• EACS was created by ACEA in 1996 to 2001 in 3 phases

• EACS was co-ordinated by CEESAR*

• EACS was a European Research Programme

• EACS’s aim is to acquire a broader knowledge of road accident causes

• Thus to avoid accidents in future

*) Centre Européen d'Etudes de Sécurité et d'Analyses des Risques
EACS data base consists in principle of the several combined forms consisting of identification numbers and coded parameters.

- General Accident Data
  - Accident Number
  - Data of Road Infrastructure
  - Data for Reconstruction
  - Data from Sketches
  - Data from Photos

- Data of Occupants

- Data of Pedestrians
  - Accident Number
  - Pedestrian Number
  - Vehicle Number

- Data of Vehicles
  - Accident Number
  - Infrastructure Number
  - Vehicle Number
  - Vehicle Number
  - ...
Pedestrian data:

311 involved pedestrians

290 accidents

Parameters (among others)

AIS of body regions
sex, age, height, weight
profession, sickness, disease of organs
alcohol, drugs
origin, destination and frequency of the trip
Body regions compared with IHRA:

<table>
<thead>
<tr>
<th>EACS</th>
<th>IHRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>head</td>
<td>head</td>
</tr>
<tr>
<td>face</td>
<td>face</td>
</tr>
<tr>
<td>neck</td>
<td>neck</td>
</tr>
<tr>
<td>thorax</td>
<td>chest</td>
</tr>
<tr>
<td>abdomen</td>
<td>abdomen</td>
</tr>
<tr>
<td>spine</td>
<td>pelvis</td>
</tr>
<tr>
<td>arm</td>
<td>arm</td>
</tr>
<tr>
<td>leg</td>
<td>leg overall</td>
</tr>
<tr>
<td></td>
<td>femur, knee, lower leg, foot</td>
</tr>
</tbody>
</table>
Vehicle data:

3366 vehicles (involved in all accidents)

Parameters (among others)
- kind of vehicle, manufacturer, model type
- technical design: length, weight, tire type ...
- brake system, horse power ...
- location of deformations: frontal, side, rear
- front thirds, frame, glass and above
- frame to glass or hood

Injury causing vehicle parts are not directly addressed to the body regions: detailed evaluation needed
Number of Injured Body Regions

Source: EACS-Data (ACEA)

![Bar chart showing the number of injured body regions for different body parts (Head, Face, Neck, Thorax, Abdomen, Spine, Arm, Leg) with AIS1+ and AIS2+ categories.](image-url)

- **Head**: AIS1+ 120, AIS2+ 110
- **Face**: AIS1+ 60, AIS2+ 50
- **Neck**: AIS1+ 30, AIS2+ 20
- **Thorax**: AIS1+ 40, AIS2+ 30
- **Abdomen**: AIS1+ 20, AIS2+ 10
- **Spine**: AIS1+ 10, AIS2+ 5
- **Arm**: AIS1+ 80, AIS2+ 70
- **Leg**: AIS1+ 100, AIS2+ 90
Percentage of Injured Body Regions

Source: EACS-Data (ACEA)

- **AIS1+ (100% = all AIS1+)**
- **AIS2+ (100% = all AIS2+)**

Related to known injured body regions

- **Head**
- **Face**
- **Neck**
- **Thorax**
- **Abdomen**
- **Spine**
- **Arm**
- **Leg**

European Accident Causation Survey (EACS)
Number of casualties versus age

Source: EACS-Data (ACEA)
Percentage of casualties versus age

Source: EACS-Data (ACEA)

Percentage of casualties versus age

Related to all 311 pedestrians

0 - 4
5 - 9
10 - 14
15 - 19
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
65 - 69
70 - 74
75 - 79
80 - 84
85 - 89
90 - 94
unknown

European Accident Causation Survey (EACS)
Summary of the graphs:

About 46% of all AIS2+ injuries relate to head (& face)
About 23% of all AIS2+ injuries relate to leg

This confirms the preliminary conclusion of the informal group on pedestrian protection and is in line with IHRA data

The distribution of casualties versus age is similar to the IHRA data (see IHRA Report 2001)