



# THE QUERY REPORT

## European Association for Accident Research and Analysis

*Michael Weber*

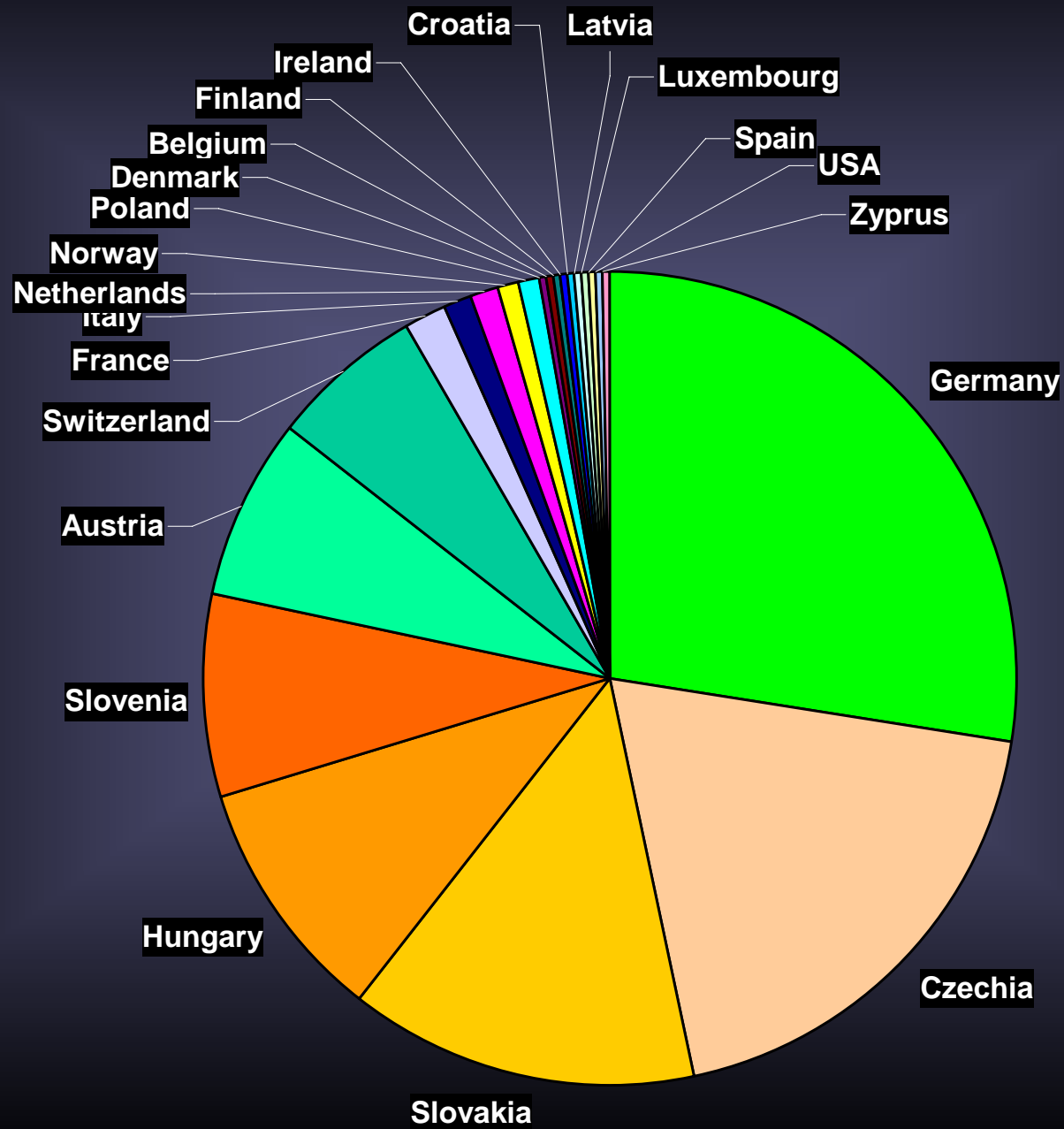
[www.EVUonline.org](http://www.EVUonline.org)



# What is the EVU?

**The EVU is the association of accident researchers and reconstructionists throughout Europe**

# Members





# Which tasks has the EVU set itself?

- **EU-wide harmonisation of the reconstructionist's professional profile to an appropriate standard**
- **European standards for certification**
- **Exchange of knowledge**
- **Establishing knowledge bases on the Internet**
- **Accessibility of affordable crash tests**
- **Basic and further training for its members**
- **Adequate remuneration**

# The QUERY Project



## THE QUERY PROJECT

Developing Guidelines  
for a Best Practice Qualification  
of Accident Analysts

Michael Weber



**Partners from 25 countries**

## QUERY

Developing Guidelines  
for a  
'Best Practices'  
Qualification of  
Accident  
Reconstructionists



# QUERY - timeframe

- **1.07.04**      **project launched**
- **4.11.04**      **1st meeting, Budapest**
- **30.09.05**      **interim report to the EU**
- **20.10.05**      **2nd meeting, Bratislava**
- **30.06.06**      **evaluation and publication**
- **30.09.06**      **final report to the EU**



# QUERY

## Why should accidents be analysed?

- **prevention: punishment of culpable action**
- **just distribution of civil law costs**
- **compensation - immaterial damages adjusted to the level of guilt**
- **improvement of vehicle safety**



# QUERY - Advantages for Europe

- **harmonised standards**
- **internet database of highly qualified specialists**
- **improved exchange of knowledge**
- **same legal security in all countries**





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Summary of the project

# Definition of Professional Profiles



## ***Accident reconstructionists***

**reconstruct the unfolding of an accident on the basis of objective evidence (hired by courts of law or by disputing parties, such as insurance companies)**

## ***Accident researchers***

**are less concerned with the reconstruction of traffic accidents than with the actual unfolding of an accident (passive or active safety of vehicles)**



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## Differing professional profiles within the EU:

- **engineers or physicists in DE, AU and Eastern European countries**
- **mainly police officers in the Western European countries**
- **Scandinavia, NL, GR: only very few experts**
- **mixed in the UK: both academics and (retired) police officers**

# The QUERY Project



## Content

- 25 Country Status Reports
- Statistics – Detailed Results of 135 Questions
- Translation of the Proposal into 19 EU-languages



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**A eight point  
proposal  
for European Guidelines  
in Accident Reconstruction  
was set down**



# 1. Accident Scene Examination vs. Reconstruction

**A distinction should be made between**

***accident scene examination***

(the collection of evidence and data at the scene of an accident), **and**

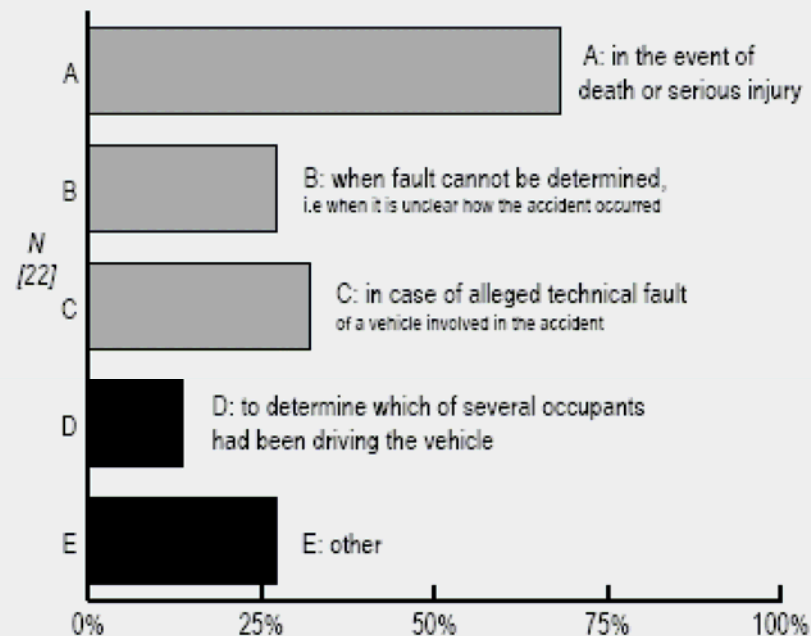
***accident reconstruction***

(the use of scientific methods for the purpose of drawing conclusions from the evidence gathered at the scene of an accident).

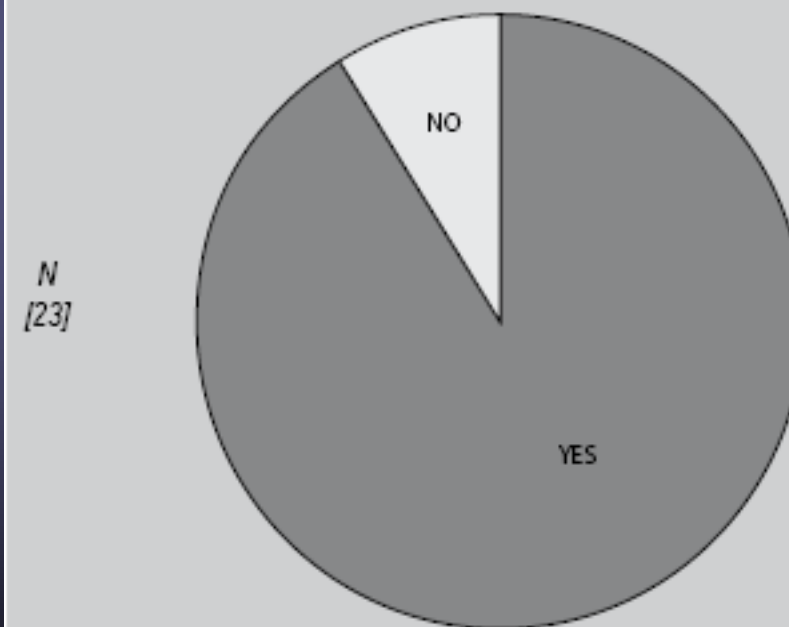
# QUERY

## Results of the Questionnaire

94) In which cases would an expert be regularly called to the scene?  
(multiple answers possible)



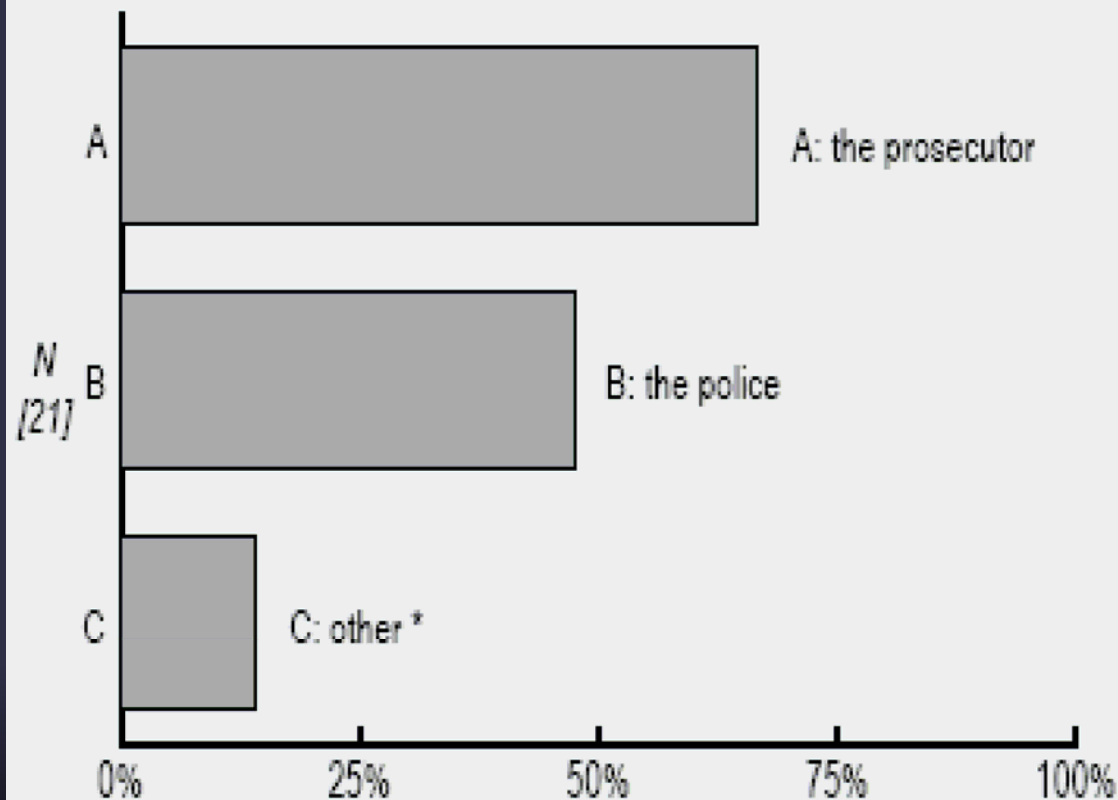
90) Can a reconstructionist be called to the scene of an accident?



# QUERY

## Results of the Questionnaire

91) If so, by whom is the expert called to the accident scene?  
*(multiple answers possible)*



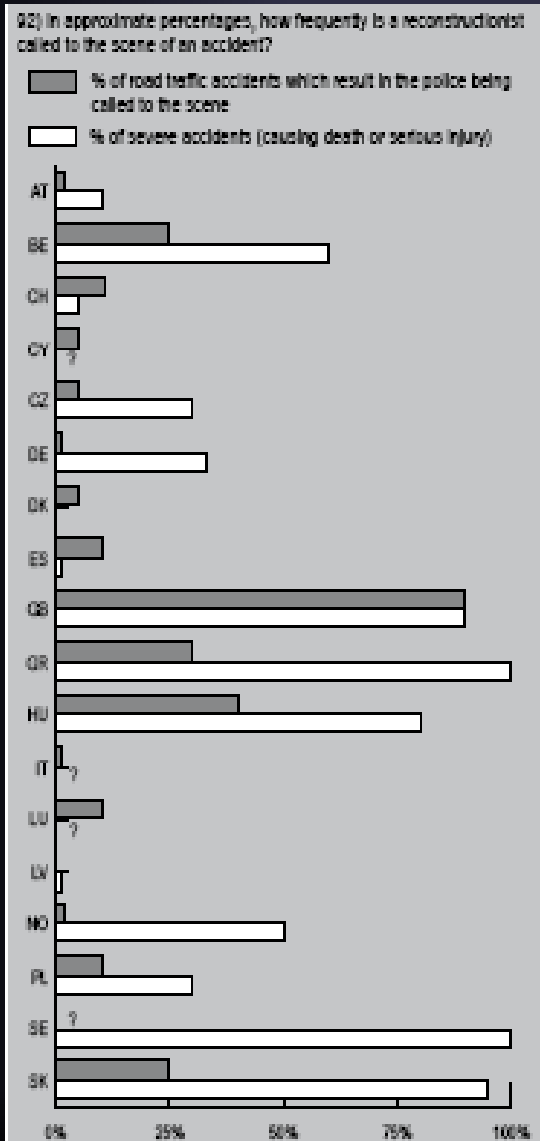
\*other: ES, SE: road traffic administration; CY: insurance co's, lawyers;  
 CH: except for very few exceptions, expert never called to scene



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## Results of the Questionnaire



In which of four occurrences a reconstructionist would regularly be called to the scene.

- 68% in the event of death or serious injury.
- 27% when fault cannot be determined.
- 36% an alleged technical
- 4% which of several occupants had been driving the vehicle.



# 1. Accident Scene Examination vs. Reconstruction

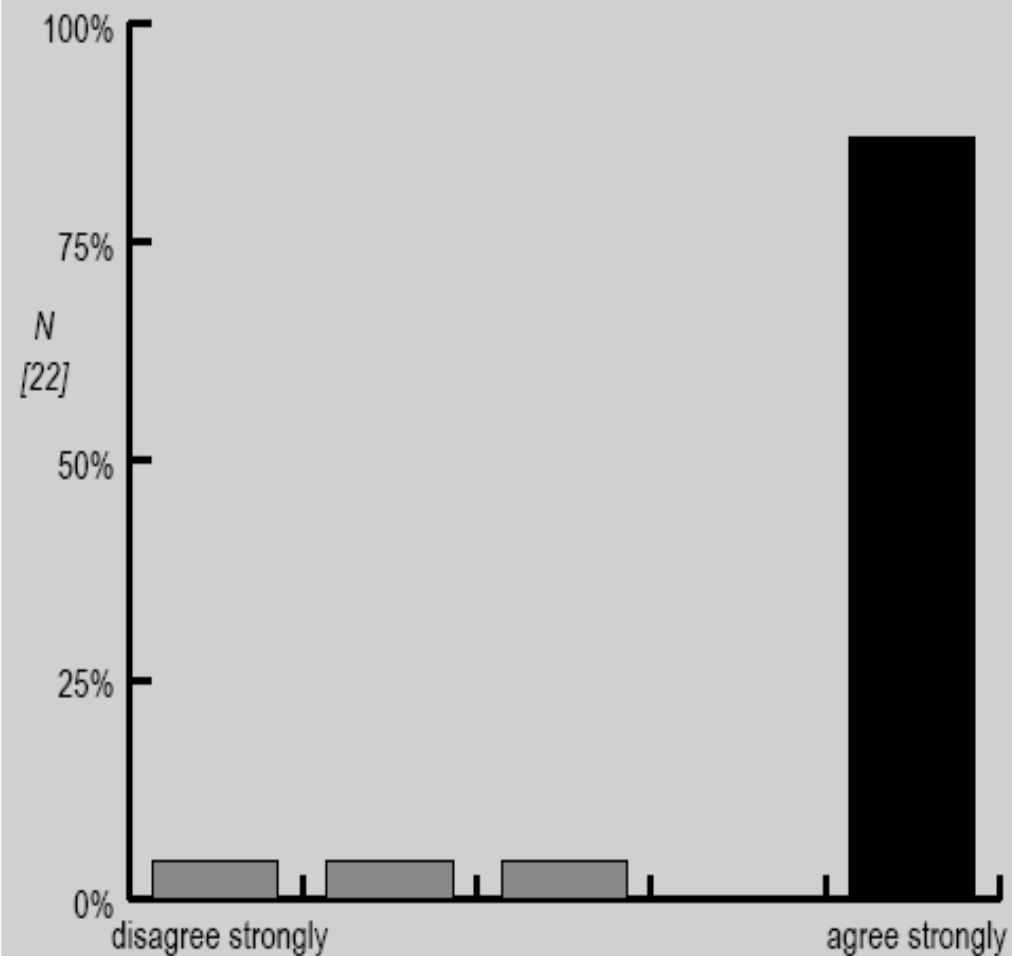
***Accident scene examination* is - in most of Europe - carried out by police officers with specialist training.**

**The second type of work, which we shall call *accident reconstruction*, should be performed by persons with an academic qualification.**

**Its professional profile should be distinguished clearly from that of the former.**

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27) How strongly do you agree with the following statement?  
'Accident reconstructionists must have a suitable academic qualification'





# 1. Accident Scene Examination vs. Reconstruction

**NL and GB, both with a system of accident data collection and analysis by the police, do not agree with academic requirements:**

**There, suitable training should be provided.**

**The British Police themselves state in their *Road Death Investigation Manual*:**

# 1. Accident Scene Examination vs. Reconstruction

**‘Where an investigation is particularly complex, or it involves the application of physical laws or complex mathematics, (...) the evidence must be validated by an appropriate expert (whether a police officer or otherwise) who has the necessary knowledge and experience.**

**In such cases balance must be drawn between those who possess academic qualifications and those with essential practical experience.’**



## 2. Protected Title

**While some countries, such as the UK, usually use one expert for each party in a trial, it is most common within the EU to use only one, 'joint', expert.**

**Especially in the use of one singular, 'joint', expert in a trial, severe demands are made on his/her qualifications and moral integrity: the lay person has to rely on the conclusions drawn.**



## 2. Protected Title

**A system of quality needs to be established to guarantee quality and moral integrity.**

**A protected title, as well as a stamp or seal, should be given to persons certified by this system (cf. medical doctors, lawyers).**



### **3. Accident Scene Examination**

**Gathering evidence at the scene of a severe accident carries a lot of responsibility, and requires specially trained personnel.**

**However, an academic qualification is not required. With suitable training, a ready-made list of guidelines and requirements can largely be relied on.**

**A (partial) reconstruction of the accident scene may, in complex cases, aid the gathering of evidence, and thus call for the attendance of a reconstructionist.**



## 4. Qualification

- **profound knowledge of physical and technical principles necessary**
- **a degree in mech. engineering, physics or comparable is a must**
- **further experience:  
theoretical (post-grad.),  
practical (min. 3 yrs experience in the field)**
- **driving licences: class B a must,  
class A and C1-CE recommended  
(-> driving experience)**



## 5. Certification Process

- an *examination* should be part of the certification process
- exams should be carried out by a limited number of *accredited institutions*
- training and examination by one and the same institution must not conflict with *financial interest*
- certification should be *time-limited*, to be renewed approx. once every 5 yrs
- it must be possible to *withdraw* a certification in drastic cases

## 6. Technical Knowledge

*Specialist knowledge in the field of accident reconstruction should comprise:*

- **collision mechanics**
- **time-distance calculations**
- **basic knowledge of crashworthiness**
- **technical aspects of injury biomechanics and injury mechanics**
- **basic knowledge of human factors**
- **vehicle technology, especially concerning steering and braking systems as well as vehicle dynamics**



## 6. Technical Knowledge

- **basic knowledge of simulation techniques**
- **basic knowledge of repair technologies and repair cost calculation**
- **technical proof of insurance fraud**
- **digital photography and digital imaging techniques (correction/manipulation of images)**
- **road infrastructure**
- **basics of criminalistics and interpretation of evidence**
- ***as well as all knowledge required to carry out accident scene examination***



## 7. Remuneration

**The remuneration of the reconstructionist when hired by the court should be adequate, i.e. comparable to that obtained on the free market.**



## 8. Reconstructionist vs. Expert for Repair Cost Estimation

**In many European countries, there is no clear distinction between the profession of *repair costs estimation* and that of *accident reconstruction*. This situation is facilitated by occupational titles such as 'vehicular expert'.**



## 8. Reconstructionist vs. Expert for Repair Cost Estimation

**In repair cost estimation, judgement is required on the 'final state' (the damaged vehicle as it is).**

**In accident reconstruction, however, it is usually necessary to determine dynamic processes (for instance the approach of the vehicles to the collision point).**

**Particularly this dynamic approach is what distinguishes it from other fields of vehicular expertise.**



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**These 8 points comprise the proposal, which, along with a detailed evaluation of our standardised questionnaire, have been published and sent to the DG TREN of the EU.**



# Summary for SafetyNet



- *A clear distinction should be made between **Accident scene examination** and **accident reconstruction***
- *For **accident scene examination** a suitable training, guidelines and requirements is required.*
- ***Accident reconstruction** should be performed by persons with an academic qualification*
- *In most german-speaking and in the east-EU countries nearly every serious accident is reconstructed – this data could be used for **safetyNet***

**Thank you for your attention**

