



# Union Internationale des Sociétés de Transport Combiné Rail-Route

## The European Swap Body

**By Martin Burkhardt, Director General  
Brussels, 06/10/2008**

**International Union of Combined Road-Rail  
Transport Companies (UIRR)**



# Presentation: UIRR 20 members in 14 Countries





# UIRR - structure

**Professional Union functioning at two parallel levels with the exclusive aim to develop mainly Road-Rail CT**



## LIAISON OFFICE BRUSSELS

= overall promotion of CT  
= coordination of members' activities  
= service centre (projects)



## MEMBER COMPANIES

organising and marketing of CT  
(20 in 14 countries)  
More than 1000 logistic/transport companies are shareholders of UIRR members



constant interaction

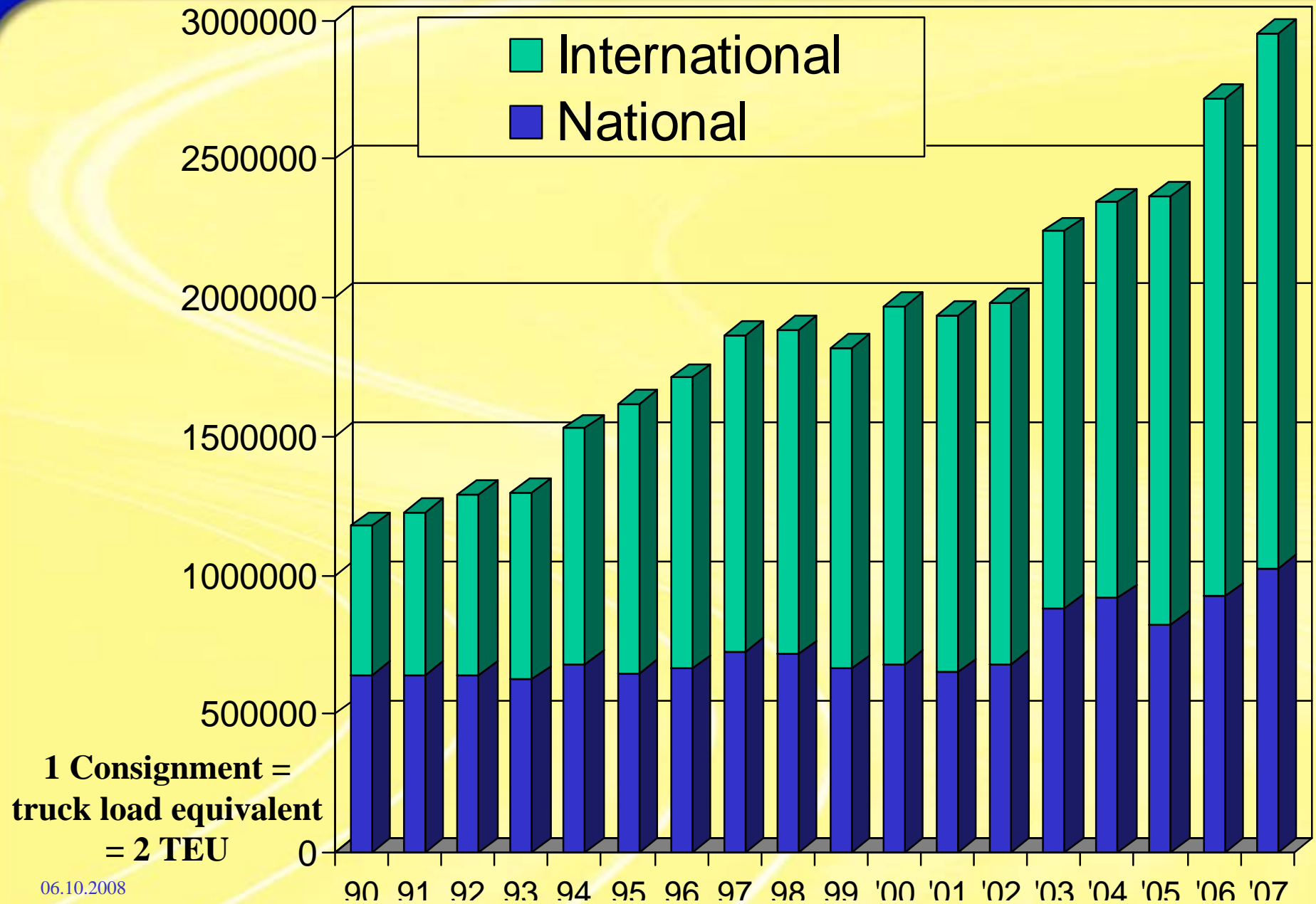


# UIRR – main figures

- Gradual establishment of an **extended Europe-wide CT network**
- More than **5.9 million TEU** transferred from road to rail **in 2007**
- **Total volume** transported more than **doubled in 15 years** (1992-2007)
- **International volume tripled in 15 years** (1992-2007)
- More than **11,000 long-distance lorries** removed daily from the roads
- More than **500 CT trains** en route daily throughout the European Union
- More than **23,000 trains underwent quality inspection** in 2007
- More than **13,000 wagons under own management**
- More than **250 transshipment yards** proposed (>100 own management)
- More than **9,000 clients**
- More than **3 mln. loading units** processed in the **CESAR tracking tool**



# Development of Combined Transport (in consignments/year)

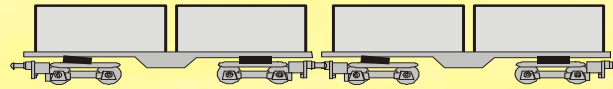


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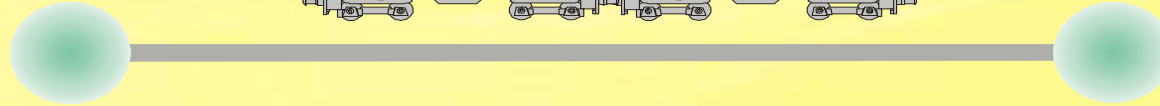


# Combined Transport with Intermodal Loading Units

Terminal



Terminal



800 km

Trailers



Swap bodies



Containers

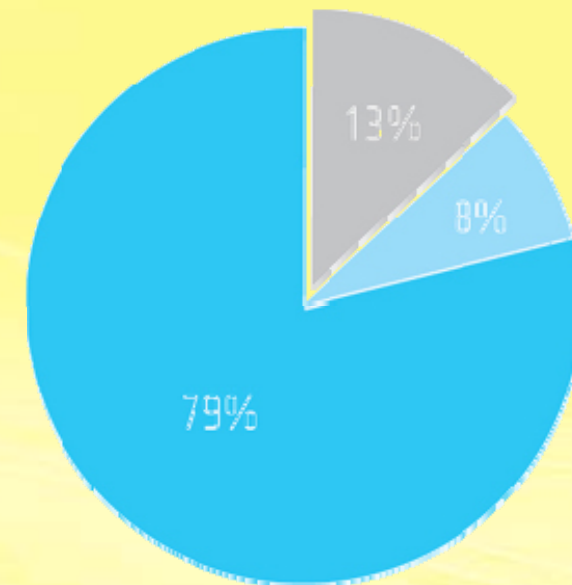


# Techniques in Combined Transport (UIRR 2007)

Majority with 79% are swap bodies and different types of containers (ISO and non ISO)

The term "swap body" is often used for non ISO-containers

## TECHNIQUES



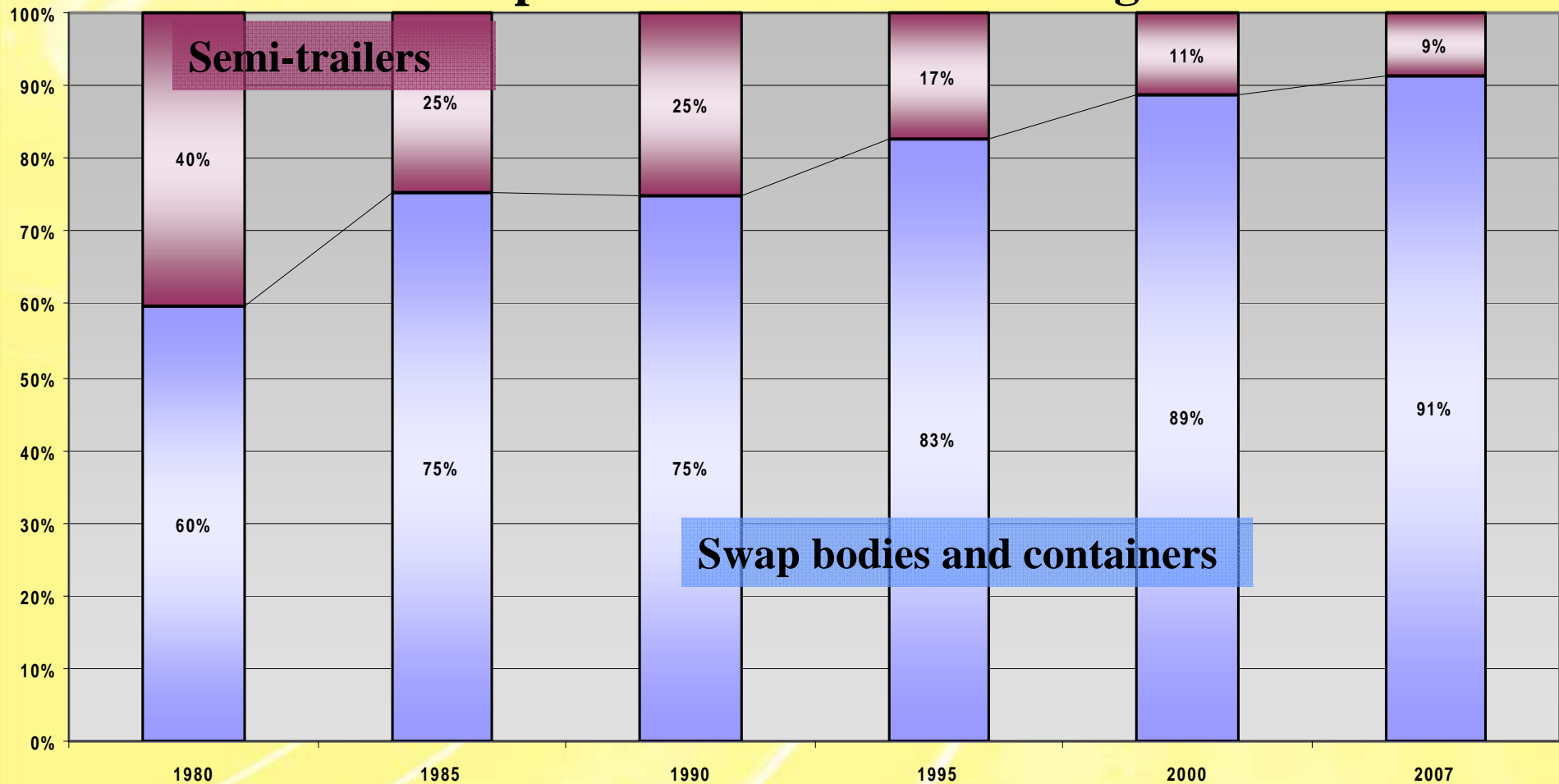
- Rolling Road
- Swap bodies
- Semi-trailers



# Techniques in Combined Transport (UIRR 1980-2007)

Swap bodies and (non ISO) containers are dominating in continental European Combined Transport (road/rail).

Semi-trailers are important in some markets e.g. RoRo traffic







## European swap bodies (SB)

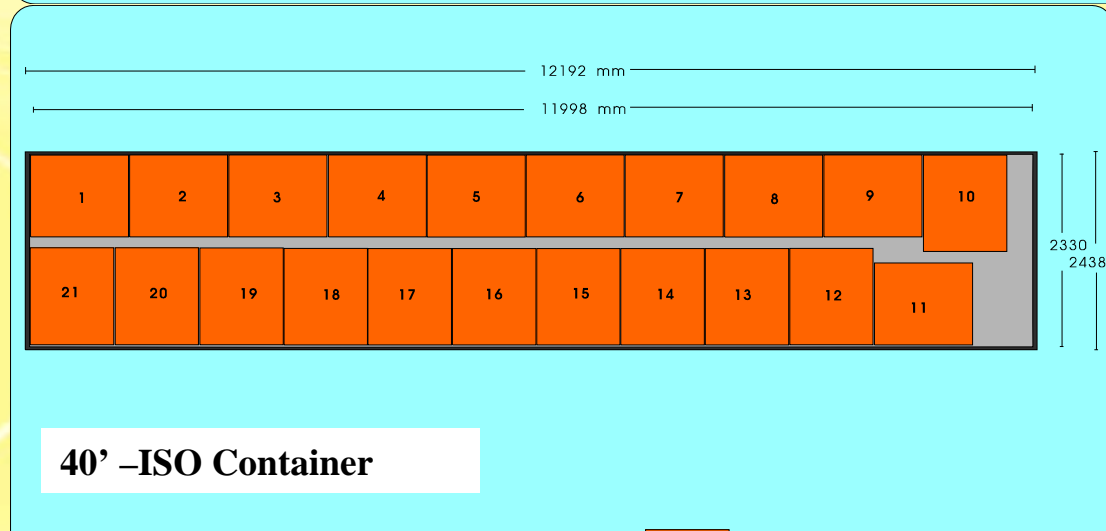
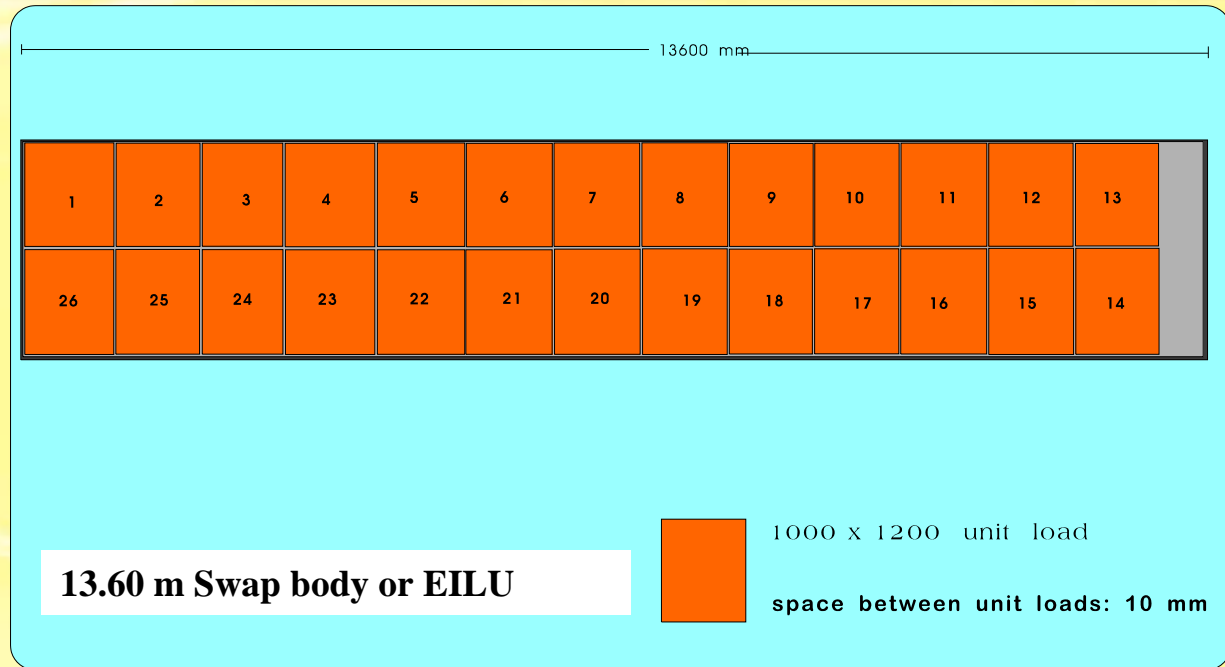
**While ISO containers are for worldwide use, SB are more economical for European logistics**

- 1. More capacity for euro-pallets (or liquids): the width and length is scaled to the maximum allowed for road trucks in Europe.**
- 2. The design of SB is optimized to a minimum tare weight to maximise payload.**
- 3. Most SB are fitted with folding legs under their frame to change from one truck to another or to deposit the SB at the destination.**
- 4. Flexible: many types adapted to the concerned goods or logistic requirements.**



# 1. More Capacity: Comparison 40' ISO CT – Long SB

**Due to greater length and width the European swap body has a higher pallet capacity than the 40' ISO-container and contains 26 instead of 21 pallets.**





## 2. Minimum tare weight through light construction



**The light swap bodies are transhipped with grapple arms**

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### 3. Folding legs for deposit at the warehouse ramp



**The legs allow the truck to deposit the SB at the warehouse or to transfer between trucks – no transshipment cranes are needed. A lot of SB are used in pure road traffic.**



## 4. Flexible: many types adapted to customers needs



**This type of SB is built for easy loading from the sides.**



**This type of SB is built for loading from top with steel coils.**

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## Example: Tank Swap Body short version ~ 7,45m



**This type of tank SB with top corner fittings is longer and wider than 20' ISO tank containers.**

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# Example: Tank Swap Body long version ~13,60m



**This type of tank SB with top corner fittings is longer and wider than 40' ISO tank containers**

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# Transshipment of swap bodies with grapple arms



**This type of SB is specialized for transport of steal. It can be loaded from the top. Minimum height to pass on all rail lines.**





# Flexible standards: corner fittings and pins

## Loading unit standards by ISO and CEN

### Container top corner fitting



### Wagon with pins at several positions



**Swap body with bottom corner fittings on wagon**



# Hardly any problems in practice: flexible standards



**Common elements:  
grapple arms fitting into  
handling devices**

**Also trailers are  
universal loading units  
for which grapple arms  
are needed anyway**





# Codified swap bodies in Europe

**No statistics over the number of European swap bodies. But the number of codifications for use on rail may give an indication.**

Size of swap bodies		2007	till 2007
20' and plus 7,15 7,45 7,82m	small	18,409	205,221
30' and all >7,82m...<40'	medium	3,385	35,436
40' and plus <=13,60m	large	1,494	37,465
Total		23,288	278,122

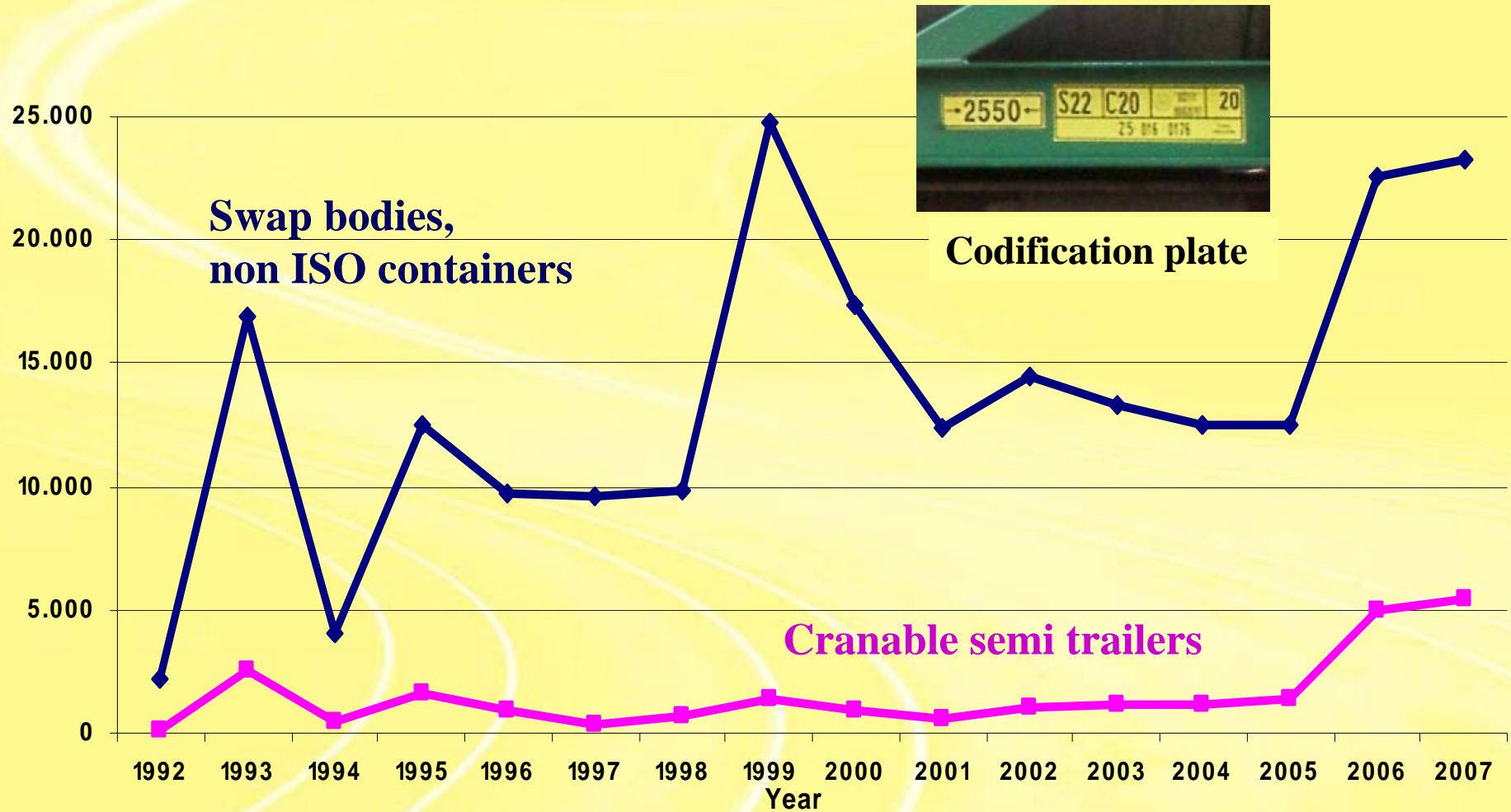
Source: Interunit

In countries A, B, CH, D, F, I



# Use of swap bodies in CT (road/rail)

## Number of codified ILUs between 1992 and 2007





# Swap bodies: important recent developments

## 1. European Intermodal Loading Unit (EILU)

Initiative of the European Commission to standardise a stackable swap body = container with European dimensions, suitable for road, rail, IWW and SSS.

*and with ongoing rail liberalisation initiative from industry*

## 2. Transition from UIC leaflets to CEN Norms

Concerning the construction and tests of loading units and their marking

*(see next slides)*



# Codification in European Combined Transport

**A system based on three elements:**

**1. Approval of the ILU by RU or UIRR**

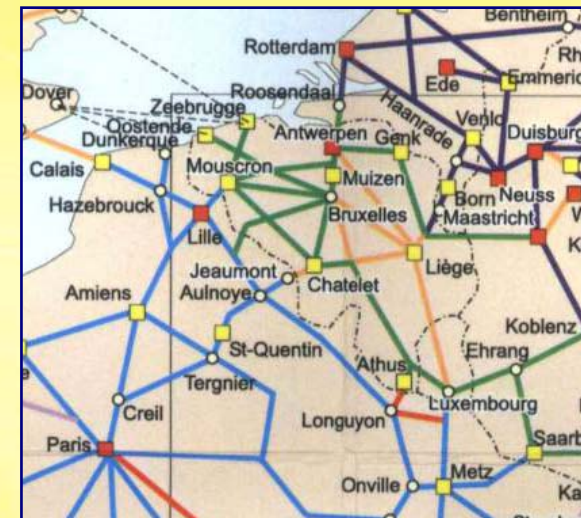
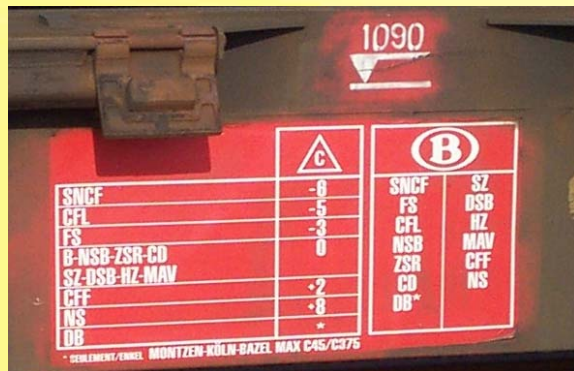
⇒ **Codification plate indicating**

**① Gauge (here S22 C20)**

**② Owner identification number**



**2. Markings on the wagons**



**3. Codification of the lines**

**Important for safe and fast operations**



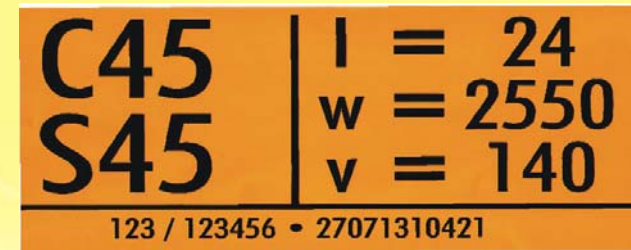
# Envisaged new Codification (Norm 13044)

The main idea is the separation

1. of the approval (conformity with norms including the safety requirements for rail operations) with determination of the gauge
2. from the owner identification

① Proposed new codification plate indicating gauge (example S45 C45 )

Issued by producer after conformity check by RU or UIRR or other recognised certification body



② Separate owner identification number

- BIC-Code for worldwide used containers, distributed by BIC
  - Compatible “Eurocode” for loading units used in the European region: swap bodies and semi trailers, distributed by UIRR
- Can be placed by the owner himself on all his units **ABCA 001234 3**



# Conclusions

- The success of road traffic is also due to its flexibility in delivering adapted solutions for the customer.**
- One size does not fit all.**
- Combined Transport must offer the same possibilities – if not customers will just use road.**
- Today European swap bodies offer flexible solutions.**
- Standardisation of basic parameters allow a compromise between flexibility and harmonisation in order to obtain high productivity of the intermodal system.**