

# LOGISTICS - TRANSPORT PART 2

*The aim of the lecture is to discuss various factors affecting the development of the transport sector*



**SILESIAN  
UNIVERSITY**  
SCHOOL OF BUSINESS  
ADMINISTRATION IN KARVINA

Šárka Čemerková  
lecturer



# Logistics - Transport Part 2

Structure of the  
lecture

**Factors affecting the  
development of the transport  
sector**

**Globalization of transport**

**EU transport strategy**

**Regulation in transport**

**Tariff systems**

**Transport management in the  
company**



# GLOBALIZATION OF TRANSPORT

- air and ship transport are the most important in international transport
- internally, road and rail transport dominate
- significant differences between countries



- in Europe, there is state ownership of railways or rail subsidies by the state
- in Japan and Europe, shipping is much more used than in the US and Canada
- costs of international transport represent a much higher share of the value of the product than in domestic transport



- **Intermodal transport:**
  - type of combined transport
  - transport process carried out using at least two different modes of transport while maintaining one integrated handling unit on the entire transport route, organized by only one operator
  - overall result is cost savings and higher level of CS



# FACTORS THAT INFLUENCE THE FUTURE DEVELOPMENT OF THE TRANSPORT SECTOR

- Political aspects
- Economic aspects
- Technical aspects
- Social aspects
- Ecological aspects



- Migration
- Urban development
- Problems of intercity transport
- Problems of transport in cities
- Transport investment financing
- Planning





# EU TRANSPORT STRATEGY 2050 (WHITE PAPER ON TRANSPORT)

- Efforts to create a competitive transport system within the EU that will improve mobility and also will remove major barriers in key areas (reducing Europe's dependence on oil, reducing transport carbon emissions by 60% by 2050)
- 10 strategic goals:
  - Goal 1: to halve the use of 'conventionally driven' cars in urban transport by 2030; discard them by 2050; by 2030 public transport without CO<sup>2</sup>.





- Goal 3: by 2030 to transfer 30% of road freight transport over 300 km to other modes (rail, shipping), by 2050 more than 50%.
- Goal 4: Complete the European high-speed rail network by 2050. Triple the length of existing high-speed rail networks by 2030 and maintain a dense rail network in all Member States. By 2050, most of the medium-haul passenger volume should be by rail.





# TRANSPORT REGULATIONS

- Forms of transport regulation:
  - multilateral agreements
  - international bilateral agreements
  - national standards, legislation





# Road transport

- CMR:
  - convention on the contract of carriage in international road transport
  - standard consignment note
- TIR:
  - agreement establishing a system of security in a number of European countries and Japan to cover possible duties and other charges on goods transported in Europe and in international trade





- **ADR:**

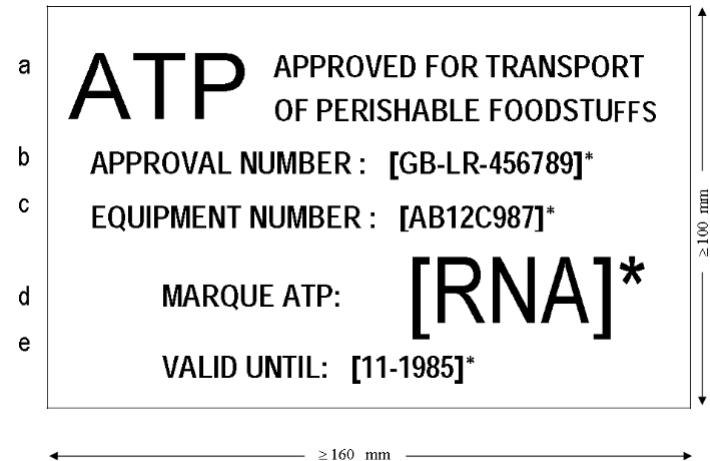
- European agreement on the international carriage of hazardous substances travelling by road
- diamond-shaped symbol on the back of a trailer
- is designed to clearly show when a truck is carrying anything that is flammable, poisonous, corrosive, radioactive or otherwise harmful
- regulates under what conditions goods can be transported, safety standards, etc.





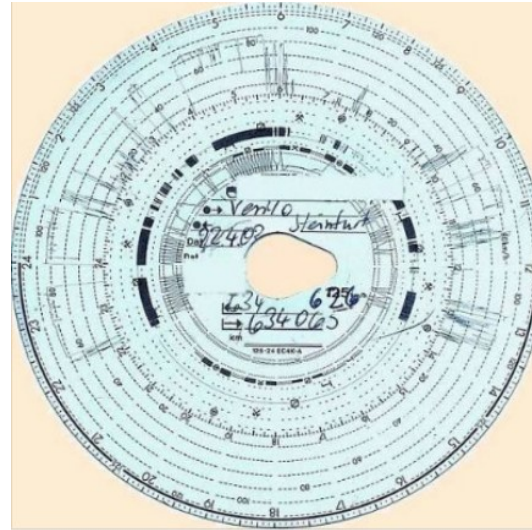
- ATP:

- agreement on the international carriage of perishable foodstuffs and the specialized means for such carriage
- sets standards for international road and rail transport
- means of transport:
  - I - isothermal
  - R - refrigerated
  - F - cooling and freezing
  - C - heating





- **AETR:**
  - European agreement on the work of vehicle crews in international road transport
  - determines the conditions applicable to professional road users (age and professional requirements for drivers, determines the maximum driving time, breaks and exceptions to these rules)









- **Toll systems**
  - charging for the use of roads by means of electronic monitoring of the movement of vehicles
  - need to equip the vehicles under review with an on-board unit - independent for each country
  - payment for kilometers actually traveled - differentiated according to the season and ecological load of vehicles



- two basic types of systems
  - ❖ microwave system – toll gates monitoring with microwave sensors and vehicle motion detection cameras
  - ❖ satellite system – enables full-area tracking of vehicles not only on specially equipped roads, but throughout the terrain
- microwave systems dominate Europe





- Austria introduced the first full - area microwave system in 2004, the Czech Republic in 2007
- since 2009 a traffic management system has been in operation in the Czech Republic, which enables online collection of traffic flow data using sensors and informing drivers of the current situation by means of information tables on the motorway
- since 2012, a system that can detect a car traveling in the opposite direction (CZ)



# Rail transport

- ATP
- COTIF (Convention on International Carriage by Rail)

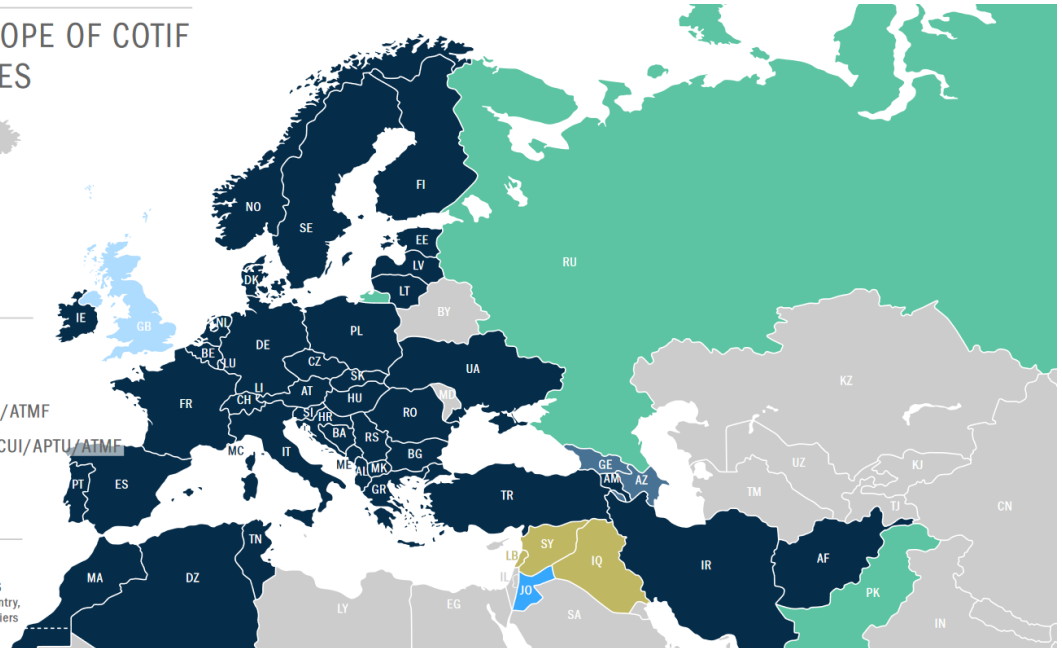
## GEOGRAPHICAL SCOPE OF COTIF AND ITS APPENDICES

SITUATION ON  
1 MAY 2019

- All COTIF Appendices
- COTIF Without CUI
- COTIF Without CUV/CUI/APTU/ATMF
- COTIF Without CIV/RID/CUV/CUI/APTU/ATMF
- Associate Members
- Membership suspended

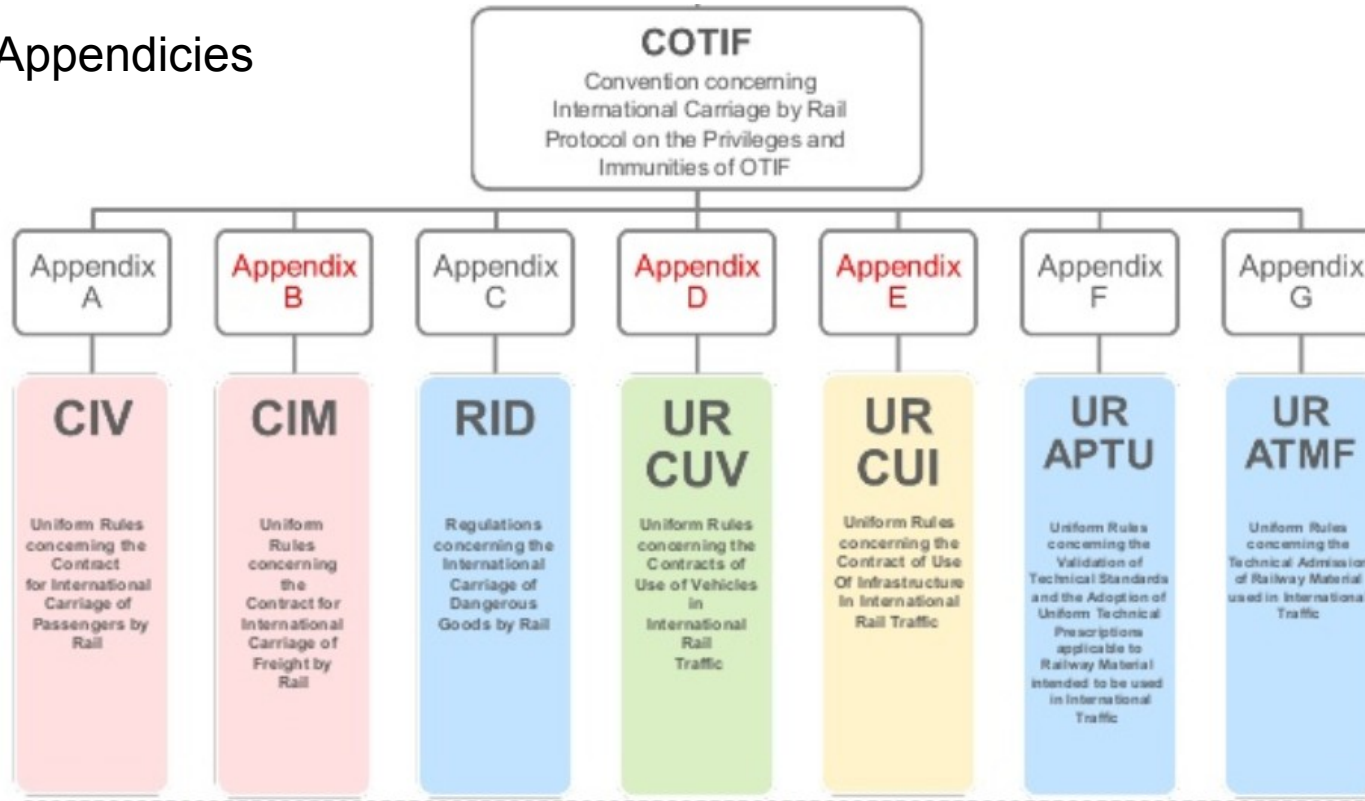
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion on the part of OTIF'S Secretariat concerning any legal status of any country, territory, or concerning the delimitation of its frontiers

© OTIF





# Appendices





## Air transport

- Convention on the Unification of Certain Rules for International Carriage by Air (called the Montreal Convention):
  - for international transport only, either between two contracting states or to a return journey to and from the territory of a contracting state through the territory of any other state
  - EU has made it mandatory for all EU air carriers to carry passengers and luggage



## River transport

- European Agreement on Main Inland Waterways of International Importance (AGN Agreement)
- European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN)
- Budapest Convention on the Contract for the Carriage of Goods by Inland Waterways (CMNI)



## Sea transport

- International Convention for the Unification of Certain Bill of Lading Rules (The Hague Rules)
- United Nations Convention on the Carriage of Goods by Sea (Hamburg Convention on the Carriage of Goods by Sea) – the maritime carrier liability concept for damage
- many countries have their own rules (e.g. USA, China)





# PRICE AND DELIVERY CONDITIONS OF CARRIERS

- factors affecting shipping prices:
  - factors related to the nature of the product:
    - ❖ density - weight to volume ratio
    - ❖ product shelf life
    - ❖ ease / difficulty of handling
    - ❖ financial value and liability



- factors related to the market character:
  - ❖ level of competition
  - ❖ market placement
  - ❖ nature and extent of government regulatory measures
  - ❖ balance or imbalance of transport to and from a certain market
  - ❖ seasonality of product movements
  - ❖ whether the product is transported only nationally or internationally



- tariff systems:
  - In-kind (cost) tariff
  - Value tariff
  - Distance (kilometer) tariff
  - Time tariff
  - Performance tariff
  - Spatial tariff
  - Weight tariff
  - Combined tariff

<b>DOSPĚLÝ</b> Jízdenky – Jsem dospělý, je mi 15 a více let. <i>pozn.</i> Kupony – Jsem dospělý, je mi 19 a více let. <i>pozn.</i>	<b>DÍTĚ<sup>x</sup></b> Jsem dítě od 6 do 15 let. <i>pozn.</i>	<b>JUNIOR</b> Jsem junior od 15 do 19 let. <i>pozn.</i>	<b>STUDENT<sup>+</sup></b> Jsem student od 19 do 26 let. <i>pozn.</i> v denní nebo prezenční formě studia, držitel průkazky „Student 19–26“ (30denní či 90denní) nebo Opencard (ostatní druhy); pro přiznání slevy se vyžaduje potvrzení o studiu nebo ISIC školy akreditované MŠMT ČR.	<b>SENIOR<sup>x</sup></b> Jízdenky – Jsem dospělý od 60 do 70 let. Platí pouze s průkazkou PID „Senior 60–70“. <i>pozn.</i> Kupony – Jsem dospělý od 60 do 65 let. <i>pozn.</i>

Jízdenky a kupony MHD						
DRUH JÍZDENKY / KUPONU	Dospělý	Dítě <sup>x</sup>	Junior	Student <sup>+</sup>	Senior <sup>x</sup>	
<b>Jízdenky</b>	<b>Základní 90 min.</b>	32 Kč	16 Kč	32 Kč	32 Kč	16 Kč
	<b>Krátkodobá 30 min.</b>	24 Kč	12 Kč	24 Kč	24 Kč	12 Kč
	<b>1 den 24 hod.</b>	110 Kč	55 Kč	110 Kč	110 Kč	55 Kč
	<b>3 dny 72 hod.</b>	310 Kč	•	310 Kč	310 Kč	•
	<b>Doplňkový prodej – řidič 90 min.</b>	40 Kč	20 Kč	40 Kč	40 Kč	20 Kč
• Pro tuto skupinu není v tomto časovém tarifu zvýhodněné jízdné.						
<b>Kupony</b>	<b>měsíční</b>	550 Kč <sup>a</sup>	•	260 Kč	260 Kč	250 Kč
	<b>30denní</b>	•	•	•	260 Kč	•
	<b>čtvrtletní</b>	1 480 Kč <sup>a</sup>	•	720 Kč	720 Kč	660 Kč
	<b>90denní</b>	•	•	•	720 Kč	•
	<b>5měsíční</b>	2 450 Kč <sup>a</sup>	•	1 200 Kč	1 200 Kč	1 100 Kč
	<b>10měsíční<sup>†*</sup></b>	•	•	2 400 Kč	2 400 Kč	•
<b>roční</b>	4 750 Kč <sup>a</sup>	•	•	•	•	

# TRAFFIC MANAGEMENT IN THE ENTERPRISE

- external (out-plant) transport
- internal (in-house) transport:
  - between objects
  - between operations
  - in operations





- objectives of traffic management in the enterprise:
  - optimal use
  - higher level of service
  - flexibility
  - transparency

## Summary of the lecture



### You can:

- Describe the factors influencing the development of the transport sector
- Describe the selected objectives of the White Paper on Transport
- Explain the importance and types of regulation in transport
- Characterize tariff systems
- Briefly describe traffic management in the enterprise