

# **ROAD SAFETY MANAGEMENT AND DATA SYSTEMS**

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# 1. Global Scope of the Problem

## **2002 estimation:**

- 1,2 million people killed
- 50 million people injured
- US\$ 518 billion economic costs
- 1% - 2% of GDP

**90% of deaths in low and middle-income countries**

**2020 prediction: increase by 80%**

## **Ranking causes of the global burden of disease**

### **ROAD TRAFFIC INJURIES**

**1990 – 9<sup>th</sup> rank**

**2020 – 3<sup>rd</sup> rank**

**(war - 8<sup>th</sup>, HIV – 10<sup>th</sup>)**

- **not only the responsibility of transport sector**
- **whole society has to be involved**
- **social and public health issue**

## **2. Reliable Accident Data – Key of Successful Road safety management**

### **Why data are needed?**

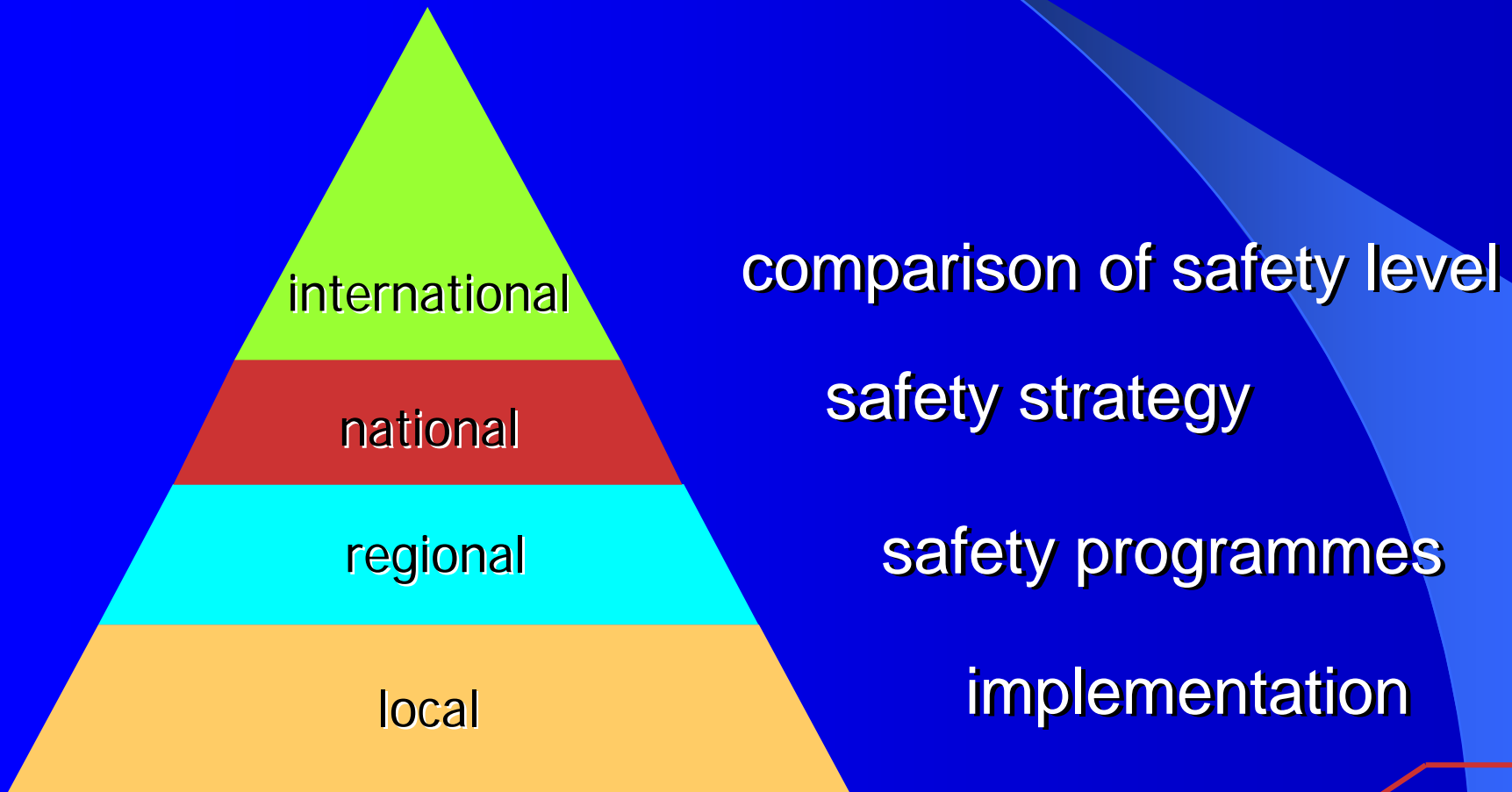
- **to know the scope of the problem**
- **to evoke a public awareness**
- **to discover causes of crashes**
- **to explore ways to prevent crashes**
- **to develop measures to reduce severity of crashes**

# Who needs the data?

## Users:

- **politicians**
- **decision makers**
- **citizens**
- **responsible bodies**
- **professionals**
- **researchers**

## The scope of information depends on the level of their users:



## Accident data parameters

- **general information (location, time)**
- **consequences**
- **accident collision type**
- **road users (type, age, sex, seat belt use, alcohol influence, etc.)**
- **road characteristics (type, class, surface conditions, etc.)**
- **weather and traffic conditions (rain, snow, etc.)**
- **vehicle characteristics (type, age, etc.)**



## Exposure data

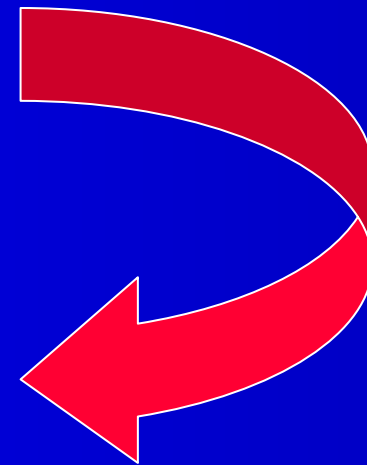
**Needed for more objective international comparisons**

- **population (age pyramid)**
- **vehicle fleet (category)**
- **vehicle kilometres (road, vehicle type)**
- **driver population (category, age)**
- **fuel consumption**

## Basic data parameters

- **accuracy**
- **complexity**
- **availability**
- **uniformity**

**standardization**



- basically no problem  
(regional and local comply with national ones)
- but there exist different databases
  - ✓ police
  - ✓ road administration
  - ✓ hospitals
  - ✓ insurance companies



agreement on national standard

## 3. International Comparisons

**International comparisons of national road traffic accident numbers are vital important**

**They offer:**

- comparable picture about national accident situation
- position among other countries
- indication of urgency for international support
- information on development and progress
- better identification of weak areas in safety system
- differences in safety level of users and roads

- differences as colourfull as the world itself  
example: persons killed  
(0, 1, 3, 5, 10, 30, 365 days)
- agreement on international standard definitions



**adapt or adopt international standards**



**develope conversion coefficients**

**Example of standardization :**

**UNECE + EUROSTAT + ECMT agreement on  
GLOSSARY FOR TRANSPORT STATISTICS**

## 4. The most Important International Road Traffic Accident Databases

**CARE, FARS, ECMT, UN ECE, EUROSTAT, WHO, IRF, IRTAD**

Differences in:

- needs and purpose
- information structure
- scope of information
- way of data collection
- data processing
- publishing and availability
- regional coverage

## Community Database on Accidents on the Roads in Europe

- **disaggregated database of all accidents collected by member states**
- **15 EU member states (+10)**
- **started in 1993**
- **interface for transfer of national data**
  - **38 variables**
- **fatalities corrected to 30 days**

### Availability:

- **direct access for nominated representatives of member states**
- **<http://europa.eu.int/comm/transport/care>**

# FARS

## Fatality Analysis Reporting System

- managed by National Highway Traffic Safety Administration (NHTSA)
- USA territory
- includes disaggregated data on individual accidents
- since 1994

### Availability:

- by query
- <http://www-fars.nhtsa.dot.gov>



- **part of transport statistics**
- **42 European states + USA, Canada, Australia, Japan, New Zealand, Korea, Morocco**
- **includes**
  - **killed**
  - **injured**
    - › **disaggregated according road users**
  - **injury accidents**
- **indicators related to vehicle fleet**
- **fatalities - correction factor**

## **Availability:**

- **annually : Road Safety in Europe**
- **bi-annually : Statistical Report on Road Accidents**
- **<http://www1.oecd.org/cem/stat/accidents>**

- **part of statistics**
- **52 European states + Israel, USA, Canada**
- **includes**
  - **killed**
  - **injured**
    - › **disaggregated according road users**
  - **injury accidents**
  - **vehicle fleet**
  - **road network**
  - **population**
- **fatalities – no correction**

## **Availability:**

- **Statistics of Road Traffic Accidents in Europe and North America**

- **part of statistical activities**
- **15 EU member states (+10)**
- **includes**
  - **killed**
  - **injury accidents**

## **Availability:**

- **annually Energy and Transport in Figures (Chapter Transport Safety)**
- **[http://europa.eu.int/comm/dgs/energy\\_transport/figures/pocketbook/2003\\_en.htm](http://europa.eu.int/comm/dgs/energy_transport/figures/pocketbook/2003_en.htm)**

- **part of WHO Statistical Information System (WHOSIS)**
- **involves registered deaths distributed by**
  - **cause**
  - **sex**
  - **age**
- **all UN (WHO)**
- **mostly 1995-2000**
- **fatalities corrected to 30 days**

### **Availability:**

- **[http://www3.who.int/whosis/menu.cfm?  
path=whosis,inds,mort&language=english](http://www3.who.int/whosis/menu.cfm?path=whosis,inds,mort&language=english)**

- **road accident database**
- **180 members states**
- **includes**
  - **killed**
  - **injury**
  - **injury accidents**
  - **road network**
  - **vehicle fleet**
  - **fuel consumption**
  - **road expenditures**
- **from 1963**

### **Availability:**

- **IRF World Road Statistics**
- **<http://econ.worldbank.org/view.php?topic=25&type=18&id=23079>**

## International Road Traffic Accident Database

- **part of OECD RTR Programme, since 2004 - JTTC OECD/ECMT**
- **operated and checked by BASt (Germany)**
- **29 OECD member states (without Mexico + Slovenia)**
- **includes:**
  - **killed**
  - **injured**
  - **injury accidents**
    - > **disagregated according**
      - ⇒ **age groups**
      - ⇒ **road users**
      - ⇒ **type of road**
- **indicators related to:**
  - **vehicle fleet**
  - **population**
  - **traffic performance**
  - **modal split**

- **since 1970**
  - **annual data**
  - **monthly data**
- **fatalities - 30 days (reported)**

## **Availability:**

- **direct acces for member institutes by internet or CD – ROM**
- **general figures free available**  
**<http://www.bast.de/htdocs/fachthemen/irtad/english/englisch.html>**

**IRTAD is not only accident statistics database,  
but group of road safety professionals:**

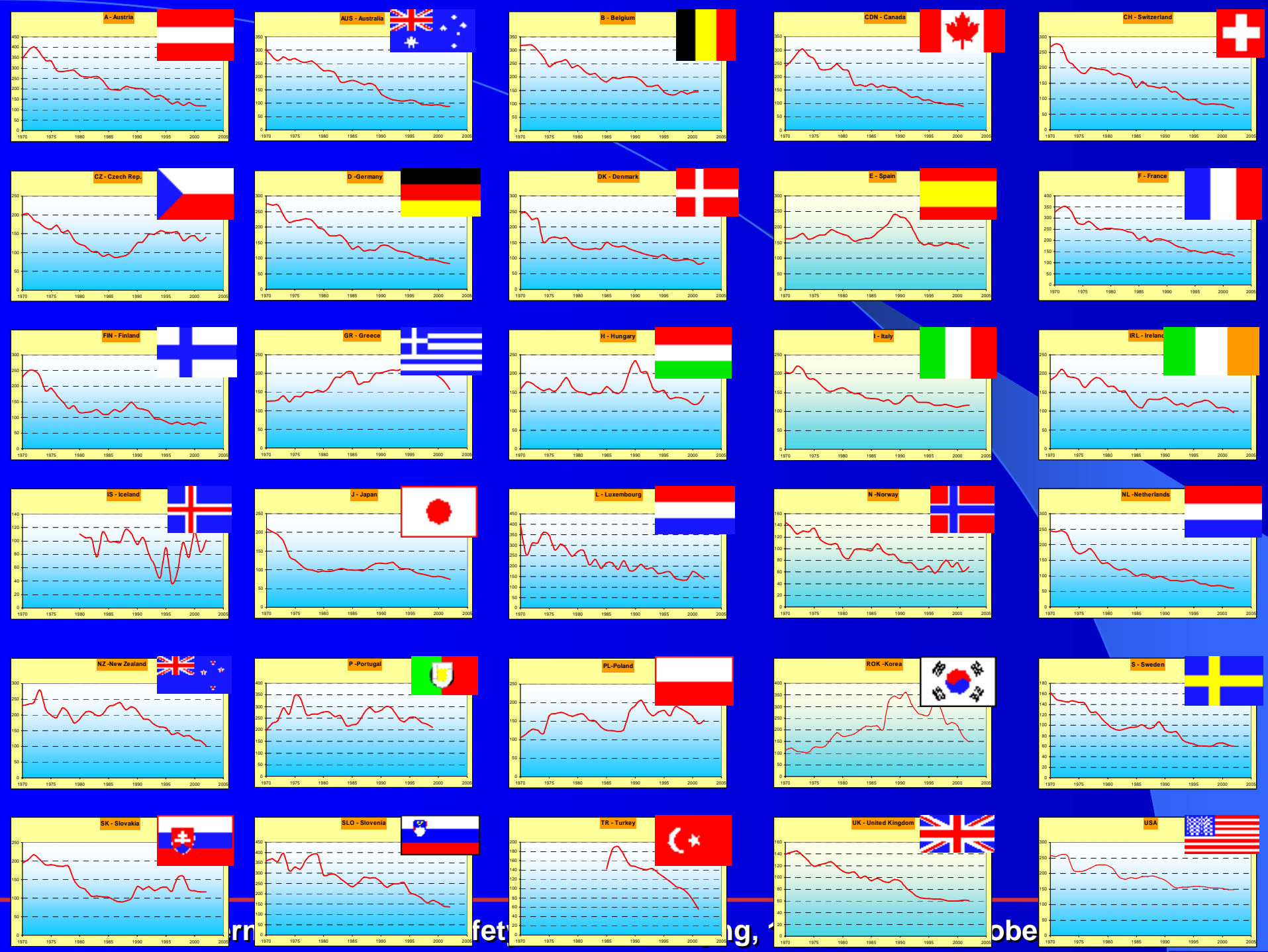
- **closely co-operating**
- **sharing national experience**
- **enhancing international comparability**
- **responding to the needs of governments,  
research, international organisations and  
private bodies**



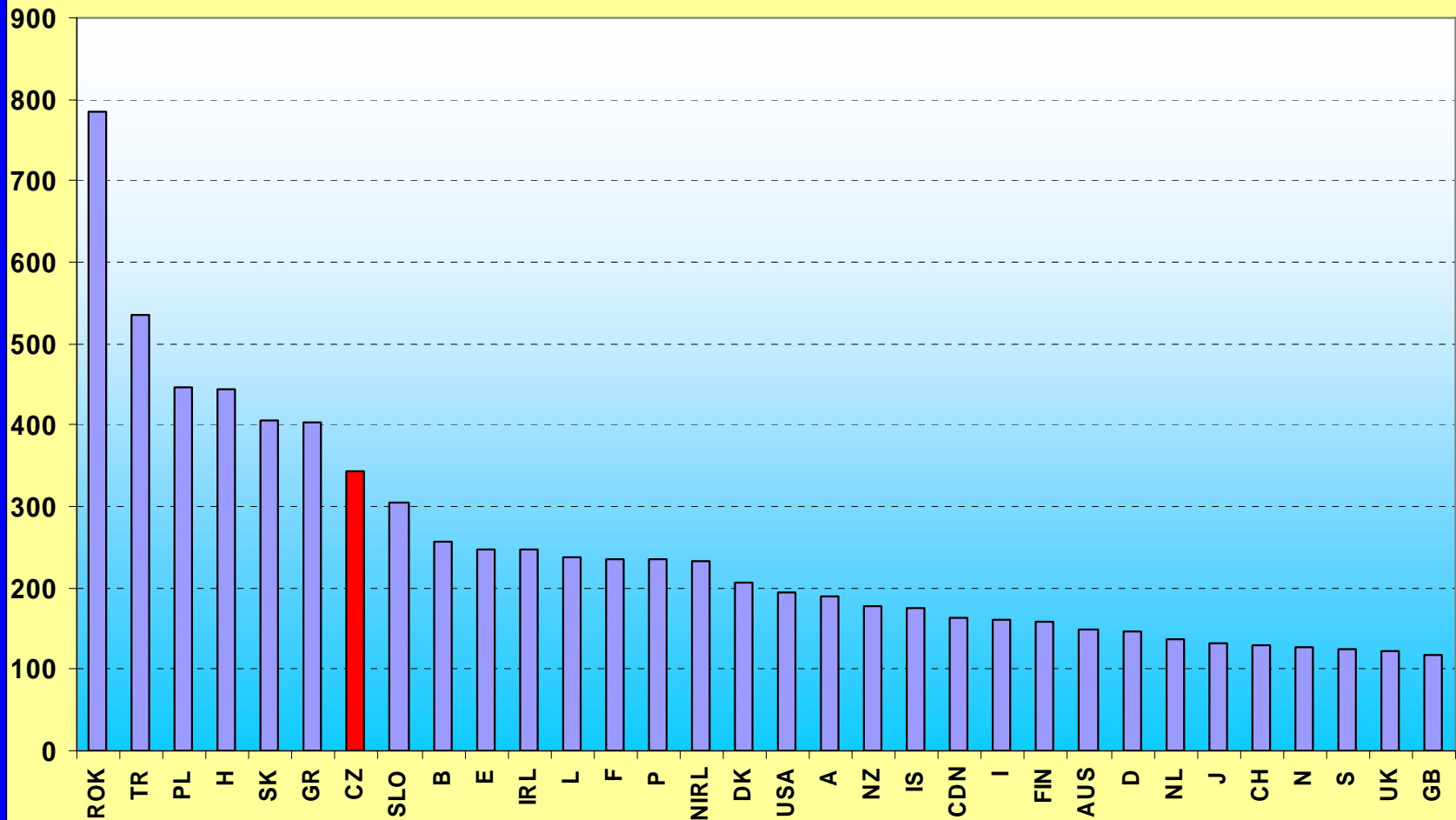
## Special reports:

- **Under-reporting**
- **Follow-up of traffic victims during the 30-days period**
- **Seat belt wearing data**
- **Methods and necessity of exposure data**
- **Definitions and data availability**
- **Hospitalized road user survey**

**IRTAD welcomes and is prepared to extend to further countries**



*Killed in road accidents per mill. mot. veh. (2000)*



## 8. Conclusions

**A forceable road safety management system has to be based on reliable accident data comparable on international level**

**IRTAD  challenging opportunity**

# Thank you for your attention

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