

# TNIOC

**TANTALUM-NIOBIUM INTERNATIONAL STUDY CENTER**

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Former Chair of the  
International Steering Committee on Denial of Shipment

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Overcoming Denial of Shipment of NORM:  
Addressing the Implementation of  
Transport Regulations

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EU-NORM International Symposium  
Tallinn, 5<sup>th</sup>-8<sup>th</sup> June 2012

# Contents

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- Regulatory Infrastructure & NORM
- Implementation and Harmonisation
- Denial of Shipment
- ISCDOS – what, why and where
  - Background and Function
  - Achievements
  - Current and Future Work

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# Naturally Occurring Radioactive Material

- IAEA Safety Glossary
  - K-40, Th-232, U-235, U-238
- IAEA BSS and RS-G-1.7
  - 1 Bq/g for Th-nat and U-nat
- IAEA TS-R-1 / SSR-6
  - x 10 for NORM – restricted application
  - Up to 10 Bq/g in transport: “normal”!

# Regulatory Infrastructure & NORM



National regulations

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# Regulatory Implementation

National regulations = IAEA TS-R-1

≈ different requirements

+ additional requirements

+ regional requirements!

+ local requirements!

+ port requirements!



# Regulatory Implementation

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National regulations = IAEA TS-R-1



*All additional requirements to be included in TS-R-1 or eliminated*



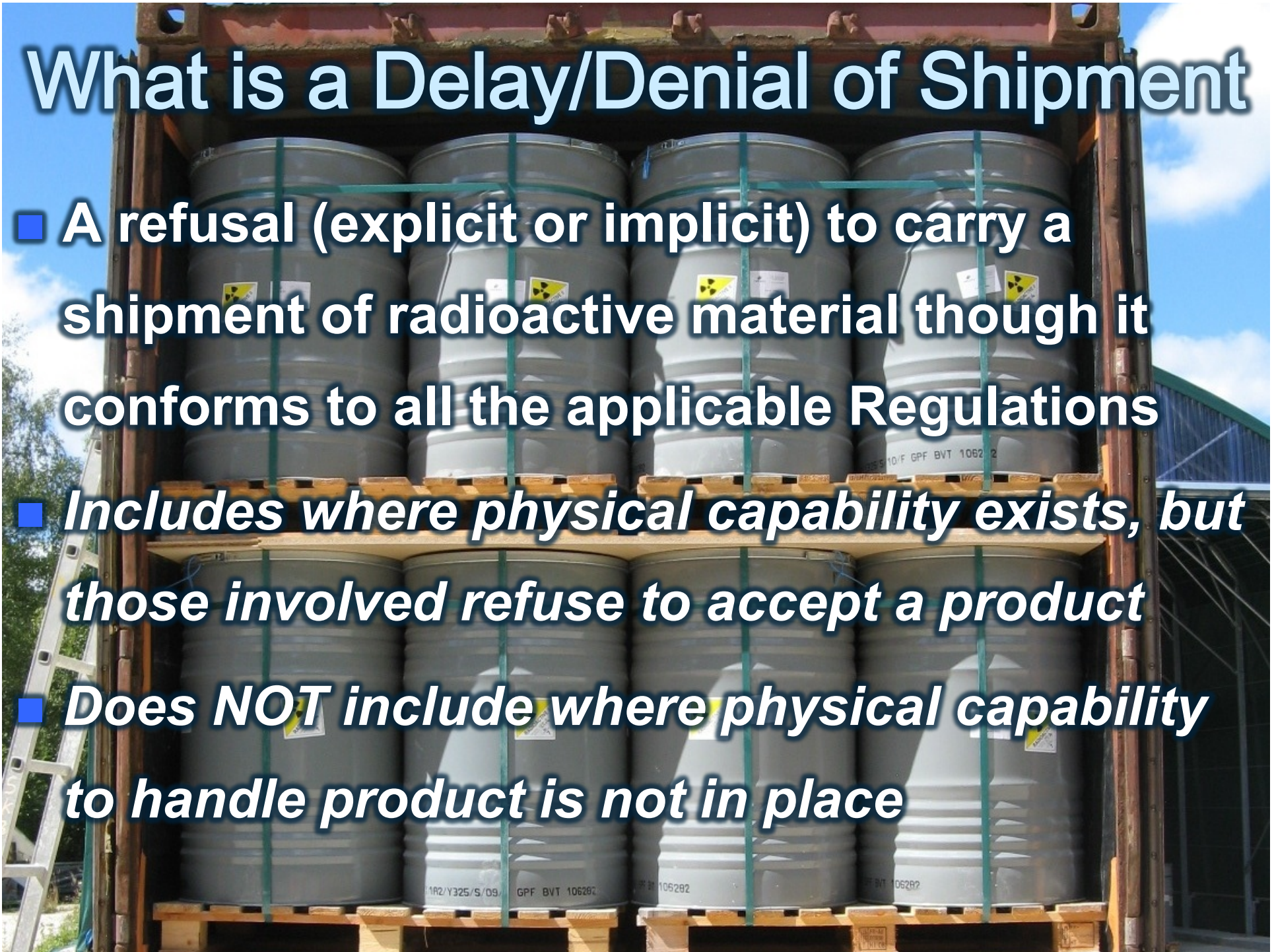
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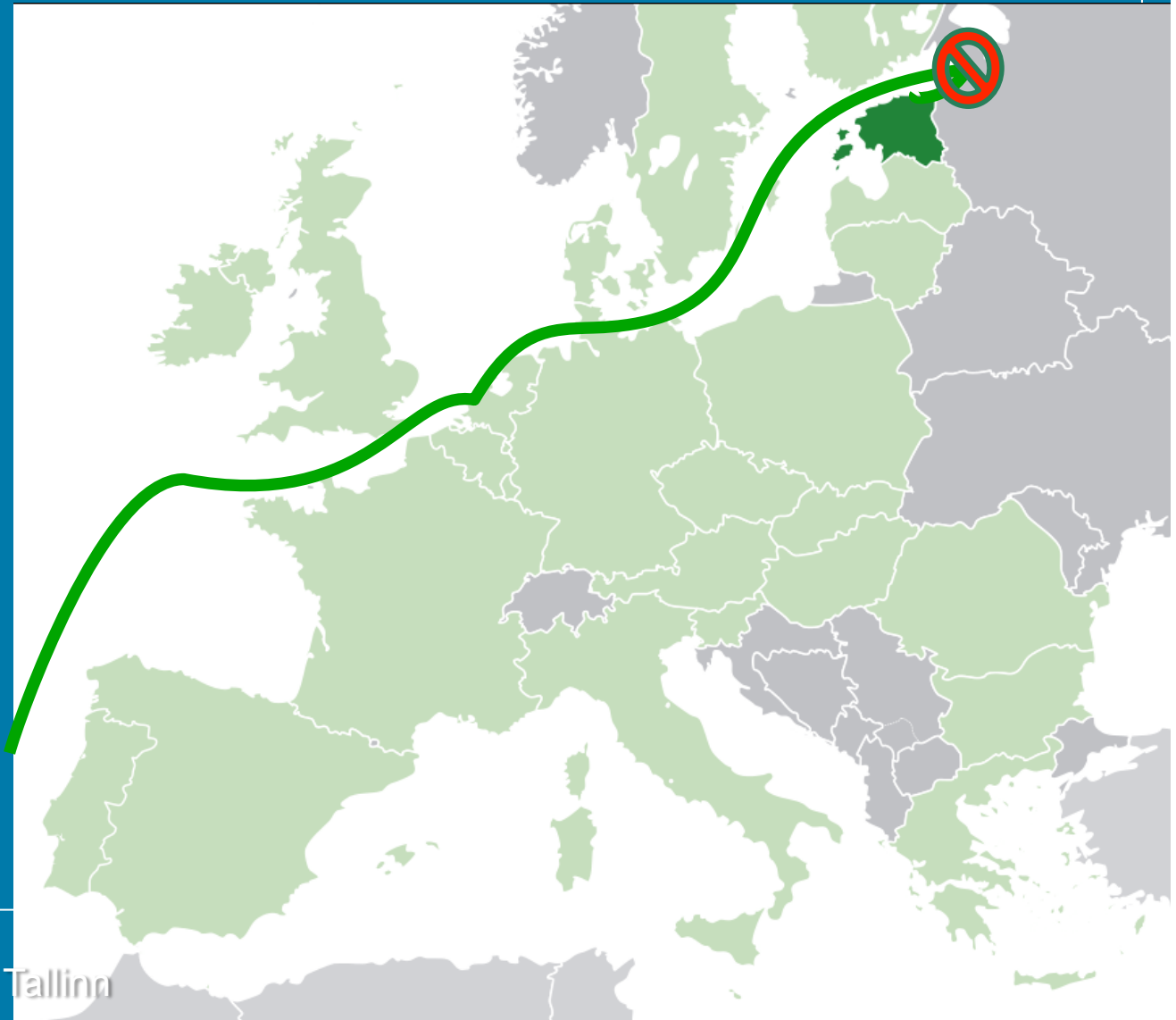
# What is a Delay/Denial of Shipment

- A refusal (explicit or implicit) to carry a shipment of radioactive material though it conforms to all the applicable Regulations
- *Includes where physical capability exists, but those involved refuse to accept a product*
- *Does NOT include where physical capability to handle product is not in place*



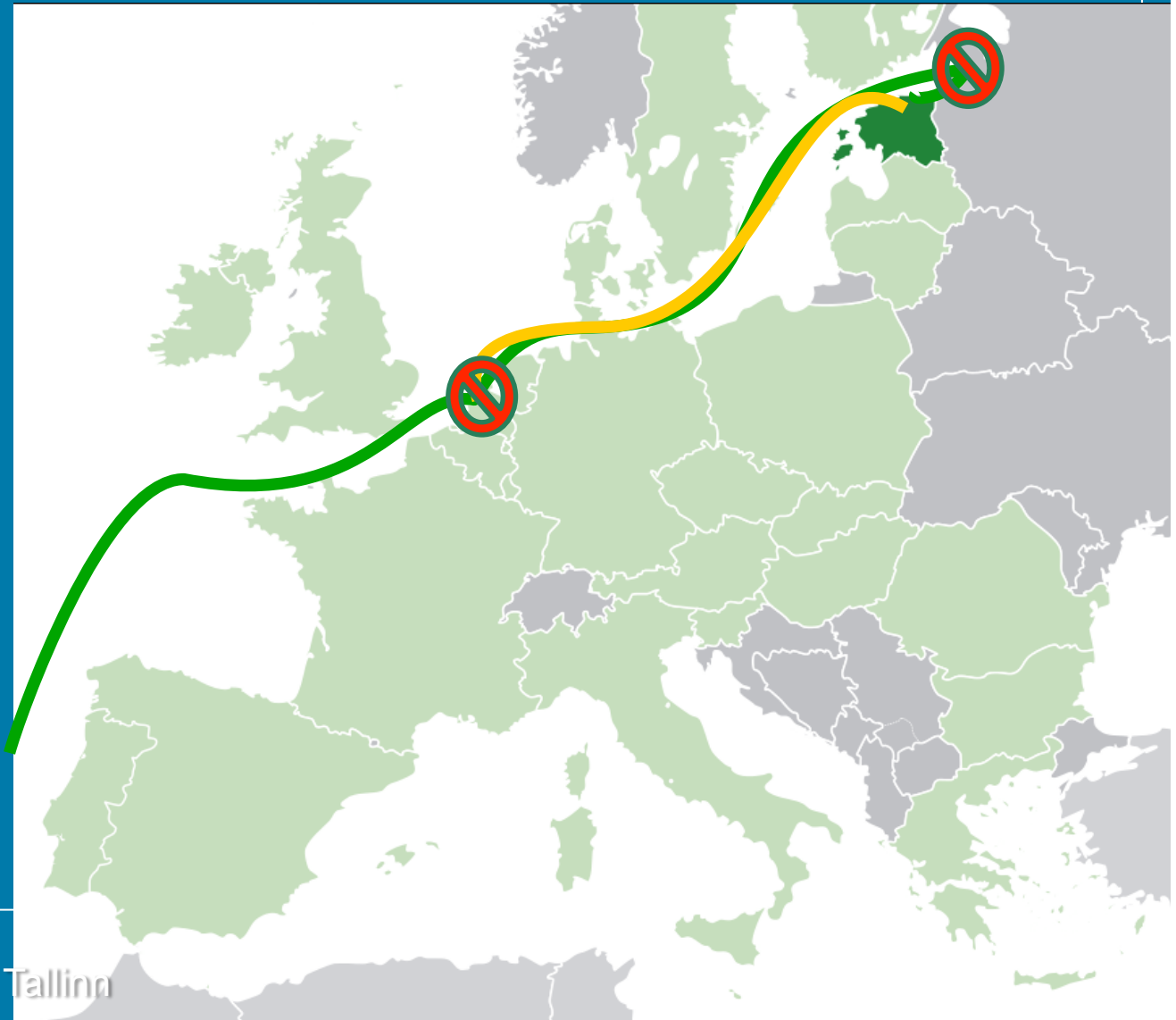
# Where might DOS occur for Sea

- Mainly Denials, 160 of 175 instances recorded
- Root cause either additional regulations, or simply local prohibition of Class 7
- Requires harmonisation



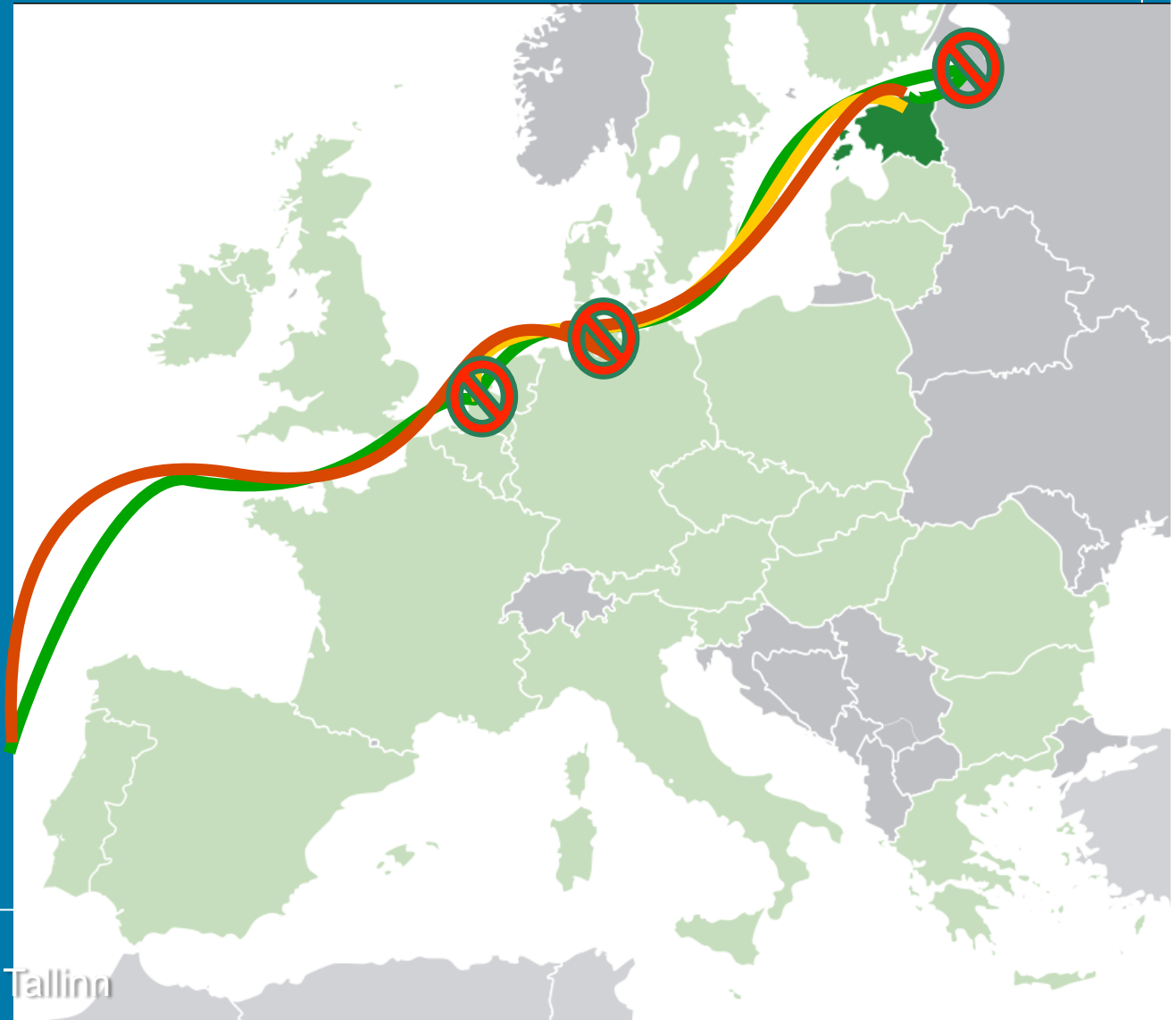
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# Anecdotal Examples of DOS

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- Djibouti: **not** an IAEA Member State
  - Lack of regulator and regulations
- Ethiopia: landlocked, relies on neighbours
  - Unable to get transport, mining stopped last week
- Germany: misinterpretation & port prohibition
  - Bremerhaven blocked Class 7; Hamburg hold-up
- Russia: definition of radioactive material
  - Surface dose rate limit of 3 microSv/h

# Tantalum transport requirement

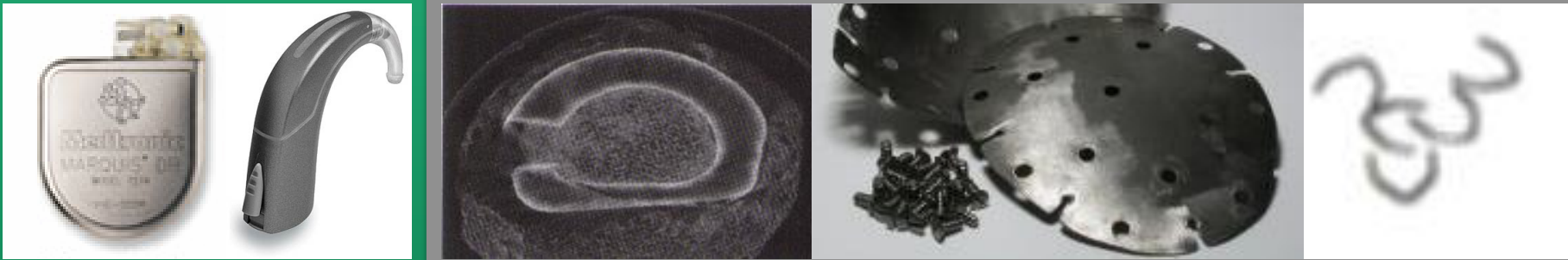


5<sup>th</sup>-8<sup>th</sup> June 2012, EU-NORM, Tallinn

Source: T.I.C. estimate 12-Oct-2010, status updated to 05-Jun-2012;  
tantalite and tin slag size by most likely resource base

**TIC**

# Tantalum in your life





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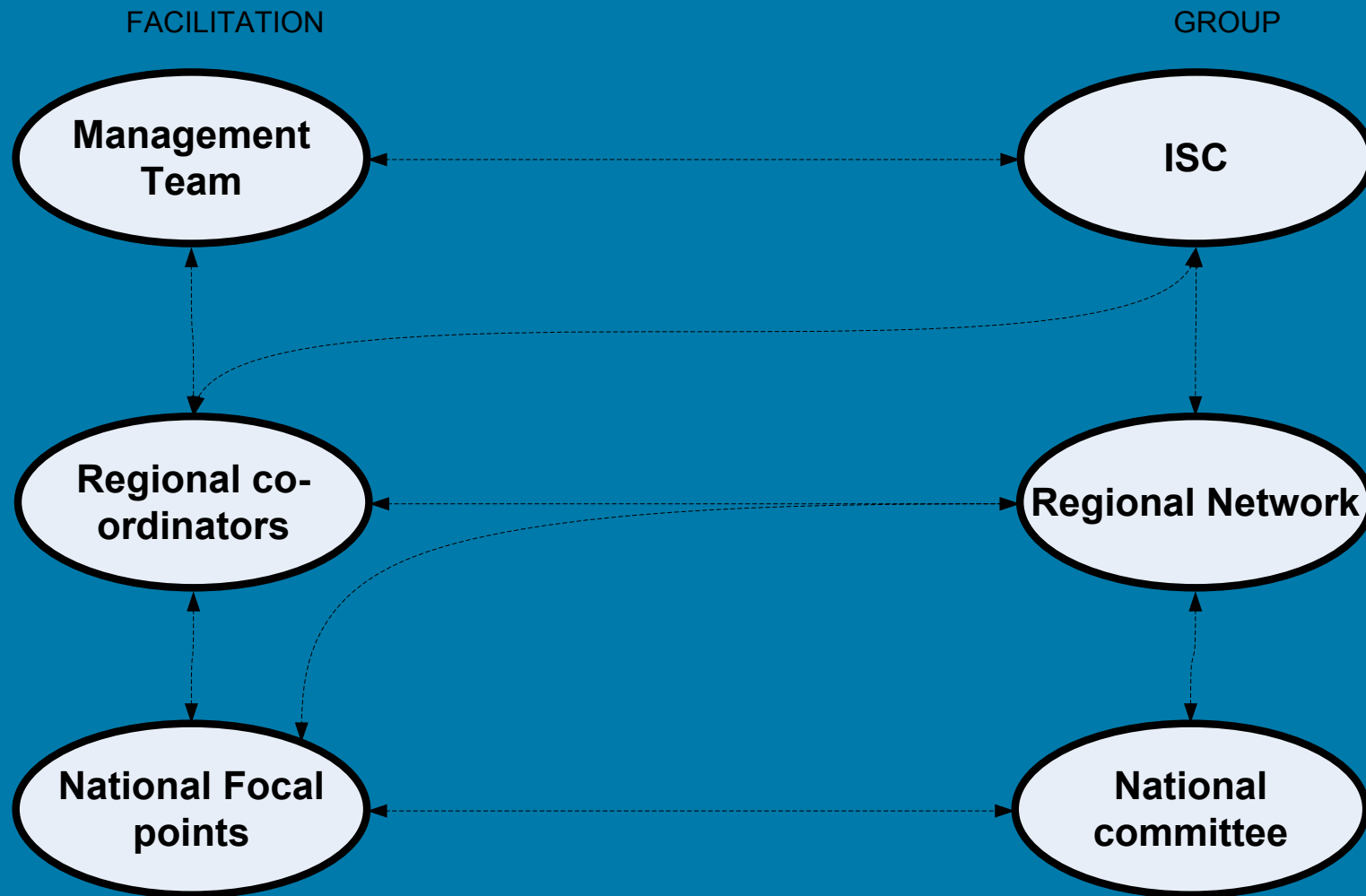
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# What is the ISCDOS?

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- Joint body of UN agencies, national regulators and industry associations:
  - IAEA, ICAO, IMO
  - IATA, ICHCA, IFALPA (ACI, IAPH, WTO)
  - IAEA Member States
  - *Transport* – Edlow International; *Isotopes* – ISSPA
  - *Industrial ores* – T.I.C.; *Nuclear industry* – WNTI
  - Carrier guest speakers, e.g.: Air Canada; Emirates; Hapag Lloyd

# How is the ISCDOS Structured?



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# IAEA-WCO Security Document

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- IAEA drafted Technical Guidance document for Customs to prevent Trafficking of RAM
- ISCDOS industry members became involved and provided considerable comment
  - Heavy activity December 2011 – February 2012
- New IAEA-WCO draft document reflects industry's proposal for risk assessment basis

# Communication Tools

- Fact sheets on  $^{60}\text{Co}$ , Medical Radioisotopes, Tantalum raw materials, Uranium concentrates
- Video development
  - Iranian public information films
  - IAEA Transport Safety film:
    - Industrial source from MY to AU
    - $^{99}\text{Mo}$  source from ZA to UK
    - Uranium concentrates in CA
    - Plans for extension to  $^{60}\text{Co}$

<http://goto.iaea.org/denialofshipment/>



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# Training – Workshops

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## ■ IAEA Department of Technical Cooperation

- 2012-May Jordan, ~30 countries
- 2012-June Gabon?
- 2012-? Caribbean
- 2012-? South America
- Also planned for Asia and Europe
- Self Assessment Tool: must detail regulations and additional requirements to obtain TC funding
- Two year programme, renewable



# Lobbying – Successes

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- Hamburg, Germany
  - Port authority misunderstanding of regulations
  - Clarified interpretation and released cargo
- Santos, Brazil
  - Port authority concern over radiation hazard from 'waste'
  - Industry and national regulator joint meeting
  - Clarified regulations and beneficial uses of radioactive material
- Port Everglades, FL, USA
  - Port authority misunderstood emergency arrangements
  - Industry contacted UK NFP; UK Maritime Authority; USA Coast Guard; Port Authority
- Useful template for a Port Task Force

# Future Plan for ISCDOS

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- Momentum built up, Action Plan end target **2013**
- Future DOS responsibility may become part of Inter-Agency Committee on Transport (IACT)
- 2012-Feb            Future Plan developed by ISCDOS
- 2012-Mar            Approved by IAEA Director General
- 2012-Sep            Subject to approval at IAEA GC
- **2013-Jun**            Last meeting of the ISCDOS

# What should stakeholders do?

- IAEA – Provide ‘On-going Maintenance’
  - TC training and harmonisation programme
  - Drive DOS work within IACT
- Regulators – Additional Requirements:
  - Advise the IAEA; identify and justify
  - Integrate them with TS-R-1 or eliminate
- Industry – Report Instances:
  - Timely follow-up with NFP / RC / IAEA

*Thank You*

**ANY QUESTIONS?**

# TIC

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