# SAFE, SECURE AND SUSTAINABLE TRANSPORT OF RADIOACTIVE MATERIAL

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Why?

- Diagnosis, therapy, sterilization of materials, foods and medicines
- Lighting products, semiconductors, plastics, energy, control devices

How?

- Several millions of shipments each year, most of them non-nuclear
- Regulations: TS-R-1 (SSR-6), UN Orange Book, ICAO, IMDG
- Universal goals: radiation protection (containment, shielding, criticality), heat control

What is

- Inability to ship RAM packages in timely way despite compliance with regulations
- Mainly affects international shipment by air or maritime mode

## Causes of Denials of Shipment

## Perception Economics

Unions do not want to handle RAM

Ports and carriers concerned that other costumers do not want their cargo siting near RAM

Negative publicity if incident

Ports and carriers do not see value in investing in training and equipment needed for RAM

Low proportion of RAM related to other dangerous goods

Carrying RAM reduces carrier flexibilities at ports

#### Regulations

Inconsistencies in regulations between countries and organizations

Inconsistencies among different regulations within the same country

Unworkable policies at specific ports



## Consequences of DoS

- Time-sensitive medical isotopes can no longer be used for diagnosis and treatment
- Patients do not receive potentially life-saving or pain-relieving radiotherapy
- Sterile single use medical devices are not available
- Safety-critical non-destructive testing of vehicles, buildings, etc. cannot be carried out

### What is being done

INTERNATIONAL STEERING COMMITTEE ON DENIALS OF SHIPMENT was created to minimize denials and delays, with participation of IAEA, United Nations modal organizations (IMO and ICAO) industry organizations and national authorities. They have jointly developed an international action plan actively supported by Regional Networks in Africa, America, Asia-Pacific, Europe and Mediterranean region focussing:

AWARENESS	Regional workshops involving regulators, industry and authorities	articles, presentations
TRAINING	IMO e-learning course, IAEA Safe	Transport training course
HARMONIZATION	Recommendation by ICAO to list differences in national regulations	Harmonization between TS-R-1 (SSR-6) and UN Orange Book
COMMUNICATION	IAEA Safe Transport film	brochures
LOBBYING	Participation in FAL, NEA/OECD expert committee Mo-99 crisis, TRANSSC	Expert delegations to carriers/ports with policies not to accept RAM
ECONOMICS	Analysis of economic cost of denials	Reduction of regulatory burden

Objective: to reduce denials and delays to insignificant level by 2013