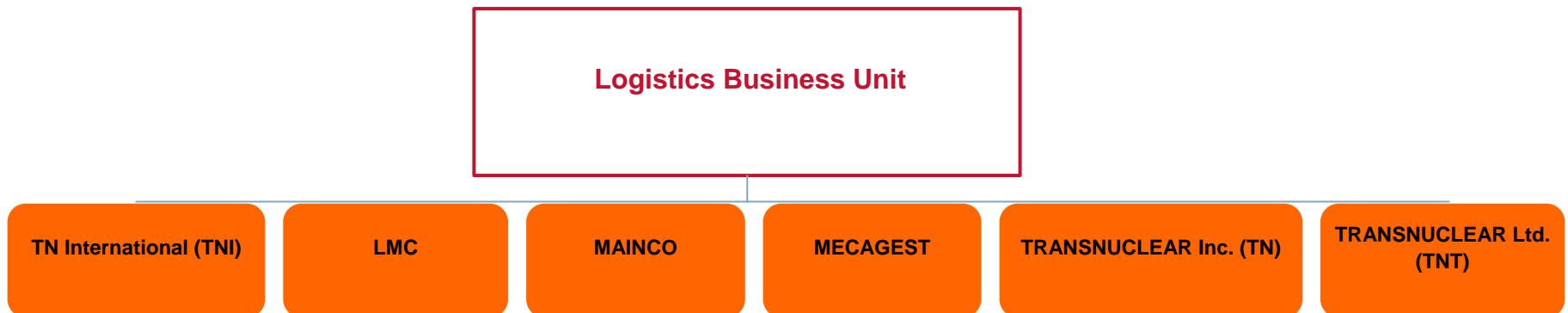


Logistics Business Unit

We work together globally



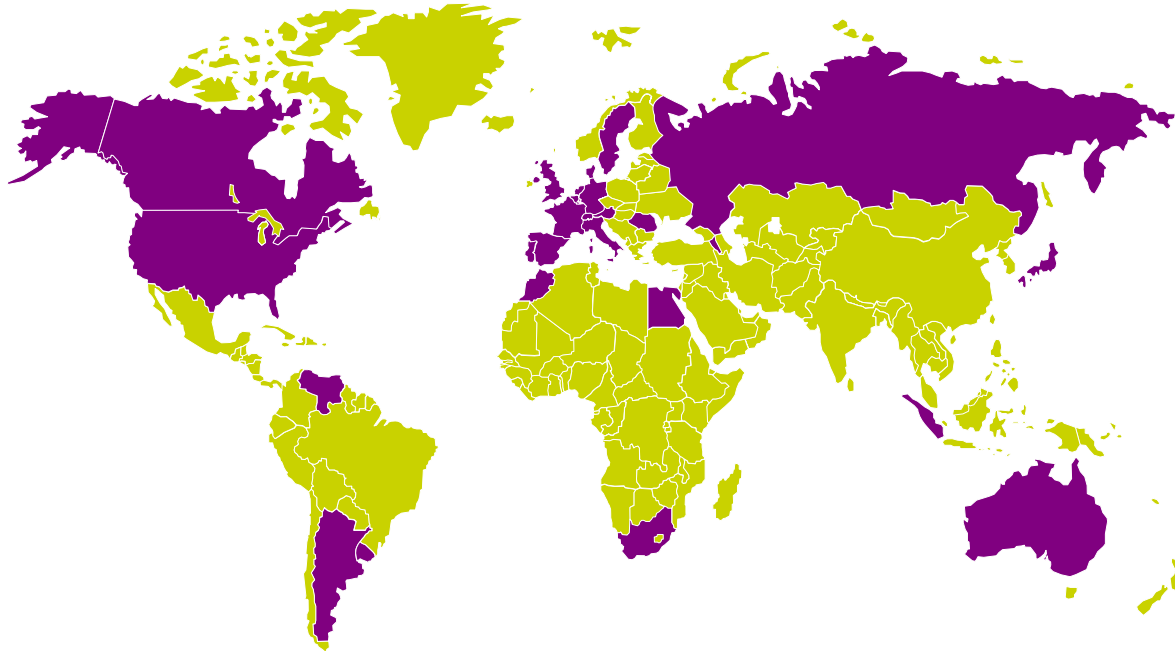
- ▶ The Logistics BU and its entities have the **same management** with a coordinated strategy, common development objectives, common R&D programs and common safety culture
- ▶ Part of the Business Unit Logistics, TN International, Transnuclear Ltd and Transclear Inc. have gained experience in **common projects**:
 - ◆ Projects in Japan for transportation of spent fuel and radioactive wastes: TN12, Mox, TN843,
 - ◆ Project in Republic of Armenia, NUHOMS dry storage systems,
 - ◆ Dry storage of the spent fuel of Leibstadt Nuclear Power Plant in Switzerland,
 - ◆ Shared innovation programs: TN NOVA, 61BT canister development, TN™ MTR, TN GEMINI
 - ◆ Exchange engineers program
- ▶ International project teams performance



LOGISTICS

Unique Licensing experience

- ▶ **Long-term relationships with high level Nuclear Safety Authorities (Germany, United Kingdom, Japan, USA, France...)**



- ▶ **We have licenses granted for storage and transport in many countries**
 - ◆ Over 150 designs developed.
 - ◆ Five new products developed each year.
 - ◆ More than 30 certification or license applications submitted each year.
 - ◆ 5 patents granted each year

NUHOMS® System in Armenia



- ▶ Implementation of NUHOMS® dry storage systems in the Nuclear Power Plant of Medsamor, since 1996
- ▶ **The Logistics Business Unit** is supplying the dry storage solution for managing all the used fuel until the plant end of life



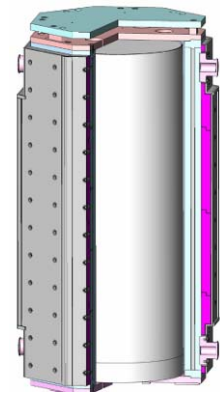
- ◆ Transnuclear Inc., provided the technology: NUHOMS® System
- ◆ TN International provided the adaptation of the storage system with the national requirement



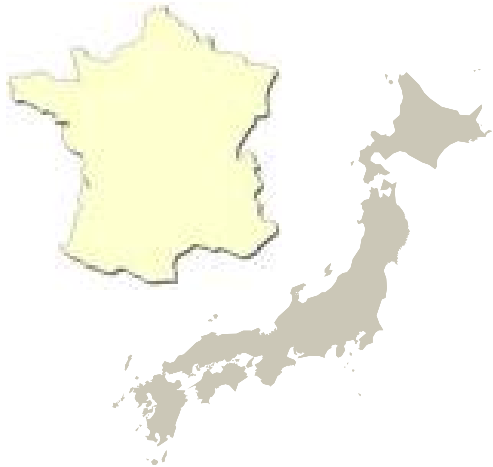
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TN NOVA™ in Switzerland

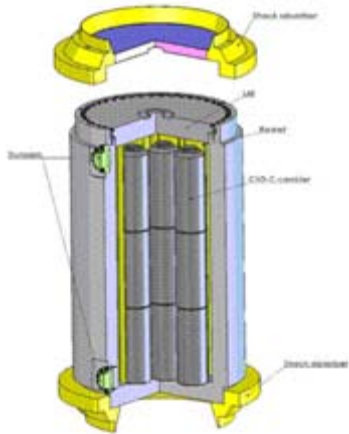
- ▶ Implementation of TN NOVA™ system in the Nuclear Power Plant of Leibstadt since 2009
- ▶ **The Logistics Business Unit** is supplying the dry storage solution for managing all the used fuel until the plant end of life
 - ◆ Transnuclear Inc., & TN International designed and developed an innovative storage solution
 - ◆ A project team with shared resources in France and in the USA is working on the design, licensing and manufacturing
 - ◆ Transnuclear Inc. offers its expertise on transportation licensing in the USA
 - ◆ TN International offers its expertise on the storage licensing in Europe and especially in Switzerland



TN[®] 843 for transportation to Japan



- ▶ Design and manufacturing of cask for the transportation of compacted waste from France to Japan
- ▶ **The Logistics Business Unit** is supplying the transport cask for compacted waste



- ◆ A project team with shared resources in France and in the Japan is working on the design, licensing and manufacturing
- ◆ Transnuclear Ltd offers its expertise on transportation licensing in the Japan
- ◆ TN International offers its expertise on the storage licensing in France

Underwater Fuel Storage Racks

▶ In 2009, AREVA Logistics BU developed innovative designs for Underwater Fuel Storage Racks

- ◆ **Transnuclear Inc., & TN International designed and developed an innovative fuel storage racks**
 - using MMC or BSS (Boronated Stainless Steel) for European and Chinese market
 - using MMC (NUSTOR™) for US market

- ◆ **A project team with shared resources in France and in the USA is working on the design, licensing and manufacturing**

- ◆ **Transnuclear Inc. offers its expertise on licensing in the USA**
- ◆ **TN International offers its expertise on the storage licensing in Europe**



Conclusion

- ▶ **AREVA Logistics BU can offer expert knowledge and know-how, and experience of dealing with international organizations and authorities as well as local and international stakeholders.**
- ▶ **The multicultural expert teams within AREVA Logistics BU are able to better understand customer needs as well as the different regulatory requirements of each country.**