

ROAD ACCIDENT INVESTIGATION IN THE EUROPEAN UNION

REVIEW AND RECOMMENDATIONS



Expert Group on Accidents in the Transport Sector

Report from the Road Sector Working Group to the Plenary

May 11th, 2006

This report has been prepared by the following members of the RO-SAT (ROad Strategy for Accidents in Transport) Working Group within the *Group of Experts to advise the Commission on a Strategy to Deal with Accidents in the Transport Sector*:

Jesus Monclus (Chairman)
Lars-Göran Löwenadler
Reinhold Maier

Legal notice by the Commission of the European Communities.

This report was produced by the RO-SAT (ROad Strategy for Accidents in Transport) Working Group within the *Group of Experts to advise the Commission on a Strategy to Deal with Accidents in the Transport Sector* and represents the view of the experts on improving road accident investigations in Europe. These views have not been adopted or in any way approved by the European Commission and should not be relied upon as a statement of the European Commission's or the views of the Directorate General for Energy and Transport. The European Commission does not guarantee the accuracy of the data included in this report, nor does it accept responsibility for any use made thereof.

Cover page photograph courtesy of VTIV-GDV

Table of Contents

EXECUTIVE SUMMARY	5
KEY REMARKS, CONCLUSIONS AND RECOMMENDATIONS	7
ACKNOWLEDGEMENTS	12
1. Background	13
1.1 Mandate	13
1.2 Road Group Working Method	14
1.3 Special characteristics of road accidents.....	14
1.4 Additional safety interventions identified.....	15
2. The Need for Independent In-Depth Road Accident Investigations	22
2.1 Levels of road accident investigations	22
2.2 The limits of accident statistics.....	23
2.3 The limits of police and private reports for (intermediate level) investigations	24
2.4 Limits of investigations conducted by road authorities	25
2.5 The definition of “independence” applied to accident investigations.....	26
2.6 The relationship between judicial and technical investigations: The UK MoU	27
2.7 Advantages of independent in-depth safety investigations.....	28
3. Independent In-Depth and Special Road Accident Investigations at National Level	31
3.1 The Swedish approach	31
3.2 The German GIDAS example.....	32
3.3 The UK system	33
3.4 National Road Accident Investigation Boards (the French Bureau example)	34
3.5 The Finnish case	36
3.6 The Dutch Safety Board.....	37
3.7 Road accident investigations in Norway.....	38
3.8 Different answers to the same question	39

4. Independent In-Depth and Special Road Accident Investigations at EU Level.....	41
4.1 A look at the current situation at EU level.....	41
4.3 Basic EU legislation on independent transport accident investigations.....	43
4.4 A European Road Safety Agency?.....	44
4.5 Coordination of National Transport Safety Boards	45
 ANNEXES	 47
Annex 1. Transferability analysis of railway safety management systems into the road sector	48
Annex 2. Responses to questionnaire on road accident investigations in England, Finland, France, Germany and Sweden.....	51
Annex 3. Comparative analysis of european basic accident investigation legislation in the aviation, railway and maritime transport sector. Example of fundamental principles for road accident investigations.....	66

EXECUTIVE SUMMARY

The European Commission (EC) set up in 2004 a *Group of Experts to advise the Commission on a Strategy to Deal with Accidents in the Transport Sector*. This initiative had been proposed in the EC's "White Paper on European transport policy for 2010: time to decide" with the mission of advising the Commission on the need to improve existing legislation, and, where necessary, on the need to propose new initiatives for all modes of transport. The Group of Experts, with the objective of increasing its ability to deepen into the different modes, decided to establish working sub-groups for each transport mode and, later on, also to create a specific sub-group to deal with methodology issues. This document presents the key remarks, conclusions and recommendations from the sub-group analyzing opportunities in the road sector: the ROad Strategy for Accidents in Transport Working Group (the RO-SAT Working Group).

During its mandate, the RO-SAT Working Group met in seven occasions, held a series of hearings and information exchanges with international experts, maintained virtual contacts (through telephone conferences and using the EC's Communication & Information Resource Centre Administrator - CIRCA), cooperated with other members of the *Group of Experts* and visited The Dutch Safety Board in The Hague. The final result of the work of the RO-SAT Working Group is a 90 pages document and a list of 34 remarks, conclusions and recommendations issued both at national and at EU level. This executive summary condenses the key aspects of the document and the list of conclusions.

As a starting point, the RO-SAT Working Group emphasizes that, despite the fact that the immense majority of transport casualties are a consequence of road traffic, the European legislative foundations for road accident investigations are almost non-existing and, consequently, the RO-SAT *recommends the European Commission:*

Continuing discussions and opening a wider consultation process at different levels (political, technical...) on the opportunities that European action, including legislation, could represent as a means to guarantee that important lessons and recommendations are permanently obtained from road accident investigations across the EU.

It is not by chance that those transport modes considered to be the safest ones are also those who deeper and for a longer period of time have been investigating accidents and incidents. For that reason, the RO-SAT Working Group *urges the European Commission:*

To adopt the final objective of requiring that serious accidents in ALL transport sectors, including the ROAD sector, are deeply and systematically investigated for prevention purposes.

While highlighting the above mentioned lack of European legislation on accident investigation in the road transport, the RO-SAT Working Group acknowledges the co-existence of numerous national and international activities covering the following different investigation levels: statistical data collection, intermediate level investigations (like, for instance, most of the police investigations), in-depth investigations (independent as well as non-independent) and, finally, special accident investigations of events of particular interest or seriousness (like, for instance, a devastating fire in a road tunnel). The RO-SAT Working Group considers that ALL accident investigation levels (statistical, intermediate, in-depth and special cases) are essential ingredients of a road accident investigation system, and *urges the European Commission:*

To encourage all Member States to devote the necessary resources to cover all levels of investigation by means of permanent, professionalized, and in case of in-depth studies also multidisciplinary, independent investigating bodies.

The RO-SAT Working group, given the large volume of road traffic and road traffic accidents, also recommends the European Commission:

To promote continuous road accident in-depth investigations in each of the Member States as a complement of basic (statistical) data collection and other intermediate level investigations (such as the one conducted by road authorities or police agencies in some countries). In-depth investigations should consider investigating not only casualty or fatality crashes but also material damage crashes and repeated incident sites, since they frequently represent indicators of the likelihood of the occurrence of future (and, very often, more serious) crashes. In-depth investigations should contribute to the definition of priorities and the identification of feasible and cost-efficient countermeasures.

At the same, the RO-SAT Working Group also recommends the European Commission:

To promote across the European Union, and in addition to the above described permanent monitoring system based on in-depth investigations of a representative sample of crashes, special (also in-depth level, but according to ad-hoc methodologies when necessary) safety investigations of the following kinds of road traffic accidents: accidents with a large number of casualties and accidents with a considerable learning potential.

The RO-SAT Working Group has also concluded that, when it comes to investigating severe accidents, i. e. accidents of public interest due to the number of people killed or other severe consequences, this has to be done with strict independence and sound public and community credibility, and that this can only be done by an independent organisation. For that reason *it is proposed to the European Commission:*

To promote the establishment of road accident independent investigation bodies in each of the Member States and in charge of the in-depth and/or special investigations of severe accidents.

The RO-SAT Working Group recognizes that whether such an independent organisation should deal only with road accidents or with all kinds of transport accidents is still an open question and a decision that each Member State should address based on its available resources and tradition in investigating transport crashes. In this regard, the RO-SAT Working Group defines the concept of *independence*, when applied to in-depth road accident investigations, as “the structural (this is to say, separated from regulatory authorities and with a clear legal status) and financial (yearly stability of funds) ability to decide WHAT and HOW to investigate, and also to PUBLISH the results of the investigations”. The RO-SAT Working Group concludes that the situation in the different Member States is very diverse, and while some countries have already put in place a multi-layered road accident investigation system covering all levels described above, other countries may still be restricting its road accident activities mainly to the statistical and intermediate levels.

Some examples of road accident investigation initiatives whose transferability should be carefully examined by those countries with potential for improvement are: in-depth police investigations of fatal crashes in the UK, the *Cooperative Crash Injury Study (CCIS)* in the UK, the *German In-Depth Accident Study (GIDAS)* in Germany, the decision of the *Swedish National Road Administration* to conduct in-depth investigations for all fatal accidents, the recently established *Swedish Road Traffic Inspectorate*, the *French Bureau d’Enquêtes sur les Accidents de Transport Terrestre (BEA-TT)* and the multi-modal transport accident or safety boards in The Netherlands, Finland, Norway or Sweden. In this respect, the RO-SAT Working Group *advises the European Commission:*

To propose, debate and, finally, establish mechanisms and tools for road accident investigation “best practice exchange” and, for that purpose, to carefully examine the opportunities for continuing and expanding the work of the research project SafetyNet.

KEY REMARKS, CONCLUSIONS AND RECOMMENDATIONS

The RO-SAT (ROad Strategy for Accidents in Transport) Working Group, a subgroup of the *Group of Experts to advise the Commission on a Strategy to Deal with Accidents in the Transport Sector*, after having analysed all the information collected during the discussions and hearings, and as explained in greater in the various sections of this document, has come to the following four sets of remarks, conclusions and recommendations.

i. With regard to recent road safety enhancement activities in the European countries, and with regard to general road safety improvement opportunities, the RO-SAT Working Group

1. As a starting point, adheres to the following declaration (originated in Sweden): “Safe road traffic is the primary objective. If all who are able to influence the situation on the roads had their own ‘vision zero’, great strides could be made in the work of creating safer roads”
2. Recommends deepening in the exploration of the applicability of Safety Management Systems, as used by other transport modes, into the road transport sector, at least regarding commercial transports in a first stage.
3. Recommends that, in the framework of future developments of the CARS21 initiative, suitable in-depth accident investigations are used to provide insight into progress in road safety and into road environment improvements, and at a price affordable to the consumer.
4. Acknowledges that the recently created Swedish Road Traffic Inspectorate represents an innovative instrument in the road safety system, and recommends that the applicability and benefits of similar Road Traffic Inspectorates in other countries should be carefully examined.
5. Recommends creating internationally coordinated road safety information exchange networks aimed at accelerating the assessment of road safety measures.
6. Supports the recommendation of the eSafety Accident Causation Working Group to continue work on the development of the longer term needs for improved accident analysis methodologies and a road safety information system.
7. Recommends that independent investigations should also systematically address the identification of potentially dangerous behaviour and recurrent human mistakes, as well as all possible measures to minimize them (technical measures, educational measures, actions from the infrastructure side...).
8. Calls for the promotion of event data recorders for independent accident research because of their great potential to obtain detailed information on accident circumstances.
9. With regard to infrastructure management, considers that in-depth-investigations of single serious accidents by no means exclude the need of road safety audits and other standard procedures to reduce accident figures at high-risk sites (procedures such as road safety inspections and black-spot management).

ii. With regard to the existence of different levels of road accident data collection activities, and in particular to the need of in-depth technical independent road safety and accident investigations, the RO-SAT Working Group

10. Defines the concept of *independence*, when applied to in-depth road accident investigations, as “the structural (this is to say, separated from authorities and with a clear legal status) and financial (yearly stability of funds) ability to decide WHAT and HOW to investigate, and also to PUBLISH the results of the investigations”.
11. Acknowledges the co-existence of the following different investigation levels: statistical data collection, intermediate level investigations (like, for instance, most of the police investigations), in-depth investigations (both independent as well as non-independent) and, finally, special accident investigations of events of particular interest (like, for instance, a devastating fire in a road tunnel).
12. Considers that ALL accident investigation levels (statistical, intermediate, in-depth and special cases) are essential ingredients of an accident investigation system, and urges all Member States to devote the necessary resources to cover all levels by means of permanent, professionalized and (in case of in-depth studies) multidisciplinary independent investigating bodies.
13. Recognizes that accident statistics provide useful information at a general level, but recommends that statistics should be combined with more specific data analysis for prevention purposes (e. g. using geographical data, detailed vehicle data, anonymous data about the personal characteristics of individuals involved...).
14. Warns that a preventive methodology based on single or very few cases can only be recommended if extremely serious events are to be prevented independently from the probability of occurrence, since these extremely serious events may not necessarily be representative of the majority of road accidents. Therefore, investigations of extremely but rare serious accidents (for instance bus or coach crashes) should not be understood as a comprehensive in-depth investigation approach.
15. Acknowledges that statistical data collected by the police is sufficient for general aspects of safety and prevention work BUT for in-depth-analysis and specific investigations the police-reported data are not sufficient and have to be supplemented.
16. Recommends that, when a police officer is part of an in-depth independent technical investigation team, provisions should be implemented so that the independence of the investigation is always guaranteed. Provisions should prevent, as it may happen in some countries, situations where a police officer is always obliged by law to inform the court in case he or she believes a law violation has been made, because this could preclude or undermine the independence of the entire investigation.
17. Acknowledges the substantial progress that has been achieved both in Finland and in the UK in connection with the legal and organizational coordination and cooperation between police

and prosecutor services and the independent accident investigation branches or bodies, and suggests them as models for the road transport sector.

18. Recommends that continuous road accident in-depth investigations should be conducted in each of the Member States, due to the large volume of road traffic and road traffic accidents as a complement of basic (statistical) data collection and other intermediate level investigations (such as the one conducted by road authorities or police agencies in some countries). These investigations should consider investigating not only casualty or fatality crashes but also consider investigating material damage crashes and repeated incident sites, since they frequently represent indicators of the likelihood of the occurrence of future (and, very often, more serious) crashes. In-depth investigations should contribute to the definition of priorities and to the identification of feasible and cost-efficient countermeasures.
19. Agrees that, in addition to the above described permanent monitoring system, there is a need of conducting special (also in-depth level, but according to ad-hoc methodologies when necessary) safety investigations of the following kinds of road traffic accidents: accidents with a large number of casualties and accidents with a considerable learning potential.
20. Recommends that, in order to maximize their usefulness, in-depth investigations should be performed by independent bodies and according to a comparable set of minimum common data.

iii. After having examined the road accident data collection approaches in six different countries in Europe, the RO-SAT Working Group

21. Concludes that “there are different ways of organizing a system for road accident investigations at the national level and, consequently, different countries may adopt different approaches, all of them with similar validity and potential to continuously learn from traffic accidents”.
22. Recognizing that neither the collection of statistics nor police or other intermediate-level investigations are enough to fully and deeply learn from accidents, recommends that in-depth independent multidisciplinary investigations should be a core ingredient of road traffic safety policies.
23. Concludes that a combination of existing national accident investigation initiatives would yield the following multi-layered system:
 - The gathering of statistical data collection, including road safety performance indicators.
 - Highly specialized police departments in charge of fatal or very serious accident investigations (as in the case of the UK).

- A long term in-depth accident investigation programme (such as CCIS in the UK, or GIDAS in Germany) looking into a nationwide representative sample of accidents or into every single fatal crash (as in the case of SNRA in Sweden).
- A Road Traffic Inspectorate acting as a Quality Assurance System, overseeing all types of crash investigations and monitoring the implementation of road safety measures (such as the Swedish Road Traffic Inspectorate).
- An independent accident investigation bureau focusing on special accident investigations (such as the French BEA-TT).
- A body coordinating or covering the work of different accident investigation bureaux or branches (such as The Dutch Safety Board).

24. Concludes that, when it comes to investigating severe accidents, i. e. accidents of public interest due to the number of people killed or other severe consequences, this has to be done with strict independence and sound public and community credibility, and that this can only be done by an independent organisation.

25. Concludes that the final objective must be to investigate serious accidents in ALL transport sectors and recognizes that an individual country decision to combine forces in a single multi-modal organization (as in The Netherlands) or to maintain separate accident investigation branches for different transport modes must be adopted after considering the available resources and the existence of previous single modal organizations in each country.

26. Recognizes that whether such an independent organisation should deal only with road accidents or with all kinds of transport accidents is still an open question.

iv. And, finally, with regard to road accident data collection, investigations and other organizational and legislative matters at EU level, the RO-SAT Working group

27. Recommends opening access to the CARE database to researchers and traffic safety professionals, following the example of the web-based query tool of the US Fatality Analysis Reporting System (FARS).

28. Concludes that independent investigations should also be utilized to evaluate the relevance of any given performance indicator utilized to describe the overall road safety situation.

29. Recommends that independent investigations across Europe should be conducted according to protocols standardized as far as possible but, at the same time, that these protocols should be versatile enough to generate on a regular basis information that is usable and useful for other existing in-depth databases.

30. Recommends the continuation of European wide-coordinated in-depth accident investigations after the completion of the ongoing SAFETYNET research integrated project and that in-

depth accident investigations should become a central part of the future European Road Safety Observatory and, at the end, of the European road safety policy.

31. Encourages the European Commission to explore the possibility (for instance by means of a call for expression of interests) of adding more contents to this European Observatory on top of those already being developed by the SAFETYNET project (like a permanent road safety measure best-practice exchange mechanism, the promotion of a yearly or biyearly European Road Safety Conference, enhanced dissemination activities...).
32. Taken into account that, despite the fact that the immense majority of transport casualties are a consequence of road traffic, the European legislative foundations for road accident investigations are almost non-existing, recommends continuing discussions at different levels (political, technical...) on the opportunities that European action could represent as a means to guarantee that important lessons and recommendations are permanently obtained from road accident investigations across the European Union. European action should cover areas such as: investigation methodologies, a common permanent European in-depth investigations database, exchange and dissemination of road accident investigation “best practices”, European wide representativeness of samples of crashes...
33. With regard to existing multi-modal transport accident and safety boards in the European countries, recommends exploring the possibility of adding value to the remarkable work of the various national transport safety boards by promoting European-wide coordination and cooperation and, in particular, to promote the creation of a network of European transport safety boards (without losing sight of the activities already in place in the framework of the International Transportation Safety Association - ITSA).
34. Given the fact that the justification of a European Road Safety Agency is still an open issue, and that there are numerous budgetary and logistic difficulties associated with the creation of such an entity, has not agreed at this point in time on the need of a European Road Safety Agency to combat road carnage but, at the same time, calls for the continuation of debates on the possible tasks that such an organization could perform.

ACKNOWLEDGEMENTS

This report would have never been possible without the support of the European Commission, Directorate General for Transport and Energy, and in particular:

- Peter Faross, Head of Unit A5, Services of General Economic Interest and User's Rights (Chairman of the Group of Experts)
- Michaela Strohschneider, Unit A5, Services of General Economic Interest and User's Rights (Secretary of the Group of Experts)
- Jean-Paul Repussard, Unit E3, Road Safety (Secretary of the RO-SAT Working Group)

The RO-SAT (ROad Strategy for Accidents in Transport) Working Group Members also want to thank all the experts that accepted the invitation of the WG to meet in Brussels and provide useful insights about the organization of in-depth road accident investigations in different parts of Europe:

- Dietmar Otte, Medical University of Hannover, Germany
- Gilles Vallet, INRETS, France
- Lars Bergfalk, Road Inspectorate, Sweden
- Pete Thomas, University of Loughborough, United Kingdom,
- Yves Bonduelle, Bureau d'Enquêtes sur les Accidents Transports Terrestre, France
- Pieter van Vollenhoven and the staff of the Dutch Safety Board, The Netherlands

The following members of the *Group of Experts to advise the Commission on a Strategy to Deal with Accidents in the Transport Sector* have also provided useful information to the RO-SAT Working Group about the road accident investigation approaches in their corresponding countries:

- Knut Rygh (supported by this colleague Rolf Mellum), and
- Pirjo Valkama-Joutsen

Finally, the members of the RO-SAT (ROad Strategy for Accidents in Transport) Working Group also wish to acknowledge the support received from their employers:

- FITSA Foundation (Spain)
- Volvo Group (Sweden)
- VTIV-GDV (Germany)

1. BACKGROUND

In its White Paper on European transport policy for 2010: time to decide¹, the European Commission indicated that there is a growing need for independent technical investigations geared towards revealing the causes of accidents and ways of improving legislation. For this purpose, in the White Paper the Commission recommended the creation of ‘a group of independent experts within the Commission, whose job would be to improve the existing legislation and adapt the (European) methodology, *inter alia*, to technical developments’.

In its decision of 11 June 2003², the Commission set up a group of experts to advise the Commission on a strategy for dealing with accidents in the transport sector. The mission of this group of experts is to advise the Commission on the need to improve existing legislation, and, where necessary, on the need to propose new initiatives for all modes of transport, including the transport of energy (oil and gas pipelines), but excluding the occupational health and safety aspects.

After the completion of the selection process, the Group of Experts met for the first time on July 14th, 2004. During this first meeting the group agreed on the creation of single-mode subgroups, in order to properly address the individual needs of each transport mode. The following subgroups were therefore created: pipelines, aviation, maritime, railways and road. The group also decided to create, at a later stage, another “horizontal” subgroup to specifically provide insight into a cross-modal “methodology” for in-depth independent transport accident investigations. The following members of the Group of Experts joined the Road Subgroup:

- Jesus Monclus (Chairman)
- Lars-Göran Löwenadler
- Reinhold Maier

Jean-Paul Repussard (Unit E3, DG TREN) was appointed as the Secretary of the Road Sector Subgroup. In this document, the group will be referred to as the RO-SAT (ROad Strategy for Accidents in Transport) Working Group.

This report summarizes the debates and the information gathered by the RO-SAT WG during the two-years mandate term from July 2004 to July 2006. It also provides a list of recommendations in fulfilment of the mandate adopted by the Group of Experts.

1.1 Mandate

The work of the RO-SAT Working Group was conducted under general framework defined by the Mandate adopted by the Group of Experts to Advise the Commission on a Strategy to Deal with Accidents in the Transport Sector during the first meeting of the Group of Experts held in July 14th, 2004:

- (1) take it as its objective to improve safety and security with regard to all modes of transport, including the transport of energy (oil and gas pipelines), excluding the occupational health and safety aspects;

¹ COM(2001) 370, 12 September 2001, p. 69.

² Commission Decision 2003/425/EC, OJ L 144 of 12.6.2003, p. 10.

- (2) advise the Commission on its strategy as well as on draft legislation the Commission might propose in the field of **independent investigation** looking into the causes of accidents or incidents as well as in the field of **accident prevention** in all modes of transport, including the transport of energy (oil and gas pipelines), excluding the occupational health and safety aspects;
- (3) examine the current methods, frameworks and policies on accident and incident investigations and, if appropriate, may advise the Commission on the need to carry out benchmarking studies or to centralise investigation;
- (4) advise the Commission on the formulation of common European methodological elements for independent accident and incident investigations;

The RO-SAT also exercised its duties in accordance with the Complementary Rules of Procedure adopted during the first meeting of the Group of Experts held in Brussels on July 14th, 2004.

1.2 Road Group Working Method

The Road Sector Working Group addressed a wide range of items using different sources of information, such as individual contributions from the subgroup members, information and initiatives existing in other transport modes, and group hearings organized during the meeting of the RO-SAT subgroup) and the nature of the interventions (related either to the accident investigation field or to other general areas of road safety:

- Safety Impact assessments, Audits and Inspections
- Railway Safety Management System
- Group hearings
- Comparative analysis of existing legislation in several modes
- UK MoU between the Accident Investigation Branches and the Prosecution Services
- SafetyNet and the European Road Safety Observatory
- The Dutch Safety Board

In addition to the meetings of the Plenary of the Group of Experts, the RO-SAT Working Group has held the following meetings:

- September 28th, 2004
- December 21st, 2004
- March 7th, 2005
- June 23rd, 2005
- September 15th and 16th, 2005
- December 21st and 22nd, 2005
- February 22nd, 2006

All the meetings took place in Brussels, in the premises of the Directorate General of the European Commission, except from the meeting held in December 21st and 22nd, 2005 that was hosted by the Dutch Safety Board in The Hague.

1.3 Special characteristics of road accidents

The number of fatal victims on European roads represents a factor of approximately 30 to 300 times more than what we see in other transport modes.

Comparison mode	ROAD	RAIL	AVIATION	MARITIME
Nb of fatalities	41600 ¹	116 ²	6 ³ / 6 ⁴	197 ⁵

Table 1. most recent available accident figures for the transport modes

¹ 2005 (estimation)

² 2003

³ over EU25 territory by any commercial operator (2004)

⁴ by EU25 commercial operators anywhere (2004)

⁵ Lives lost at sea throughout the world (2003). No data available at EU level

sources: CARE and national publications (road) “Energy & Transport in figures, 2005”, European Commission, DG TREN (other modes)

The great majority of road accidents is connected to individuals and private vehicles. From the public side these accidents seem to be more accepted than accidents with many victims or high impact on the traffic environment. Therefore, it could be of interest to split the accidents into two groups depending on their impact on the society.

Also, the way accident investigations are organized seems to follow different routes depending on their priority from the society’s point of view. Severe accidents in many European countries are investigated by dedicated independent (the meaning of “independent” is discussed elsewhere) official investigation commissions, i.e. the Dutch Safety Board and the Swedish Accident Investigation Board.

However, seen as a group, the less severe accidents cause by far the highest total number of fatalities, and this fact can not be ignored. Instead, these accidents need to be classified by means of sets of relevant parameters, to make them available for statistical analysis as well as for prevention purposes.

Today there are a few investigation teams dealing with “ordinary” road accidents. Examples to be mentioned are the German “GIDAS” teams acting in Hannover and Dresden respectively, and the CCIS in UK. In both cases the automotive industry is contributing with fundings. There are also a range of research organisations using statistical means. This does not exclude the need for in-depth investigations.

1.4 Additional safety interventions identified

In addition to those topics dealt with in chapters 2 to 4 in this report, the RO-SAT Working Group has identified a set of road safety interventions and opportunities that are briefly presented in this last section of the introduction:

- The Swedish Road Inspectorate
- Safety Management Systems
- International road safety measure effectiveness information networks
- The eSAFETY initiative
- The CARS21 initiative
- Infrastructure safety
- Actions promoting proper road user behaviour
- Event recorders for research purposes
- Other types of in-depth accident investigations in Europe

The list should be seen as examples selected by the RO-SAT Working Group to get typical informations about different approaches. It is not a complete list of all interventions available.

Specifically, the transferability of experiences from other transport modes may need further considerations.

1.4.1 A new instrument into play: the Swedish Road Inspectorate

In Sweden, all fatal road accidents are investigated in depth by the Swedish National Road Administration (SNRA) according to the ordinance with instructions from the Swedish Government. Clusters of such investigations are then presented to and analysed by groups of stakeholders in a process called OLA.

To assure that the accident analysis is performed in an independent way and that the results are brought back to the stakeholders in order to facilitate correction measures, a new inspectorate – the Swedish Road Traffic Inspectorate has been founded. The Road Traffic Inspectorate launched its operations on 1 January 2003. It is a supervisory authority that will operate in collaboration with other players in the road safety sector in Sweden to influence system designers and closely monitor their activities so that the road transport system will ultimately be as safe and sound as possible. Also, the Road Traffic Inspectorate informs the Swedish Accident Investigation Board about “severe accidents” or accidents of certain interest from the public point of view. However, it is up to the Swedish Accident Investigation Board to decide whether they should take it on or leave it to the SNRA.

In its website³ the Road Traffic Inspectorate makes the following declarations: “Safe road traffic is the primary objective and ‘Vision Zero’ is the lodestar that guides the work. If all who are able to influence the situation on the roads had their own ‘vision zero’, great strides could be made in the work on creating safer roads.”

Remark:	The RO-SAT Working Group adheres to the following declaration: “Safe road traffic is the primary objective. If all who are able to influence the situation on the roads had their own ‘vision zero’, great strides could be made in the work on creating safer roads”.
---------	--

The tasks of the Road Traffic Inspectorate include:

1. To monitor and analyse conditions that could substantially affect the design and functioning of the road transport system through taking a holistic view of the road safety goals adopted by public authorities, municipalities and others.
2. In dialogue with the players referred to above, work to ensure that they apply a systematic procedure to prevent road accidents that result in death or serious injury.
3. To co-operate with other players to improve traffic safety on roads.
4. To initiate research and development within the road safety sector and monitor research of importance to the operations at the Inspectorate.

The objective of this new inspectorate could be summarized as a instrument to apply a Quality Assurance systems thinking on the process for accident investigations and follow-up of the way recommendations are taken care of.

³ www.vagtrafikinspektionen.se

Recommendation: The recently created Road Traffic Inspectorate represents an innovative instrument in the road safety system in Sweden. The applicability and benefits of the Swedish Road Traffic Inspectorate in other countries should be carefully examined.

1.4.2 Safety Management Systems

Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on Safety on the Community's Railways (the Railway Safety Directive) includes in its annex III the fundamentals of a Safety Management System (SMS): requirements and basic elements of a SMS.

The RO-SAT Working Group has looked into the transferability of SMS into the road sector. In the annex section of this report a simple comparative analysis between the Railways SMS and the fundamentals of a Road SMS is presented. Although a safety management system may not represent, at least in the first instance, a suitable approach for the hundred of millions of individual road users in Europe, it can still be applicable to collectives such as bus and truck companies, delivery companies, rental and leasing enterprises, etcetera. The number of vehicles or road users that could be covered by a road safety management system is not negligible: for instance, in Australia, and since 1986 fleet vehicles have comprised the majority of new car sales⁴.

The opportunities of applying Road Safety Management Systems into different areas of the road transport are mainly unexplored.

Recommendation: To deepen exploring the applicability of Safety Management Systems used by other transport modes in the road transport sector, at least regarding commercial transports.

1.4.3 Evaluation of safety measure effectiveness and information exchange networks

During the last Enhanced Safety Vehicle (ESV) Conference held in Washington, DC, in June 2005, Professor Claes Tingvall indicated that in order to assess the efficiency of new vehicle safety systems, such as the electronic stability control, a country such as Sweden had to collect real-life accident data during several years before gathering enough evidence to issue a general recommendation to incorporate a certain system to all new vehicles⁵. This evaluation process could be significantly enhanced if data from different countries could be combined and used for a larger-scale field evaluation. According to Lie et al., “the understanding of the impact of more sophisticated systems must be done by empirical evaluation of real life crash data”⁶.

The RO-SAT Working Group supports the idea of accelerating as much as possible the assessment of the effectiveness of road and vehicle safety measures, also via international cooperation and accident data linkage, in order to achieve a fast deployment of accident-reduction technologies and systems.

⁴ Burt, G. Trend and issues in a new tax environment. How to manage the fleet mix & transitional issues. Fleet management – Drive to excellence. 1998 Conference on Australian Fleet Managers Association. Pp 21-29

⁵ Tingvall, C (2005). Oral presentation given at the plenary session on “The Evolution of Automobile Safety from Experimental to Enhanced Safety Vehicles: Where Do We Go from Here?”. 19th Enhanced Safety Vehicle Conference, Washington, DC.

⁶ Lie, A; Tingvall, C; Krafft, M and Kullgren, A (2005). The Effectiveness of ESC (Electronic Stability Control) in Reducing Real Life Crashes and Injuries. 19th ESV Conference, Paper number 05-0135, Washington, DC.

Recommendation: To promote internationally coordinated information exchange networks aimed at accelerating the assessment of road safety measures.

1.4.4 The eSAFETY initiative

eSAFETY is a joint initiative of the European Commission, industry and other stakeholders created in 2002 and aims to accelerate the development, deployment and use of Intelligent Integrated Safety Systems, that use information and communication technologies in intelligent solutions, in order to increase road safety and reduce the number of accidents on Europe's roads. The eSAFETY Forum was created as the main operational instrument of this initiative and to provide materials for discussion within the eSAFETY plenary and the eSAFETY Steering Group. The eSAFETY Forum was organized in the following 10 different Working Groups: Accident Causation Data, Emergency Call (eCall), Human-Machine Interaction (HMI), International Cooperation, Research and Development, Real-time Traffic and Travel Information (RTTI), Implementation Road Maps, Heavy Duty Vehicles, User Outreach, and Digital Maps. The 1st Plenary Session of the eSafety Forum was organised on 22 April 2003.

The eSAFETY Forum Working Group on Accident Causation Data stressed the importance of providing consistent European accident causation analysis to make a safety diagnosis and assess the impacts of safety systems on accidents and to identify priorities. The Accident Causation Working Group recommended to continue work on the development of the longer term needs to prepare, at European level, for improved accident analysis methodologies and build a road safety information system.

Recommendation: The RO-SAT Working Group supports the recommendation of the eSafety Accident Causation Working Group to continue work on the development of the longer term needs for improved accident analysis methodologies and a road safety information system.

1.4.5 The CARS21 Initiative

The Competitive Automotive Regulatory System for the 21st Century (CARS 21) High Level Group was launched at the beginning of 2005 as a joint initiative between the European Commission and the automotive industry with the objective of making recommendations for the short, medium and the long term public policy and regulatory framework for the European automotive industry, that enhances global competitiveness and employment while sustaining further progress in safety and environmental performance at a price affordable to the consumer.

The group adopted at the end of 2005 a 10 year roadmap for a competitive EU car industry, agreeing on a number of recommendations to make cars cleaner, safer and to simplify the legal environment for EU car makers⁷. The recommendations aim to enhance the automotive industry's global competitiveness and employment while sustaining further progress in safety and environmental performance at a price affordable to the consumer. In line with the better regulation principles, this roadmap will provide industry with a predictable regulatory framework for the near future, while it is recognised that it should not stifle discussions on new developments. In 2006 the Commission will

⁷ CARS 21. A Competitive Automotive Regulatory System for the 21st century. Final Report. Accessible at: <http://europa.eu.int/comm/enterprise/automotive/pagesbackground/competitiveness/cars21finalreport.pdf>

come forward with proposals on the follow-up to the CARS 21 recommendations. There will be a mid-term review in 2009 in view of the progress made and the technological developments. As far as vehicle and road safety is concerned, and as the CARS 21 timeframe did not allow for a full impact assessment of the measures and the effects of their full interaction, it was agreed that a more comprehensive analysis should be carried out after CARS 21 so as to enable for more factors to be taken into account.

Recommendation: The RO-SAT Working Group recommends that, in the framework of future developments of the CARS21 initiative, suitable in-depth accident investigations are used to provide ingredients of progress in road safety and road environment improvements at a price affordable to the consumer.

1.4.6 Infrastructure safety

Infrastructure safety consists of four different approaches:

- I. Concerning the safety in the road-network there is a need for a tool, to identify the lacks of safety in existing road-networks, to quantify these deficits and to rank the elements according to the extent of their specific safety lacks. Furthermore this tool should be applicable to calculate a safety-forecast for planning supplementary links in the network.

In some Member States is used the procedure called European Road-Assessment-Programme EuroRAP, a risk assessment or rating of the road sections based on knowledge of the traffic safety without local information about accidents. But there is also the Network Safety Management NSM, a procedure developed in Germany based on accident analysis. Comparison of the results of EuroRAP and NSM in the German network of highways and rural main roads showed totally different figures, so the procedures are not comparable. If EuroRAP is supposed to be used for accident prevention purposes the differences between the methods need to be clarified, including limitations and applicability.

- II. To guarantee the safety within the planning process in terms of quality management Road Safety Audits RSA are performed by trained Auditors. In general there is no need nor possibility for accident investigations, because there are no accident figures available at the design stage.

The RSA is a standard procedure in many member states.

- III. To detect and improve frequent accident sites in the existing road network comprehensive accident data including precise geographical information are required. The efficiency of the procedures depends on the comprehensiveness of the data concerning the number of accidents in different categories of severity. All Member States disposing accident data by the police are using Black Spot Management BSM or High-Risk-Site-Treatment and are reporting essential useful effects.
- IV. Controlling of the road configuration under function without accident knowledge with regard to evident deficiencies is used as a kind of quality assurance. This is to avoid an excess of equipment what could lead to a work-overload of the road user. Furthermore there is to place emphasis on the safety relevant traffic signs. This is the purpose of regular road inspections. The measures should be coordinated with the data of local accidents.

There are great differences in the details of this procedures in the member states.

All of the procedures mentioned are based on the knowledge of general accident evaluations concerning the safety of infrastructure components of the road network, though there are no specific local accident data used in the process.

Recommendation: With regard to infrastructure management the RO-SAT Working Group considers that in-depth-investigations of single serious accidents by no means exclude the need of road safety audits and other standard procedures to reduce accident figures at high-risk-sites (such as road safety inspections and black-spot management).

1.4.7 Road user behaviour (speeding, alcohol and seat belt use...)

Road traffic rules in all countries normally state that “*any road user shall adapt his/her behaviour to prevailing conditions*”. From this it could be understood that most accidents or accident consequences are due to inappropriate behaviour, which is surely true for e.g. speeding, drink driving and non wearing of mandatory protective equipment. On the other side, it is fair to recognise that a large number of accidents are due to human error and not to deliberate misbehaviour.

In this respect, independent investigations can provide a lot of information if they can identify what kind of “inappropriate behaviour” or “human mistakes” has been encountered. A prerequisite to help formulating road safety policies is that a critical number of cases are investigated.

Recommendation: Independent investigations should also systematically address the identification of potentially dangerous behaviour and recurrent human mistakes, as well as all possible measures to deal with them (technical, educational, from the infrastructure side...)

1.4.8 Event recorders for research purposes

Event recorders are equipment for short-time storage of relevant car and driving data in terms of situation of the car technique and the environment so far as information are produced by suitable detectors and sensors. At least data concerning the actual speed, braking, accelerating in longitudinal and transverse direction should be stored to provide useful information in the case of accidents. Then these data can support the analysis of technical and behavioural accident causes for prevention.

Application and usage of these event recorder data is not possible in most of the Member States due to juridical hindrances in terms of protection of data privacy. Furthermore it shall be not possible to use the information in trial to blame one of the involved parties.

Within an independent accident investigation these data out of an event recorder can be used for the purpose of prevention and investigation so far as confidentiality is guaranteed by the research team. This can lead to significant improvement of knowledge concerning safety approaches in technical and driver behaviour terms. Event recorders complement the information collected by police or other staff in a very useful manner for traffic safety.

Recommendation: Promoting event data recorders for independent accident research because of their great potential to obtain detailed information on accident circumstances.

1.4.9 Other types of in-depth accident investigations in Europe

From the Society's point of view not only accidents in the transport sector but all kind of accidents should be investigated to create knowledge about how to avoid them. Also there is an interest in further strengthening this by trying to transfer and apply know-how between different sectors.

Such thoughts has lead to the creation of a new governmental institute in Sweden, NCO – National Centre for accident investigations, dealing with all kind of accidents. This institute was created within the Swedish Rescue organisation and is for the moment still a department within that organisation.

2. THE NEED FOR INDEPENDENT IN-DEPTH ROAD ACCIDENT INVESTIGATIONS

In this second section of the report, the position whether it is necessary to conduct independent in-depth road accident investigations will be presented and justified. This chapter begins presenting a classification of the different levels of road accident investigations, continues presenting a definition of “independence”, and ends up with a final recommendation on the establishment of independent in-depth road accident investigations.

2.1 Levels of road accident investigations

The RO-SAT Working Group, as a result of the discussions held within the group, has adopted the following classification (levels) of accident investigation:

Level	Definition	Examples
Statistical data collection	Collection of anonymous accident data elements that are used mainly for monitoring trends and priority identification.	<ul style="list-style-type: none"> - National statistics of traffic accidents - CARE database at EU level (see chapter 4 of this report)
Intermediate level investigations	Medium-level investigations between the statistical and the in-depth, suitable for black-spot management	<ul style="list-style-type: none"> - Qualified police reports (chapter 2.3) - Insurance reports
In-depth investigations (independent as well as non-independent)	Detailed multidisciplinary investigations with a high number of variables (the number of variables usually varies from a few hundreds to more than a thousand). The aim is to prevent the recurrence of serious accidents by discovering structural failures and proposing corrective measures.	<ul style="list-style-type: none"> - CCIS in the UK - GIDAS in Germany (see chapter 3)
Special accident investigations	Multidisciplinary investigations with case-tailored methodologies. The aim is to prevent similar serious accidents by discovering structural failures and proposing corrective measures.	<ul style="list-style-type: none"> - Investigations conducted after the Montblanc fire in 1999 - A bus accident with 11 fatalities occurring on 11th June 2004 near Poitiers (France)

Table 2. Levels of accident investigations (classification) proposed by the RO-SAT Working Group

Special accident investigations, given the singularity of the majority of the crashes investigated, may not be the fastest way to discover general trends or to prioritise safety measures. On the other side, the statistical analysis of massive accident data may not be the correct way to discover underlying structural or systematic failures in the road system. An example of structural failures is the time-pressure conditions that commercial drivers may be subjected to in some situations.

Recommendation: The RO-SAT Working Group considers that ALL accident investigation levels (statistical, intermediate, in-depth and special cases) are essential ingredients of a accident investigation system, and urges all Member States to devote the necessary resources to cover all levels by means of permanent, professionalised and (in case of in-depth studies) multidisciplinary investigating bodies.

2.2 The limits of accident statistics

The limits of accident statistics and their evaluations are first in the basic necessity to keep the amount of data as small as adequate, then the standardisation of information by definition of types for criteria with a widespread specification and then the waiving of details due to the standardisation (matchability) of data. Statistical evaluations just produce very imprecise results in the following items:

- Accident locations are to be summarised in categories, that means the loss of the road characteristics, e.g. road width, surface, equipment etc.
- The severity of accidents is categorized in very few types, which leaves many questions without answer.
- Information concerning the characteristics of drivers or passengers are missed due to the protection of data privacy.
- Concerning accident causation, information are not useful for prevention purposes, because these notes are predominantly used for the trial and juridical review. (see also 2.3)

Specific or actual items of interest cannot or just insufficiently be answered out of the publicly available data, for example the evidence of some new types of cars (SUV) or types of road using (Inlineskating) are not noticed at all in the statistics.

Furthermore accident statistics only cover cases of a certain severity. In most cases injuries are completely included, if they are reported by the police. Damages only are collected to some extent so far as severe damage is evident. However, this is not common in all of the member states.

Accident statistics are used to compare the safety levels of regions, road networks or car types on a general level. It is also possible to demonstrate the trend over the years as time series or to define targets to be reached in the future as well as to monitor the achievement of thresholds.

To analyse the causes of accidents in a technical way or in purpose of prevention as well as to develop any improvement measures, accident statistics can only be used in a very restricted way. Local high risk sites cannot be detected at all by statistical data.

Statistically, accidents are rare events that are following special statistical laws which are rather difficult to be controlled if some basic rules are ignored. For quite some time, research publications describe such effects as regression-to-the-mean, black spot migration or bias-by-selection that may cause wrong or doubtful conclusions. These effects may get even more influence, the smaller accident probabilities are. The more serious accident consequences are, the smaller investigation periods and areas and the more incomplete accident recordings are, the more likely statistical uncertainties and doubtful conclusions will prevail due to the small accident data set available.

In order to avoid these negative influences, accident investigations should be based on large numbers of accidents, also including light injury and material damage only accidents.

Preventing future accidents based on ex post analyses requires that accidents investigated exhibit high repeatability chances with respect to their characteristics investigated. These chances increase the more frequent such characteristic events have already occurred in the past.

Recommendation: Accident statistics provide for useful information in a general level and should be completed by more specific analysis for prevention purposes, e. g. using geographical data, vehicle data, anonymous data about individuals involved.

A preventive methodology based on single or very few cases can only be recommended if extremely serious events are to be prevented independently from the probability of occurrence. Therefore, investigation from time to time of serious accidents (for instance bus or coach crashes) should not be understood as a comprehensive in-depth investigation approach.

2.3 The limits of police and private reports for (intermediate level) investigations

Police authorities have specific duties and functions in the context of accident occurrence, which are regularly defined by law. Because of their position and their mandate in society police staff have exactly to do their duty demonstrable and nothing less or more. This leads to a strictly formalised process without any adaptation to the specific situation. The standards are in common useful and sufficient, but in specific situations some important facts may get lost.

If police gets knowledge of the occurrence of an accident the duties to be fulfilled are (e.g. German regulations):

- Providing safety at the accident site for the road user and the traffic situation , assistance to injured persons
- Juridical examination with first decision who is to blame, and documentation of proofs and witness testimonies
- Protecting the rights of the victims and the not guilty parties involved in the accident
- recording of data for prevention purposes
- recording of statistical data regarding the statistic regulations by law

The level of detail about the accident circumstances in police reports is very often not enough for in-depth analysis: this level is normally determined by the staffing resources available in the police units, resources that must be shared among the various responsibilities of the police agencies: criminal prosecution, protection of public security, supporting the juridical bodies by criminal proceedings. Therefore, the police staff could not be expected to extend their investigations to other factors of importance for the understanding of the accident occurrence.

On the other hand the police authorities provide for a well trained and fair-minded staff at the local site, who perform their duty neutral at any time of day and night. On their side there is no interest in falsifying, waiving or adding not relevant or even wrong information.

Furthermore police staff is disposable everywhere at any time by day and night.

To release police from this work in the recent years there were some initial thoughts and reflections to delegate the duties of accident data collecting to private bodies. This could lead to some important disadvantages:

- The structural effort creating such new bodies is really great. The costs have to be paid by the road users. The willingness to accept these services will decrease due to the cost and inconveniences; this leads to less data for the safety research.
- The legal status of a private entity is unclear but rather not so suitable as the police. They will not have any rights to advise the involved parties or to manage the traffic flow at the accident site, no rights in terms of criminal prosecution and the guilty road user is not obliged to wait until the arrival of the private investigator.
- The question of financial dependencies may affect the independency.

Following these reflections there is no private accident reporting entity until today.

Anyway looking at the notices concerning accidents the intensity and the amount of data depend on the severity of the accident. The requirements for juridical treatment and the statistical regulations are more complex in cases of injuries than in cases of slight damages. If there are fatalities, even much more time and effort has to be spent: witness testimonies, technical expertises, prints and sketches and more has to be performed. However these additional sources and information are usually not available in prevention or safety investigation due to protection of data privacy.

After all it is clear that the necessary data are recorded for these accidents only, which are known to the police. There is an unknown number of accidents, which are neither detected nor noticed at all. However, it is well known that the figures of undetected accidents are quite high regarding less severe accidents; injury accidents and fatalities are nearly completely known by the police. Exceptions should be made in cases of injured cyclists or pedestrians, who often come to a hospital without any information to the police, if no other road user is involved in the accident.

Other sources of information concerning accident circumstances and occurrences are rather more difficult to evaluate (insurance companies), are not available due to data privacy (hospitals, doctors) or of quite low quality (assistance services, garages).

Recommendation: The procedure of data collected by the police is sufficient for general aspects of safety work and prevention regarding a great sample of accidents. For in-depth-analysis and specific investigations the police-reported data are not sufficient and have to be supplemented.

2.4 Limits of investigations conducted by road authorities

The road authorities are normally responsible for the practical applications of road regulations like where to apply speed limits of different levels. They can also be responsible for driving licences a.s.o. Therefore, in certain cases, there could be a risk of conflicting interests.

One way to solve this problem is to have a fully separate organisation for accident investigations, with independence guaranteed. However, due to the high number of accidents to investigate and the geographical spread this would imply a doubling of a part of the current administration, which might be hard to defend from the cost point of view. An alternative way is the one taken in Sweden, as described above in section 1.4.1.

If provided with enough resources and powers, a road administration can afford a separate entity on a regional or national level responsible for overseeing safety issues in the road network under its responsibility. This could be the case of e.g. the German road administration, who is granted access to

the anonymous accidents reports provided by the police; local administrations have also access to the same reports for black-spot management

2.5 The definition of “independence” applied to accident investigations

Three main sources contributed remarkably to the understanding of the RO-SAT Working Group on what “independence” should mean in connection with in-depth accident investigations. The first source was the Methodology Working Group also created within the *Group of Experts to advise the Commission on a Strategy to Deal with Accidents in the Transport Sector* and working in parallel and with contributions from all the RO-SAT Working Group members. The Methodology Working Group indicated, when setting the conditions for the independency of the accident investigation authority that:

“The accident investigation authority shall be set up permanently and carry out its tasks impartially. Its functional, financial and legal independence from any other public bodies or third parties shall be guaranteed, and in particular from any national authorities responsible for the establishment or the enforcement of safety requirements imposed on the transport sector. The independence and impartiality of all safety investigators need to be assured. Appropriate measures shall apply to the accident investigation authority’s workforce.”

The second source was an enlightening contribution from Professor Dietmar Otte (Medical University of Hannover, Germany) who, during his meeting with the RO-SAT WG, linked the independence of an investigator (individual or organisation) to the following:

- Freedom to DECIDE WHAT to investigate.
- Freedom to CHOOSE HOW to investigate.
- Freedom to PUBLISH THE RESULTS of the investigations.

The third definition of independence was provided by Mr. Gilles Vallet (INRETS, France) who, during his meeting with the RO-SAT WG, presented the framework used by the SafetyNet⁸ Integrated Project Working Package 4 “Independent Accident Investigations”. The main objective of SafetyNet Working Package 4 “Independent Accident Investigation” is to elaborate guidelines for a good practice with the aim to ensure independence in terms of data quality and also in terms of the output of these databases. This framework differentiated between:

- a) Structural independence (independence from authorities and protection from a clear legal status).
- b) Financial independence (to conduct investigations).
- c) Functional independence (liberty to investigate, access to evidence and witnesses, publication on findings...).

Anyhow, a problem probably remains to be solved: how to guarantee the competence of accident investigator. In this respect, some kind of assurance control of the investigation process and its results would need to be put in place and, in extreme cases, it should be possible even to reject a judgment or reassigning the investigation to another investigator. This quality assurance system, on the other side, should not be so strict or threatening so as to inhibit investigators to fulfil their duties in an effective way and in a productive environment. It is still unclear who should take this controlling task over.

⁸ www.safetynet.swov.nl

Furthermore there is a need for clarification concerning: the rights of disposal on generated investigation data. How confidential material are being handled and processed, still allowing for quality control? Moreover, data dissemination and publication needs to be organized in a legally sound way.

Conclusion:	The RO-SAT Working group understands the notion of independence as “the structural (separation from authorities and clear legal status) and financial (yearly stability of funds) ability to decide what and how to investigate, and to publish the results of the investigations”.
-------------	---

2.6 The relationship between judicial and technical investigations: The UK MoU

While judicial investigations are necessary to allocate blame, guilt or liability (and also help imposing penalties that act as a deterrence of the repetition of crimes and unsafe acts), they are not the most effective way to prevent accidents from happening again given the logical reluctance of witnesses and other involved parties to disclose at types of information. The objective of judicial investigations, on the other side, is not to propose measures to prevent the reoccurrence of accidents.

When the confidentiality of witness testimonies and other types of evidence is guaranteed in the framework of independent technical investigations, the accident investigator may have access to deeper or broader information that otherwise would have happened in a judicial investigation. The objective of the independent investigation is, in this case, to discover failures or gaps in the safety system and to correct them in order to prevent accident.

Therefore, none of the types of investigations can completely substitute the other one, and therefore they both must coexist. The relation between the two types of investigations, judicial and independent, is not always easy, since their objectives can be divergent and rather frequently they need to share the same “investigation space and evidences”.

A clear example of a substantial step forward is offered by the recently signed (in September 2005) Memorandum of Understanding (MoU) between the Crown Prosecution Service and the Air Accidents Investigation Branch, Marine Accident Investigation Branch, and Rail Accident Investigation Branch in the UK. The aim of this MoU is “to ensure effective investigations and decision making processes while maintaining the independence of all parties and reinforcing the role of the accident investigation branches as the guardians of public safety when investigation transport accidents”.

The UK MoU set the basic principles of co-operation and the roles and responsibilities of both the crown Prosecution Service and the accident investigation branches. It also covers the sharing of evidence and information, the destructive testing of evidence and the action prior to the publication of reports from the accident investigations branches.

The basic principles of co-operation between the UK accident investigation boards and the CPS are detailed in the MoU and are as follows:

- All evidence and information, except where there are specific legal bars, can be disclosed between the accident investigation boards and the Crown Prosecution Service.
- The public interest requires that safety considerations are of paramount importance, the consequence of which may mean that the interests of an accident investigation board investigation have to take precedence over the criminal investigation.
- Accident investigation boards will provide a pre-publication copy of the finalised report to the Crown Prosecution Service if it is made aware of a Crown Prosecution Service interest. The

Crown Prosecution Service may make comments to the accident investigation board about the report before publication.

- The ability of witnesses to talk openly to an accident investigator is fundamental to the operation of the accident investigation boards.

The practical impact of the MoU in the UK is that the AIB's will have the lead in all transport accident investigations except those where there is early and clear evidence of serious criminality (Sabotage etc.) In those relatively rare cases the Police will take the lead in the subsequent investigation for the CPS.

Another practical example of a basic legislation setting the fundamentals of in-depth road accident investigation can be found in the Finnish "Act on the Investigation of Road and Cross-Country Traffic Accidents" of 2001⁹. The Act states that "all investigation shall be conducted in cooperation with the police conducting preliminary investigation or investigation into the cause of death as part of the same case, to the extent deemed appropriate for the investigation of the road accident."

Recommendation: The RO-SAT Working Group acknowledges the substantial progress achieved both in Finland and in the UK, and suggests them as models for the road transport sector as well as for other countries.

2.7 Advantages of independent in-depth safety investigations

The types of accident investigations discussed so far (statistical information, police investigations and road authorities investigations) are not enough to provide a detailed insight into the causes and preventive measures of road accidents:

- For instance, statistical data are very weak when it comes to analyse the causes of accidents in a technical way or when the focus is on prevention as well as to develop any improvement measures.
- With regard to police investigation, additional sources and information are usually not available for prevention or safety investigations due to protection of data privacy; in general terms. Although the procedure of data collection by the police is sufficient for general aspects of safety work and prevention regarding a great sample of accidents, for in-depth-analysis and specific investigations the police-reported data are often not suitable and have to be supplemented. The fact that testimonies and evidence collected by the police may be used for blame or liability allocation reduces the chances that all the information needed to understand the complex causation processes (knowledge that is required to design effective accident prevention measures) is shared with the police investigators.
- In connection with investigations performed by road authorities, it could be argued that the road authorities may in some instance suffer from different types of restrictions: budgetary and staffing restrictions, conflicting interests and (lack of) measures, focus on road features instead of a more holistic approach, etcetera.

Finally, the investigations conducted by private organizations (like investigations conducted by insurance companies) without some kind of public overseeing have also limitations when it comes to

⁹ Act on the investigation of road and cross-country traffic accidents. No. 24/2001. Enacted in Helsinki on 19 January 2001

accessing accident data. Also, the interests of private entities may be complex and do not include other aspects in addition to the prevention of the occurrence of accidents.

On the other hand, independent (as defined in the previous sections) in-depth accident investigations are able to solve most of the above mentioned limitations:

- The only objective is the prevention of accidents and not to impose sanctions or penalties.
- Investigating teams are highly professionalised.
- Investigating teams may call in additional external expertise when so required.
- Access to information benefits from the protection of witness testimony and other types of evidence.
- Investigations may be conducted with as much depth as needed, calling in additional resources if necessary.
- Since there is no connection with regulators, independent accident investigators may freely analyse the regulatory framework, and issue modifications recommendations when deemed necessary to improve safety.

As the following graph shows, independent investigations are complementary to other types of accident investigation activities (like police or administrative investigations) and benefit from a unique position to issue recommendations for accident prevention:

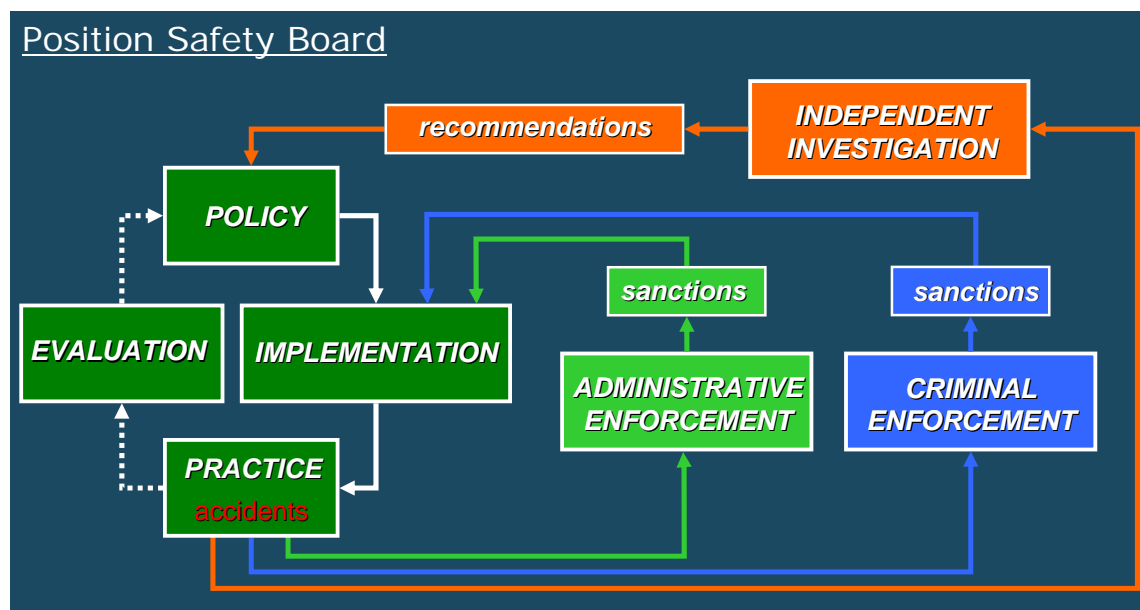


Figure 1. Prime position of the independent investigations for issuing safety recommendations (Drawing courtesy of The Dutch Safety Board)

Anyway, and while situated in a better position, independent in-depth accident investigations may still, share some of the limits or disadvantages of intermediate level investigations (these limits and disadvantages have been pointed out in section 2.3). However, if the in-depth investigation bodies are established by law and provided with sufficient budgets most of the disadvantages may be avoidable. The scope of the investigations should always consider all boundary conditions, for instance when deciding on the geographical or temporal distribution of resources and activities. When selecting those accidents to be investigated, the issue of representativeness has to be carefully evaluated, as well as possible transfer of conclusions or recommendation to the general accident picture.

Recommendation: Continuous road accident in-depth investigations should be conducted in each of the Member States, due to the large volume of road traffic and road traffic accidents as a complement of basic (statistical) data collection and other intermediate level investigations (such as the one conducted by road authorities or police agencies in some countries). These in-depth investigations should consider investigating not only casualty or fatality crashes but also consider investigating material damage only crashes and repeated incident sites, since they frequently represent indicators of the likelihood of the occurrence of future (more serious) crashes. In-depth investigation should contribute to the definition of priorities and to the identification of feasible and cost-efficient countermeasures

The RO-SAT Working Group also concluded that, in order to maximize their usefulness, in-depth investigations should be performed by independent bodies and according to a comparable set of minimum common data

In addition to the above described permanent monitoring system, the RO-SAT Working Group also agreed on the need of conducting special (also in-depth level, but according to ad-hoc methodologies when necessary) safety investigations of the following kinds of road traffic accidents: accidents with a large number of casualties and accidents with a considerable learning potential.

3. INDEPENDENT IN-DEPTH AND SPECIAL ROAD ACCIDENT INVESTIGATIONS AT NATIONAL LEVEL

This section of the report presents different national approaches to independent in-depth road accident investigations. The examples come from Finland, France, Germany, Norway, Sweden, The Netherlands and the United Kingdom. This information has been collected by the RO-SAT Working Group by means of hearings held with experts from the corresponding countries.

3.1 The Swedish approach

This section summarizes the presentation given by Mr. Lars Bergfalk (Swedish Road Traffic Inspectorate, Borlänge, Sweden) to the RO-SAT Working Group and subsequent discussions during the 15th September 2005 meeting in Brussels.

3.1.1 Levels of investigations in Sweden

Besides the basic – statistical level – registration of data about all police reported accidents. There are three levels of in-depth studies:

- Independent investigations initiated and performed by the Swedish Accident Investigation Board (SAIB). Fatal accidents with more than 5 victims or with principal system problems involved and all transport modes are covered.
- OLA-studies of facts, solutions and intentions for preventive measures. These cases are selected among fatal accidents by staff members of the Swedish National Road Administration (SNRA) together with Regional Road Administration (RRA) offices, and the studies are decided by the Director General of SNRA together with the Director of the region in question.
- In-depth studies of all fatal accidents initiated and performed by staff members of the Regional Road Administration offices according to the ordinance with instructions to SNRA.

3.1.2 Description of in-depth accident investigations

Level 1: The Swedish Accident Investigation Board is a true independent organisation, with a budget of its own and the possibility to ask for special grants in certain situations. It consists of a group of law-schooled experts for all the transport modes, who takes the lead in the investigation team set up for each occasion. Technical expertise is selected from a group of independent experts, some of which are closer (or permanently) connected to SAIB. The number of accidents investigated each year in the road area has only been 2-3 but the ambition is to increase this somewhat due to the public interest in accidents with high impact on the society. Recommendations are issued in each case and are followed-up by SAIB as well as the Swedish Road Traffic Inspectorate (SRTI).

Level 2: The OLA-studies are performed by ad-hoc groups of experts from different disciplines and repre-senting different stakeholders, sometimes also including the vehicle industry. The aim is to make the stakeholders to take their part of the responsibility for a road safety problem and take effective countermeasures within their area of responsibility. The process is based on the in-depth studies but also on other valid information. OLA-studies can be accomplished on both national and regional level. On the national level a cluster of accidents which reflects a certain road safety prob-lem is chosen. National stakeholders are invited to

discuss the problem and possible countermeasures. From these discussions each stakeholder makes a commitment to carry out countermeasures. These commitments can be followed up by SRTI. The process on the regional level is similar with the exception that one fatal accident is discussed and that only regional stakeholders are invited. About 3-5 national and 40-45 regional OLA-studies are carried out each year.

Level 3: A local expert team from the Regional Road Administration office performs the in-depth study of each fatal accident. All together 25 people do about 450 such studies each year, financed by SNRA. Recommendations are normally issued. Routines for the evaluation of quality and objectivity of the in-depth study work are under development at SRTI.

3.1.3 General remarks regarding independence, need for improvements, etc. (evaluation)

Level 1: Even though this kind of investigation can be said to be “independent” it must be emphasised that this is from the jurisdictional point of view. For the moment no distinction can be made between the formal responsibility and the true causes of the accident. This is identified as a problem in the process of learning from accidents since the source of information cannot be protected due to Swedish law. The question has been raised whether changes could be made to open up for a solution.

Level 2: In this kind of investigation no one claims that it is completely independent. The cases are chosen by SNRA, the studies are lead by and financed by SNRA. However, since the choice of team members in the individual cases is quite open for other stakeholders, one could say that it is “good enough”. The outcome is reported and accessible to external experts. Also the follow-up performed by the Swedish Road Traffic Inspectorate guarantees that inconvenient facts are not hidden. This could be seen as a Quality Assurance system for the learning process. It should though be mentioned that the SRTI and the SNRA Director Generals respectively both report to the same Board. This is a weak point, which could be a drawback in critical cases. However, that does not mean that the outcome in general is questionable.

Level 3: These in-depth studies are performed solely (or mainly) by Regional Road Administration personnel. Due to the very high number of investigations performed it would be impracticable or even impossible to invite external experts in all these cases. However, since these reports are important basic input to “Level 2” OLA studies, it is of high importance to secure the process for how they are conducted. This is now on the way.

3.2 The German GIDAS example

This section summarizes the presentation given by Prof. Dietmar Otte (MUH, Hannover, Germany) to the RO-SAT Working Group and subsequent discussions during its meeting of 15th September 2005 in Brussels.

3.2.1 Highlighted elements of the GIDAS project in Germany

- The “GIDAS” project (German In-Depth Accident Study) is jointly financed by the German Government and Automotive industry. The budget is approx. 1 Mio Euro per year for the total cost in each of the two project-areas. The investigated regions are the Hanover area as well as the Dresden area.

- About 1000 accidents are selected random wise in each area Hannover and Dresden which should be representative for the region of interest. Comparisons are run in order to proof that the accident structure really follows representa-tive criteria. More than 25 statistical weighting factors are introduced in order to improve representativeness. This leads to the situation that approximately each sixth serious accident within the investigation regions is recorded. In detail, 95% of all fatal accidents, 75% of all accidents with serious injuries and 45% of all accidents with light injuries are recorded. The German Highway Research Institute (BAST) studied whether in total representative conditions are given for Germany (literature Pfeiffer et al ESAR 2004).
- Recording period is all day and night in 3 shifts. Within each shift approximately 3 to 5 accidents are recorded. The coordinator remains at the central station and allocates the accidents to the team. The interdisciplinary team consists of 3 member-persons (technician, medical doctor), who are driving to the adequate accident location. Further statements describing the accidents are investigated later on by e.g. surveys and hospital examinations. Here, approximately 10 persons are involved, a specialist for reconstruction determines the impact speed and accident severity values like delta-v, EES. After half a year the accident data are entirely completed.
- The project team in Hanover is financed directly by BAST (public funding) and feel more or less independent according the statement of Prof. Otte. The team in Dresden is financed by the research association of the German automotive industry (FAT). A steering group which consists of the financing parties as well as the German Highway Research Institute and the project group itself is determining what kind of data are investigated and who receives what kind of data. Data are also often used to be published in connection with scientific purposes (MSc papers, PhD papers). In general, data will only be granted to external users by charging costs (however, exceptions are possible).
- It is argued that independency of the whole project performance and the data itself relies on the ability of the research teams in connection with the proposal of research questions and publishing of results. Independency means accepting the unrestricted possibility of publishing results. How-ever, data access can be limited for example by charging costs or agreement by the government and automotive industry.

3.2.2 *Comments on the GIDAS project*

Real independence would call for some very important points, e.g. the possibility to focus on particular points of interest while selecting accidents as well as determining the amount and the specifications of data. So far as research work depends on external financing and the sponsors' willingness to pay there is a more or less strong relationship to the financing counterparts. Also activities based on public funding are not legally protected. Finally, also the independence regarding publication is not guaranteed if the results are against the interests of the contractor. In case of Hannover financed by the government the restrictions are only few.

3.3 The UK system

This section summarizes the presentation given by Prof. Pete Thomas (University of Loughborough, UK) to the RO-SAT Working Group and subsequent discussions during its meeting of 15th September 2005 in Brussels.

3.3.1 Multi-layered accident data collection system in the UK

The current accident data collection system in the UK is a multi-layered approach currently made of the following layers: STATS19, Co-operative Crash Injury Study (CCIS), On The Spot Study, Fatal Accident Investigations and the Truck/Bus Crash Injury Study.

Basic statistical details are collected by the police officers using the STATS19 forms. Statistical data are processed by local authorities. Data can be enhanced using data linkage principles, as for instance vehicle registration information.

In-depth accident investigations have a long tradition in the UK. The Co-operative Crash Injury Study (CCIS) is now in its seventh-phase and has been running for 22 years. Its funding is mixed: public (Department for Transport) and private (Ford, Autoliv, Toyota, Nissan, Visteon, Renault and Citroën). It consists in retrospective crash examinations, completed with hospital and coroners re-ports. CCIS assesses vehicle crashworthiness and injury causation and the results are used for new product specifications and consumer crash testing. CCIS crash investigation teams are based at Loughborough and Birmingham Universities, as well as in the Vehicle Inspectorate Executive Agency. The On-The-Spot (OTS) study is funded by the Department of Transport and investigates vehicle, road and human factors in accident causation in direct support of UK casualty reduction target. OTS covers all road user types. Special public-private arrangements facilitate reaching the scene of the accident within typically 10 minutes. OTS is now in its fifth year and there are currently two crash investigators teams (VSRC in Loughborough University and TRL).

The Truck Crash Injury Study (running for about six years), the Special Accident Investigations (covering any crash of interest and triggered by the Department for Transport) and EU research projects (PENDANT, SAFETYNET...) complete the accident investigation scene in the UK.

Specific to the UK (or at least not present in all countries) are the Trauma Audit Research Network and the Police Fatal Accident Investigations. The Trauma Audit Research Network is a process developed within the medical system to audit “success rate” of emergency departments; the system records injuries and treatment data coded by specialists in each hospital. The Police Fatal Accident Investigations are conducted by specialist crash investigators, who initially treat each fatal accident as a murder; the investigation process is “independent” and used for judicial purposes. Police fatal accident files are normally destroyed after five years, although a copy is now being sent to and indexed in a central location.

3.3.2 Comments on the UK road accident data collection and investigation system

A multi-layered crash investigation and data collection system with a remarkable permanence in time. Cooperation programmes successfully implemented: several universities and research centres, public authorities and private companies funding the project...

3.4 National Road Accident Investigation Boards (the French Bureau example)

This section summarizes the presentation given by Ms. Yves Bonduelle (BEA-TT, France) to the RO-SAT Working Group and subsequent discussions during its meeting of 16th September 2005 in Brussels.

3.4.1 The multi-layered accident data collection system in France and the role of the Surface Transport Accident Board

Basic (statistical) data collection in France is coordinated by the National Road Safety Observatory (ONISR - <http://www.securiteroutiere.equipement.gouv.fr/observatoire/>), which is part of the Ministry of Equipment and Transports. Statistical data are collected by the different police agencies from all road accidents involving at least one injured person.

Intermediate and in-depth accident investigations are conducted in France by different organizations. The local prefect may decide on conducting intermediate investigations at the local level (EPCA, ex REAGIR investigation programme). EPCA has no nation-wide cooperation and its usefulness has been rather limited since sometimes EPCA may not be a purely technical/professional investigation.

The Institut National de Recherche sur les Transports et leur Sécurité (INRETS – www.inrets.fr) also conducts in-depth road accident investigations mainly for research purposes. INRETS' Department of Accident Mechanisms (MA) deals with in depth analysis of the mechanisms at the origin of accidents. INRETS' Epidemiological Research and Surveillance Unit in Transport, Occupation and Environment (UMRESTTE) conducts specific studies focussed on pedestrians and car occupants. While INRETS contributes to enhance road safety, the purpose of the investigations is not to determine the circumstances, the causes or probable causes and the issuing of safety recommendations destined to improve transport safety. MA maintains a database of over 500 in-depth accident investigations and introduces to the base some 50 new cases per year. The case selection is dependent on the laboratory's study orientations: urban accidents, elderly people, accidents related to work and so forth. UMRESTTE works on the Rhône Register, which incorporates all road accident victims with physical injury in the Rhône département (1,5 million inhabitants) since 1995 and the study is more oriented toward injury mechanisms and injury consequences. In total, around 1.000 cases are investigated in France every year at intermediate or in-depth level.

Most of the hearing concentrated on the recently created Bureau d'Enquêtes sur les Accidents de Transport Terrestre (BEA-TT). The Decree of 26 January 2004, published pursuant to the "Mont Blanc Tunnel" Act (Act of 3 January 2002 relating to the safety of transport infrastructures and systems, to technical investigations following maritime events, land or air accidents or incidents, and to the underground storage of natural gases, hydrocarbons and chemicals. of 3 January 2002), officially founded the BEA-TT. This agency is now the organisation dealing with all technical investigations for land transport, along side its seniors the BEAAir dealing with aeronautics accidents and the BEAmer with maritime accidents. The BEA-TT is a body with competency over the whole of France and is lodged with the Conseil Général des Ponts et Chaussées - CGPC. From the beginning, it was granted financial means to discharge its missions and ensure its independence. In 2004, it was authorised a staff of 10 people. Except for the railways accidents, where the BEA-TT director decides directly on the opening of a technical investigation (as laid down by EEC Directive 2002/49), the decision to launch a technical investigation comes from the Minister for Transport, although it usually follows recommendations from the BEA-TT. Around 30 cases (all transport modes) are being investigated every year by the BEA-TT. Final reports are published on the Internet and recommendations followed-up.

3.4.2 Comments on the French Surface Transport Accident Board

All French transport accident investigations are administratively located under the Ministry of Equipment and Transports. As far as the BEA-TT is concerned, independence is attempted to be guaranteed by the appointment of public servants with long experience and at the top of the administrative carrier.

All modes of transport are currently covered in France by the existing three Bureaus d'Enquêtes sur les Accidents (BEA): BEA-Air, BEA-Sea and BEA-Transport Terrestre (BEA-TT). BEA-TT in-

investigates accidents with involvement of trains, trams, metros, skylifts, inland waterways and road. However, there is no multi-modal agency dealing simultaneously with accidents in different modes.

3.5 The Finnish case

The road accident data collection system in Finland is also based on a multi-layered approach including: basic or statistical data gathering, intermediate level investigations conducted by the police, in-depth technical investigations performed by the Accident Investigation Unit of the Finnish Motor Insurers' Centre (VALT¹⁰) and investigations launched by the Accident Investigation Board.

Collection and analysis of basic data for all victim accidents is routinely performed by the police, Statistics Finland, the Road Administration and insurance companies. In addition to providing the basic information to be included in the statistical forms, the police investigators, who are in charge of the majority of the field work, also elaborate intermediate level reports.

Of particular interest for the RO-SAT Working Group is the in-depth investigations performed by VALT, the Finnish Motor Insurers' Centre (Accident Investigation Unit). This accident investigation programme is under the control of the Road Accident Investigation Delegation set up by the Ministry of Transport and Communications and benefits from the necessary legal coverage as defined in the "Act No. 24/2001 on the investigation of road and cross-country traffic accidents". The Act establishes the duty of secrecy (all data disclosed in the investigation shall be governed by what is specifically provided about confidentiality of data) and the right of the road accident investigation team members to evidence and health information.

VALT performs in-depth accident investigations of all fatal accidents and a selection of non-fatal accidents. A multidisciplinary team, usually chaired by a police officer is in charge of the approximately 450 investigations performed every year; there are teams distributed across all parts of the country (covering 20 different areas and involving 8 full time investigations and around 300 part-time team members). Special questionnaires for different disciplines (vehicles, road, persons, health...) are used for the collection of data. Every investigation produces a brief report; the individual reports are not public, although VALT disseminates the findings through a year book, articles and press releases about trends...

Remark:	When a police officer is part of the in-depth investigation team, provisions should be articulated so that the independence of the investigation is always guaranteed. For instance, in some countries a police officer may always be obliged to inform the court in case he or she believes a law violation has been made, and this could preclude the independence of the entire investigation.
---------	---

Finland has also set up a multi-modal Accident Investigation Board¹¹, located under the Ministry of Justice, to investigate accidents in aviation, railways and maritime sectors. The Accident Investigation Board also investigates road accidents of special importance, either because of their seriousness or because their specific nature. In case of a major accident the formal decision is made by the government, but in the case of other less severe cases the decision is taken by the Board itself. In the majority of the cases, the investigation is automatically launched as soon as the occurrence of the accident is known. The Finnish Board investigates single cases but also sets of accidents of similar

¹⁰ www.valt.fi

¹¹ www.onnettomuustutkinta.fi

nature. An investigation commission is appointed separately for every single case; the commission includes members and experts as needed in every case. When necessary, road accidents are investigated in coordination with the police authority. Investigations launched by the Accident Investigation Board has precedence over those performed by the Finnish Motor Insurer's Centre. The Board investigates between one and three road accident cases every year and allocates to this area of activity one full-time investigator and between 3 and 10 part-time employees. A full report is written on every case investigated by the Board. In the case of the Finnish Accident Investigation Board, all accident reports and press releases are published both in hard copies and through internet.

3.6 The Dutch Safety Board

This section summarizes the presentations given by The Dutch Safety Board (OVV) to the RO-SAT Working Group and subsequent discussions during its joint meeting with representatives from the board, The Hague, the 21st December 2005.

3.6.1 The Dutch Safety Board – a multi-modal approach with a broad range of powers

The Dutch Safety Board, reached its current shape in February 2005, replacing:

- The Dutch Transport Safety Board (RvTV)
- The Temporary Accident Investigation Committee of the Ministry of Defence (TCOD)
- Ad hoc committees (for special calamities)

The Dutch Safety Board is a statutorily established autonomous agency responsible for the independent and integral investigation of the causes and possible consequences of disasters, serious accidents and incidents in a broad range of sectors. The Board:

- conducts investigation of crisis management and disaster control
- identifies the learning points resulting from the investigations;
- issues recommendations to responsible organizations aimed at improving public safety;
- and monitors the implementation of recommendations.

The goal is to learn as much as possible from the investigated accidents and incidents so that measures can be taken to prevent accident or, when this is not possible, to mitigate their effects. The Dutch Safety Board is autonomous and has no links with legal and damage procedures.

Specific operational sectors of the Safety Board are or shall be:

- transport (aviation, shipping, rail, road, pipelines)
- defence (army, navy, air force)
- industry + trade, including industrial mining and nuclear accidents
- crisis management and aid provision (including aftercare)
- healthcare, including food + epidemics (humans + animals)
- nature and environment, including flooding, extreme weather, earthquakes, environmental pollution
- large-scale fires and explosions

The Dutch Safety Board is steered by a Board with five permanent members. For specialist knowledge, the Board members can enlist the assistance of special Board members organised in Sector Committees for each of the sectors (not all sectors are operational yet). At the moment, around 75 people are part time engaged in these committees. The Board is assisted by a professional bureau

consisting of several departments staffed by 50 fulltime employees. The heads of these departments together with the General Secretary of the Safety Board compose the management team of the bureau.

3.6.2 Philosophy, powers, selection criterias and reports of the Dutch Safety Board

The philosophy of the Board is NOT to replace but to enhance the responsibility of the organisations involved with regard to good safety management (adequate safety policy, effective enforcement of safety regulations, good registration / evaluation of accidents and near accidents...).

The Dutch Safety Board has broad investigation powers with respect to:

- access to event sites / objects
- freezing situations, confiscating objects, ordering and accesing post-mortem examination
- obligatory information supply (no extenuation)
- hearing on oath, analysis of cockpit voice recorder

Information and findings are shielded from legal, administrative and discipline investigations.

The Board uses the following criterias for the selection of cases to investigate:

- it is currently obligatory to investigate civil and military aviation accidents, as weel as serious accidents with dangerous goods (subject to international regulations). In the near future it will also be obligatory to investigation rail accidents and maritime navigation accidentes
- when there is (a suspicion of) a structural safety deficit
- when the investigation by the Board may offer other types of added value, such as the need to disclose the truth (especially in case of social unrest), or when safety issues are not well known / recognised, or when valuable recommendations can be formulated.

Of particular interest are accidents with many victims, that cause social unrest and therefore high media news coverage.

Following the investigation, the Board publishes an investigation report that has previously been verified by the involved parties. This report generally offers recommendations for measures to be taken in order to improve the safety situation. The recommendations are addressed to organisations bearing responsibility and having the capacity to implement measures. Aside from responsible ministers, the recommendations can thus also be addressed to other parties such as governance bodies, business corporations and community entities. Organisations to which the recommendations are addressed have a maximum period of one year in which to report how they intend to respond to the recommendations and what measures they may or will take.

3.7 Road accident investigations in Norway

Also the Norwegian system for road accident data collection is multi-layered, like the systems of other countries earlier described:

On the basic and the intermediate level statistical data is gathered by the Norwegian Public Road Administration (NPRA) and Statistics Norway (SSB) based on on-site investigations conducted by the police, in specific cases supported by engineers from NPRA. Almost all injury accidents, approximately 9000 a year with around 12000 injured persons are included in this collection of accident data. The information is collected in the accident database "STRAKS".

NPRA, in addition to this collection, performs in-depth studies in all fatal accidents (according to a decision of the General Secretary), representing about 250 investigations per year. This work started in 2005 by organising specific accident investigation teams in NPRA. They will compile yearly reports with conclusions from groups of similar cases, comparable to the Swedish OLA studies. In-depth technical safety investigations are also performed by NPRA, as just mentioned, in direct co-operation with the police authorities. A police officer is always in charge of these investigations on the site (regulated in “Vegtrafikkloven” §12).

Independent in-depth investigations are since the 1st of September 2005 performed by the Accident Investigation Board Norway (AIBN) in about 10-15 cases a year. AIBN is an independent multimodal organisation with aviation, rail and road sections. In 2007 (or 2008 at the latest) it will also establish a maritime section. The work force is about 30 people totally, of whom 4 persons work in the road section. The selection process of accidents to be investigated by the AIBN is regulated in separate law and rules, but “serious” and fatal accidents with commercial transport and heavy vehicles are normally investigated. To secure independency, the investigation performed by AIBN is separated from the police investigation, but they cooperate often with the police at the accident site, collecting and documenting the factual situation. AIBN produce separate reports which are independent from the ones prepared by the Police and NPRA. AIBN is organised under and financed by the Ministry of Transport and Communication. Safety recommendations resulting from the investigation conducted by AIBN are delivered directly to the Ministry of Transport and Communication. From that moment on, the Ministry of Transport and Communication is responsible for the follow up process. Each investigation made by AIBN is made publicly available within 12 months from the start, and the reports are also published at the website “www.aibn.no”.

3.8 Different answers to the same question

There are different ways of organizing a system for road accident investigations and different answers can be offered to the following question: how are you learning from accidents? Or, how is country X learning from traffic accidents? By collecting statistics only is not enough. By police or other intermediate-level investigations is not enough. In-depth independent multidisciplinary investigations should be a core ingredient of road traffic safety policies.

The combination of the national accident investigation initiatives reviewed in this report would yield the following:

1. Highly specialized police departments in charge of fatal or very serious accident investigations (as in the case of the UK).
2. A long term in-depth accident investigation programme (such as CCIS in the UK, or GIDAS in Germany) looking into a nationwide representative sample of accidents or into the whole population of fatal crashes (as in the case of SNRA in Sweden).
3. A Road Traffic Inspectorate acting as a Quality Assurance System, overseeing all types of crash investigations and monitoring the implementation of road safety measures (such as the Swedish Road Traffic Inspectorate).
4. An independent accident investigation bureau focusing on special accident investigations (such as the French BEA-TT).

5. A body coordinating or covering the work of different accident investigation bureau or branches (such as The Dutch Safety Board).

When it comes to investigating severe accidents, i. e. accidents of public interest due to the number of people killed or other severe consequences, this has to be done with strict independence which can not be questioned by the community. This can only be done by an independent organisation. Now, should such an organisation deal only with road accidents or with all kinds of transport accidents?

In the Netherlands the latter approach was taken many years ago (like the NTSB in the United States) but has now been expanded even further to include all kinds of accidents. This gives good opportunities to transfer know-how from one area to another but also guarantee that mixed mode accidents can be dealt with without delay and concerns who should take the lead.

As a final remark, the RO-SAT Working Group wishes to emphasize that the examples presented in this sections should be regarded as “best practices” across Europe, and that the quality of independent road accident investigations varies tremendously in the different countries of the European Union. While some countries have well developed structures to independently investigate traffic accident and obtain valuable lessons, other countries may not even have the basic framework for conducting in-depth independent road crash investigations.

Conclusion:	In any case, it should be clear that the final objective is to investigate serious accident in ALL transport sectors. Whether an individual country decides to combine forces in a single multi-modal organization or to maintain separate accident investigation branches for different modes is a decision that has to be adopted after considering the available resources and the existence of previous single modal organizations.
-------------	---

4. INDEPENDENT IN-DEPTH AND SPECIAL ROAD ACCIDENT INVESTIGATIONS AT EU LEVEL

This section of the report briefly reviews the current road accident investigation framework at EU-level and includes a series of recommendations and conclusions from the RO-SAT Working Group. The information is based both on existing European Commission documents and on contributions from the RO-SAT Working Group members.

4.1 A look at the current situation at EU level

4.1.1 The CARE database

CARE is a Community database on road accidents resulting in death or injury (no statistics on damage - only accidents). The major difference between CARE and most other existing international databases is the high level of disaggregation, i.e. CARE comprises detailed data on individual accidents as collected by the Member States. This structure allows for maximum flexibility and potential with regard to analysing the information contained in the system and opens up a whole set of possibilities in the field of accident analysis.

The purpose of CARE is to provide a powerful tool which would make it possible to identify and quantify road safety problems throughout the European roads, evaluate the efficiency of road safety measures, determine the relevance of Community actions and facilitate the exchange of experience in this field.

Since 1984 a large number of measures to reduce road accidents have been taken at the Community level. Along with these measures, the Council decided on 30 November 1993 the creation of a Community database on road accidents¹².

It was commonly agreed that such a database at the Community level (CARE - Community database on Accidents on the Roads in Europe) would make it possible to identify and quantify road safety problems, evaluate the efficiency of road safety measures, determine the relevance of Community actions and facilitate the exchange of experience in this field.

Instead of entering into a lengthy process of defining and adopting a new standardised structure and recognising that this would require considerable changes for the national administrations (such as the harmonisation of accident reports, definitions and collection methodologies) it has been decided that the national data sets should be integrated into the CARE database in their original national structure and definitions, with confidential data blanked out. Subsequently, the Commission provided a framework of transformation rules so that CARE provides compatible data. The process of improving "homogenisation" of accident data within CARE and the process of developing it - in particular with the inclusion of data from the Countries of last enlargement, Switzerland and Norway - are underway.

The last phase of the project (1999 - today) concerns the full operation of the system. Today, the Governmental Agencies and the European Commission can exploit a user-friendly interface to produce detailed multi-dimension reports.

¹² Council Decision 93/704/EC, Oj No L329 of 30.12.1993, pp. 63-65

For the time being, access to the CARE database is restricted and limited to three institutions in each of the Member States.

Today, the only system comparable to CARE database is the FARS system (Fatality Analysis & Reporting System) operational since the 70s' at Federal level of the United States of America. Accident database queries are freely accessible through the Internet, as in the case of <http://www-fars.nhtsa.dot.gov/>.

Recommendation: To open access to the CARE database to researchers and traffic safety professionals, following the example of the web-based query tool of the US Fatality Analysis Reporting System (FARS).

4.1.2 Performance indicators

Performance indicators are a powerful means to help formulating road safety policies. Many Countries have set up such indicators and Work Package 3 of the SafetyNet project (see below section 4.2) is currently reviewing the situation (state of the art), setting up harmonised indicators and formulating recommendations for a continuous, EU-harmonised process.

Seven indicators are under investigation within SafetyNet: speeding, driving under influence, protective equipment, vehicle, road infrastructure, day time running lights, rescue services.

While most current indicators are based on a sampling survey (e.g. monitoring of speeds) independent investigations can contribute to provide another set of indicators – based on real accidents. Both sets of values may not be equivalent (e.g. the fact that 10% of vehicles are speeding does not imply that 10% of casual accidents are due to speeding), but it would be fruitful to confront them and try to understand the actual contribution of various values to road safety.

Recommendation: Independent investigations should be utilized to evaluate the contribution of any given performance indicator to the overall road safety situation.

4.1.3 Pilot accident investigation projects at EU-level

Several EU-funded projects include the in depth analysis of various samples of accidents, most of the time (but not always) focusing on accident causation, and several very detailed data bases are being, or have been, set up. E.g. MAIDS (powered two wheelers), ETAC (trucks), PENDANT (trauma), SafetyNet work package 5 (focus on active safety).

All these projects can be regarded as pilot actions which should be later implemented on a regular basis at EU-level. To this end, independent investigations can provide a full set of in-depth data bases of various types if samples are carefully chosen.

Recommendation: Independent investigations should be conducted according to protocols standardized as far as possible across Europe but, at the same time, these protocols should be versatile enough to provide input on a regular basis to various sets of in-depth databases

4.2 *The SafetyNet project*

SAFETYNET (“*the European Road Safety Observatory – an information system to support road safety policy in Europe*”) is an ongoing Integrated Project (6th Framework Research Programme) aiming at helping the EC in defining the future European Road Safety Observatory (the EC expressed the demand for a "Road Safety Observatory" in its 2001 White Paper and other public documents). The objectives and work packages of this project are:

1. Further enhancement and exploitation of Care including extension to the 10 new member states;
2. A new methodology to gather risk/exposure data and integrate it to datasets;
3. The design and implementation of a Europe-wide network for periodical measurements of Safety Performance Indicators;
4. Recommendations for independent road accident investigation;
5. A new fatal accident database at intermediate level and an in-depth accident causation database
6. Provision of a Safety Information System as a gateway for the complete set of information gathered
7. Validation and analysis of the data

Once established, the Observatory will coordinate all Community activities in the fields of road accident and injury data collection and analysis. Accommodating the CARE information system, it will be the focus in the EU for the exchange of information on best practice and, ultimately, organise and manage Community best practice guidelines. It could also take on the task of improving the dissemination of the findings of road-safety research projects funded by the EU and those carried out under other programmes, and ensure the dissemination of information.

The RO-SAT working group considers this project as a basic tool for future European Road Safety Policy, welcomes the inclusion of several working packages on in-depth accident investigations and recommends:

Recommendations: The continuation of Europeanwide-coordinated in-depth accident investigations after the completion of the SAFETYNET project as a central part of the future European Road Safety Observatory and of the European road safety policy.

To explore the possibility (for instance by means of a call for expression of interests) of adding more contents to this Observatory on top of those already being developed by the SAFETYNET project (like a permanent road safety measure best-practice exchange mechanism, the promotion of a yearly or biyearly European Road Safety Conference, dissemination activities...).

4.3 **Basic EU legislation on independent transport accident investigations**

The investigation of accident investigation in covered by European or international legislation in the following transport modes: aviation, railways and maritime. The main reason for having enacted legislation covering these three modes is the high potential of a large number of casualties should an accident happen in aviation, railways and the sea, and the high degree of regulations covering transport operations and equipment approval. The following pieces of legislation cover the various transport modes:

- Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents
- Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation
- Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)
- IMO Assembly Resolution A.849 (2.0). Code for the Investigation of Marine Casualties and Incidents

For the time being, pipelines and the road transport are not covered by “basic or strong” legislation, such as a European directive or an international binding agreement. In the case of the road transport, the only exemption is the CARE database, whose creation was decided by the Council on 30 November 1993; the main difference is that the CARE database only covers a limited set of statistical parameters.

Despite the fact that the immense majority of transport casualties are a consequence of road traffic, the European legislative foundations for accident investigations are almost non-existing. Annex 3 of this report present a basic exercise consisting on a comparison between basic legislation on accident investigations in the aviation, maritime and railway sectors and a proposal for fundamental principles for road accident investigations. The exercise clearly shows the simplicity of the translation of basic fundamentals principles across different transport modes.

Recommendation: Taken into account that, despite the fact that the immense majority of transport casualties are a consequence of road traffic, the European legislative foundations for road accident investigations are almost non-existing, the RO-SAT Working Group recommends continuing discussions at different levels (political, technical...) on the opportunities that European action would represent as a means to guarantee that important lessons and recommendations are permanently obtained from road accident investigations across the European Union.

European action should cover areas such as: investigation methodologies, a common permanent European in-depth investigations database, exchange and dissemination of road accident investigation “best practices”, European wide representativeness of samples of crashes...

4.4 A European Road Safety Agency?

Facts:

- In 2002, the European Aviation Safety Agency (EASA) became operational was created through the adoption by the European Parliament and the Council of Regulation (EC) 1592/2002, on 15 July 2002.
- In 2002, Regulation (EC) N° 1406/2002 set the European Maritime Safety Agency's legal basis, and established the objectives and tasks, the internal structure and functioning and the financial requirements..
- The European Railway Agency was established in 2004 by Regulation n° 881/2004..

Obviously, the number of fatalities in each transport mode¹³ is not a central criteria for the establishment of transport safety agencies. The main criteria is the need to support European regulation regarding interoperability, transport operations and the approval of transport vehicle (aircrafts, railway stock, vessels...). The set up of a transport agency involves a lengthy process and a series of political and technical decisions. It also involves the mobilization of considerable resources.

Although the RO-SAT Working Group does not explicitly support at this time the creation of a European Road Safety Agency to combat road carnage, because doubts still exist on the real need of such an agency, the RO-SAT WG calls for the continuation of debates on the possible tasks that such an organization could perform. Some of these tasks could be:

- Development of future European legislation on goods and passenger road transport.
- Safety quality assurance of road traffic commercial organizations: leasing and renting companies, rental companies, public transport companies, etcetera.
- Cross-border issues (such as cross border enforcement).
- Support to in-depth technical road accident investigations in Europe.
- Coordination/hosting of the European Road Safety Observatory.
- Road safety measures best practice monitoring and exchange at EU level.
- ...

Recommendation: The RO-SAT Working Group recognizes that the justification of a European Road Safety Agency is still open, and that there are budgetary and logistic difficulties associated with the creation of a new, and for these reasons the RO-SAT Working Group does not explicitly support at this time the creation of a European Road Safety Agency to combat road carnage but, at the same time, the RO-SAT WG calls for the continuation of debates on the possible tasks that such an organization could perform.

4.5 Coordination of National Transport Safety Boards

The third chapter of this report has covered two examples of Transport Safety Board: the French Bureau d'Enquêtes sur les Accidents de Transport Terrestre (BEA-TT) and the Dutch Safety Board (OVV). Both examples are multi-modal to different extents. The UK, on the other side, has opted for single mode boards or branches.

Although some of the European transport safety boards already exchange information and disseminate activities through the International Transportation Safety Association (ITSA)¹⁴, the RO-SAT Working Group considers that there is still plenty of room to improve cooperation at EU level among transport accident boards. Examples of areas of cooperation at EU-level would be:

- Rapid "alert system" to inform Member States of the research of investigation interests and on-going investigations in every country.
- A yearly gathering of transport safety boards.
- Promotion of road transport accident investigation boards.
- Etcétera.

¹³ road, 41600; rail, 116; aviation, 12; sea, 197; see table 1 of chapter 1.3 of this document

¹⁴ www.itsasafety.org

Recommendation: To explore the possibility of adding value to the remarkable work of the various national transport safety boards by promoting European-wide coordination and cooperation.

In particular, to promote the creation of a network of European transport safety boards, keeping in mind the activities already in place in the International Transportation Safety Association (ITSA).

ANNEXES

- ANNEX 1. TRANSFERABILITY ANALYSIS BETWEEN RAILWAY OF MANAGEMENT SYSTEMS INTO THE ROAD SECTOR
- ANNEX 2. RESPONSES TO QUESTIONNAIRES ON ROAD ACCIDENT INVESTIGATIONS IN ENGLAND, FINLAND, FRANCE, GERMANY AND SWEDEN AND NORWAY
- ANNEX 3. COMPARATIVE ANALYSIS OF EUROPEAN BASIC ACCIDENT INVESTIGATION LEGISLATION IN THE AVIATION, RAILWAY AND MARITIME TRANSPORT SECTORS. EXAMPLE OF FUNDAMENTAL PRINCIPLES FOR ROAD ACCIDENT INVESTIGATIONS

**ANNEX 1. TRANSFERABILITY ANALYSIS OF RAILWAY SAFETY MANAGEMENT SYSTEMS INTO
THE ROAD SECTOR**

<i>RAIL</i>	<i>ROAD</i>
Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	
30.4.2004 EN Official Journal of the European Union L 164/104-106	
ANNEX III	
Safety Management Systems	Road Safety Management System
1. Requirements on the safety management system	1. Requirements on the safety management system
The safety management system must be documented in all relevant parts and shall in particular describe the distribution of responsibilities within the organisation of the infrastructure manager or the railway undertaking. It shall show how control by the management on different levels is secured, how staff and their representatives on all levels are involved and how continuous improvement of the safety management system is ensured.	The safety management system must be documented in all relevant parts and shall in particular describe the distribution of responsibilities within the organisation of the key road safety players (such as large fleet operators, infrastructure managers, policing agencies, road maintenance companies, large rental companies, roadside assistance enterprises...) and, in particular, the administrations responsible for the road transport system. It shall show how control by the management on different levels is secured, how staff and their representatives on all levels are involved and how continuous improvement of the safety management system is ensured.
2. Basic elements of the safety management system	2. Basic elements of the safety management system
The basic elements of the safety management system are:	The basic elements of the safety management system are:
(a) a safety policy approved by the organisation's chief executive and communicated to all staff;	(a) a safety policy approved by the organisation's chief executive and communicated to all staff;
(b) qualitative and quantitative targets of the organisation for the maintenance and enhancement of safety, and plans and procedures for reaching these targets;	(b) qualitative and quantitative targets of the organisation for the maintenance and enhancement of safety, and plans and procedures for reaching these targets;
<i>(continues in next page)</i>	<i>(continues in next page)</i>

<i>RAIL</i>	<i>ROAD</i>
2. Basic elements of the safety management system (<i>continued</i>)	2. Basic elements of the safety management system (<i>continued</i>)
<i>continues from previous page</i>	<i>continues from previous page</i>
<p>(c) procedures to meet existing, new and altered technical and operational standards or other prescriptive conditions as laid down</p> <ul style="list-style-type: none"> – in TSIs, or – in national safety rules referred to in Article 8 and Annex II, or – in other relevant rules, or – in authority decisions, <p>and procedures to assure compliance with the standards and other prescriptive conditions throughout the life-cycle of equipment and operations;</p>	<p>(c) procedures to meet existing, new and altered technical and operational standards or other prescriptive conditions as laid down</p> <ul style="list-style-type: none"> – in technical specifications, or – in national safety rules, or – in other relevant rules, or – in authority decisions, <p>and procedures to assure compliance with the standards and other prescriptive conditions throughout the life-cycle of equipment and operations;</p>
(d) procedures and methods for carrying out risk evaluation and implementing risk control measures whenever a change of the operating conditions or new material imposes new risks on the infrastructure or on operations;	(d) procedures and methods for carrying out risk evaluation and implementing risk control measures whenever a change of the operating conditions or new technologies are considered to impose new risks on the users, the infrastructure or on operations;
(e) provision of programmes for training of staff and systems to ensure that the staff's competence is maintained and tasks carried out accordingly;	(e) provision of programmes for training of staff and systems to ensure that the staff's competence is maintained and tasks carried out accordingly;
(f) arrangements for the provision of sufficient information within the organisation and, where appropriate, between organisations operating on the same infrastructure;	(f) arrangements for the provision of sufficient information within the organisation and, where appropriate, between organisations operating on the same infrastructure or responsibility area;
(g) procedures and formats for how safety information is to be documented and designation of procedure for configuration control of vital safety information;	(g) procedures and formats for how safety information is to be documented and designation of procedure for configuration control of vital safety information;
(h) procedures to ensure that accidents, incidents, near misses and other dangerous occurrences are reported, investigated and analysed and that necessary preventive measures are taken;	(h) procedures to ensure that accidents, incidents, near misses and other dangerous occurrences are reported, investigated and analysed and that necessary preventive measures are taken;
(i) provision of plans for action and alerts and information in case of emergency, agreed upon with the appropriate public authorities;	(i) provision of plans for action and alerts and information in case of emergency, agreed upon with the appropriate public authorities;
(j) provisions for recurrent internal auditing of the safety management system.	(j) provisions for recurrent internal auditing of the safety management system.

**ANNEX 2. RESPONSES TO QUESTIONNAIRE ON ROAD ACCIDENT INVESTIGATIONS IN
ENGLAND, FINLAND, FRANCE, GERMANY AND SWEDEN**

COUNTRY: ENGLAND	Data collection level									
	Basic or statistical level (to be filled-in by the road group based on the available CARE info and for EU-15)	Intermediate level (please fill in as many columns as necessary): police reports, black spot analysis...			In-depth technical investigations (not blame-oriented, multi-disciplinary teams collecting several hundreds of items)			Multi-modal investigations (please indicate here transport modes covered)		
1. Description of the activity	Stats 19 - GB national accident file (separate file for Northern Ireland). Data covers the accident situation and participants (inc. cars, motorcycles, pedestrians/ cyclists and trucks). Crashes must be reported to the police (either as emergency call or later) and include at least one injured road user. At present contains limited data which may be related to causes of accidents but valuable for exploring "population" questions. Will shortly be supplemented by new contributory factors describing accident causation.	UK Travel Survey (NTS) This provides detailed descriptive information (continuous from 1988 to present) on different types of travel; where people travel from and to (at county level), distance, time, purpose and what kinds of people are doing the travelling and how often. The NTS is the only source of national information on subjects such as cycling and walking which provide a context for the results of more local studies.	TARN - Trauma Audit and Research Network register. A system developed to allow emergency departments in hospitals compare the effectiveness of their procedures. It involves gathering injury and treatment information on all seriously injured casualties (> 2 nights stay in hospital) in a central register.	Fatal Police Records (Research). Police records (witness statements, scene plans, reconstructions, photographs, post-mortem reports) are normally disposed of about 5 years after the crash and when all proceedings are complete. Instead of shredding many police forces send the files to a central point where they are classified and stored. The data is then used for further analysis in an anonymous form.	Fatal Crash Investigations (Police) Recent changes in UK policy means that road deaths are treated in the same manner as a murder with protocols laid down in the "Road Death Manual". Specialist police investigators gather and interpret the data which is then used in the judicial process. These cases can be made available as a resource for research and analysis.	Truck Crash Injury Study Specialist study investigating the issues of light and heavy trucks and buses in crashes. Also includes some investigations of agricultural vehicles. Areas included are mechanical roadworthiness issues, compatibility and some accident causation issues related to the vehicles.	Co-operative Crash Injury Study (CCIS). Collaborative government/industry study to investigate passive safety performance in newer cars. Specialist teams examine crashed cars retrospectively and follow up activities include accessing medical information for injury details.	On-The-Spot Accident Research Project (OTS). A representative sample of recent UK accidents including detailed information on causes. Common police accident ref number allows some dataset comparison between OTS and UK statistical database. Key variables also compared with local police accident records. Data covers the road user, the accident situation, participants (inc. cars, motorcycles, pedestrians/cyclists and trucks), accident cause, injury cause, human factors and vehicle technologies.	Special Accident Investigations Special Interest crashes (As determined by UK Department for Transport) are investigated by teams at Loughborough University and TRL. Protocols used depend on the specific areas of interest in the case	
2. What organization coordinates data collection (centralizing body)?	Department for Transport (DfT)	Department for Transport/Central Statistical Office (?)	Hope Hospital, Salford	Department for Transport sub-contracting to TRL	Individual police forces (52)	Department for Transport sub-contracting to TRL	Department for Transport sub-contracting to TRL	Department for Transport (DfT) coordinates data collection by VSRC & TRL	Department for Transport & Highways Agency	
3. Where is this organization administratively located?	London	London	Salford, Manchester	London	Each police force in the UK	London	London	Department for Transport (DfT) – London	London	
4. Who does the field work?	Data gathered by police officers	Special surveys/travel diaries	Local data coders situated within the participating hospitals	Police Forces, and their specialist investigators	Specialist Police Officers	Employees of the Vehicle Inspectorate Executive Agency	Crash Investigation teams based at Loughborough and Birmingham Universities and the Vehicle Inspectorate Executive Agency	VSRC & TRL crash investigators	VSRC, Loughborough University and TRL Ltd	

COUNTRY: ENGLAND	Data collection level								
	Basic or statistical level (to be filled-in by the road group based on the available CARE info and for EU-15)		Intermediate level (please fill in as many columns as necessary): police reports, black spot analysis...			In-depth technical investigations (not blame-oriented, multi-disciplinary teams collecting several hundreds of items)			Multi-modal investigations (please indicate here transport modes covered)
5a. Criteria for case selection		The NTS is based on a random sample of private households.	Casualty seriously injured with more than 2 nights stay in hospital. Not dead	Fatally injured road casualty	All fatal crashes, likely fatal crashes and others at the discretion of the police officer dealing with the crash	Works to a specified sampling plan covering a number of geographical areas	Current sampling plan states that the accident should involve a passenger car which should be less than 7 years old and towed from the scene and at least one occupant of the car should have received an injury. All fatal and serious injury crashes and a known proportion of slight crashes are investigated	Accident selection based on random notification from police control room – attend all possible within shift time, including non-injury. Investigation roster on 30 day cycle repeated without interruption (inc. holidays). Shifts progress over 6 days: 7am-3pm, 3pm-11pm, 11pm-7am followed by 4 rest days.	Special interest case as determined by occupant, vehicle or road factors
5b. How is the investigation launched? Who decides to launch it (Minister...)?	Stats 19 criteria laid down in "Stats 20"	Periodic national activity	Not applicable	Not applicable	See above	According to the sampling plan	According to the above sampling plan	Automatically as soon as the occurrence of the accident is known	Investigation team initiated, approved by DfT
6. Number of cases investigated per year	2004 - 207410 Accidents; 379845 Vehicles; 280840 casualties	The 2000 sample size was 5,796 addresses drawn from the Postcode Address File. The addresses selected were allocated into interviewer quotas in such a way that each quarter's sample was nationally representative.	Not known - of the order of 10,000s	~ 80% of GB fatal crashes	~ 3000	~120	1250 cases per year across the UK.	500	~ 20
7. Number of persons involved in the activity (please indicated whether part of full time)	A large number of police officers, local authority employees and central statistical people	Not known	Not known	~ 2 - 4 approx. full time	~200 full time	2 full time, 38 part-time	~18 full time, ~12 part time	10	2 part time

COUNTRY: ENGLAND	Data collection level								
	Basic or statistical level (to be filled-in by the road group based on the available CARE info and for EU-15)		Intermediate level (please fill in as many columns as necessary): police reports, black spot analysis...			In-depth technical investigations (not blame-oriented, multi-disciplinary teams collecting several hundreds of items)		Multi-modal investigations (please indicate here transport modes covered)	
8. Is the information disseminated and reports published? How?	Annual statistical publication "the casualty report" available on Web. All local authorities have access for remedial measures development. Anonymous data available for bona fide research purposes	Annual publications	Anonymous statistics are public, data on individual hospitals are available to that hospital	Data is used to inform regulatory activity in road and vehicle safety area. Some analyses are published directly, others are included in wider reports.	Information is supplied to coroners courts	Data is used to inform regulatory activity in road and vehicle safety area. Some analyses are published directly, others are included in wider reports.	CCIS database available to all sponsors only. Journal & conference papers. UK and EU project reports	reports, papers, other analyses	OTS database – currently limited to organisations doing specific research using this data. Journal & conference papers. Reports to DfT.
9a. Are recommendations issued based on a single case?	No	Data analysed and used by transport planners and other national and local statisticians	No Recommendations are made	No	Coroners courts have the power to make recommendations to national and local government on the basis of individual cases	No	No	No	Potentially
9b. Are recommendations issued based on a set of cases?	Local "black spot studies" may result in road and other alterations	Data analysed and used by transport planners and other national and local statisticians		Normally based on statistical analyses	No	Normally based on statistical analyses	Recommendations are made in other research project that utilise the CCIS data	Statistical analyses	Potentially
10. Are the implementation of the recommendations followed up?	Within the context of routine local authority activity	Within the context of routine transport planning activity			No				System not yet fully established
11. What is the funding source?	Police - Home Office, local authorities - local and national government, central stats - Department for Transport	National level funding	Subscription by participating hospitals	National Government	Local police funding	National Government	UK government (~60+H7%) Automotive industry and suppliers (~40%)	Department for Transport	Department for Transport & Highways Agency
12. Is there specific legislation covering this data collection activities?	No	No	No	No	No	No	No	No	No

COUNTRY: <i>FINLAND</i>	Data collection level			
	Basic or statistical level (to be filled-in by the road group based on the available CARE info and for EU-15)	Intermediate level (please fill in as many columns as necessary): police reports, black spot analysis...	In-depth technical investigations (not blame-oriented, multi-disciplinary teams collecting several hundreds of items)	Multi-modal investigations (please indicate here transport modes covered)
1. Description of the activity	<i>Collection of basic data using a statistical form</i>	<i>Police reports</i>	<i>Investigation of single cases (fatal accidents, selected other accidents)</i> <i>-multidisciplinary team usually chaired by a policeman</i> <i>-teams in all parts of the country, 20 areas</i> <i>- collection of data according to special questionnaires for different disciplines (the vehicle(s), road, persons, health etc.)</i> <i>- short report, not published,</i>	<ul style="list-style-type: none"> - <i>investigation of single cases, sometimes set of cases</i> - <i>investigation commission appointed separately for every single case, members and experts represent the expertise needed for that case</i> - <i>aviation, railways, maritime</i> - <i>roads only in case of major accident or serious incident or the specific nature of the accident)</i> - <i>full report written on every case</i>
2. What organization coordinates data collection (centralizing body)?	<i>Police, Statistics Finland, Road Administration, Insurance companies</i>	-	<i>Finnish Motor Insurers` Centre, Accident Investigation Unit</i>	<i>Accident Investigation Board</i>
3. Where is this organization administratively located?	<i>Ministry of Interior ,Ministry of Finance, Ministry of Transport and Communications, Ministry of Social affairs and Health</i>		<i>Finnish Motor Insurers`Centre</i> <i>(Ministry of Transport and Communications controls the accident investigation activity)</i>	<i>Ministry of Justice</i>

COUNTRY: <i>FINLAND</i>	Data collection level			
4. Who does the field work?	-Local Police - Traffic Police		Police, accident investigator teams	Accident investigators in cooperation with police (if needed)
5a. Criteria for case selection	All victims accidents		-All fatal accidents - some selected other accidents	<ul style="list-style-type: none"> - Major accident - Serious incident - Nature of the accident
5b. How is the investigation launched? Who decides to launch it (Minister...)?	Automatically as soon as the occurrence of the accident is known		Automatically as soon as the occurrence of the accident is known	<ul style="list-style-type: none"> - Automatically as soon as the occurrence of the accident is known, Accident Investigation Board starts the investigation - in case of major accident the formal decision is made by the government - in other cases the Accident Investigation Board decides
6. Number of cases investigated per year			About 450 cases	1- 3 cases yearly
7. Number of persons involved in the activity (please indicated whether part of full time)			8 full time, about 300 part time	1 full time 3-10 part time
8. Is the information disseminated and reports published? How?	...		Year book, press releases, press relases about trends, articles, single reports are not published as such	- report is always published both in writing and on website, press releases

COUNTRY: <i>FINLAND</i>	Data collection level			
9a. Are recommendations issued based on a single case?	<i>No</i>		<i>yes</i>	<i>- yes</i>
9b. Are recommendations issued based on a set of cases?	<i>No</i>		<i>Yes</i>	<i>- yes in those cases when a set of cases are investigated (Safety study)</i>
10. Are the implementation of the recommendations followed up?	<i>No</i>		<i>Yes (only internal control)</i>	<i>- yes, it is an obligation according to the legislation</i>
11. What is the funding source?			<i>State budget, Finland has compulsory traffic safety fee, part of the collected fee is used to pay the investigations (via Ministry of Social Affairs and Health)</i>	<i>- state budget (Ministry of Justice)</i>
12. Is there specific legislation covering this data collection activities?			<i>Road and off-road traffic accidents act and decree</i>	<i>- accident investigation act and decree</i>

COUNTRY: <i>FRANCE</i>	Data collection level			
	Basic or statistical level (to be filled-in by the road group based on the available CARE info and for EU-15)	Intermediate level (please fill in as many columns as necessary): police reports, black spot analysis...	In-depth technical investigations (no blame-oriented, multi-disciplinary teams collecting several hundreds of items)	Multi-modal investigations (please indicate here transport modes covered)
1. Description of the activity	<i>Collecting basic statistical data for all road injury accident</i>	<i>EPCA(ex Réagir),EDA(INRETS), SURE ...</i>	<i>Technical inquiries by the BEA-TT</i>	<i>All modes of transport are covered by 3 BEAs : air , sea and BEA-TT for Rail , tramways and metros , sky-lifts , inland waterways and road .</i>
2. What organization coordinates data collection (centralizing body)?	<i>Observatory of road safety (ONISR)</i>	<i>DSCR</i>	<i>BEA-TT.</i>	
3. Where is this organization administratively located?	<i>Ministry of Equipment and transports</i>	<i>Ministry of Equipment and transports</i>	<i>Ministry of Equipment and transports</i>	
4. Who does the field work?	<i>Urban Police, Gendarmerie or Republican Company of Safety depending where the crash occurs</i>	<i>For EPCA , local multidisciplinary teams.</i>	<i>National multidisciplinary teams constituted and directed by the BEA-TT</i>	
5a. Criteria for case selection	<i>All road accidents involving at least one injured person</i>	<i>For EPCA ,Items selected locally following the main types of accidents</i>	<i>Depending on the interest of the case for increasing knowledge and prevention</i>	
5b. How is the investigation launched? Who decides to launch it (Minister...)?	<i>Automatically as soon as the occurrence of the accident is known</i>	<i>The prefect</i>	<i>The Minister, following proposals of the BEA-TT</i>	
6. Number of cases investigated per year	<i>Around 90,000</i>	<i>Around 1000</i>	<i>Around 30</i>	

COUNTRY: <i>FRANCE</i>	Data collection level			
7. Number of persons involved in the activity (please indicated whether part of full time)	<i>3500 collecting points. The data is used either to write the verbal lawsuit.</i>	<i>Several hundreds</i>	<i>6 permanent investigators and non-permanent investigators and experts(the number depends on the complexity of the case)</i>	
8. Is the information disseminated and reports published? How?	<i>Year book, press releases...</i>	<i>Reports collected on an internet data base (for EPCA)</i>	<i>The final reports are public , and published on internet.</i>	
9a. Are recommendations issued based on a single case?	<i>No</i>	<i>EPCA: for local use only , if appropriate.</i>	<i>Yes, if appropriate.</i>	
9b. Are recommendations issued based on a set of cases?	<i>Yes, publication of quality indicator for internal use.</i>		<i>The BEA-TT is in charge of developing, the REX , if necessary , and makes use of datas collected on specific topics (ex fire on buses)for issuing proposals or recommandations..</i>	
10. Are the implementation of the recommendations followed up?	<i>In most cases, yes.</i>		<i>In most cases , yes .</i>	
11. What is the funding source?	<i>Ministry of the Interior and ministry of defence</i>		<i>Ministry of Equipement and transports</i>	
12. Is there specific legislation covering this data collection activities?	<i>No, it's only a recommendation.</i>	<i>Recommendation issued by the CISR (7/7/04)</i>	<i>Law of 3/1/02 and decree of 26/1/04</i>	

COUNTRY: GERMANY	Data collection level			
	Basic or statistical level (to be filled-in by the road group based on the available CARE info and for EU-15)	Intermediate level (please fill in as many columns as necessary): police reports, black spot analysis...	In-depth technical investigations (no blame-oriented, multi-disciplinary teams collecting several hundreds of items)	Multi-modal investigations (please indicate here transport modes covered)
1- Description of the activity	<i>Collection of basic data using a statistical form</i>	<i>Black spot management studies: oriented toward identifying black spots</i>	<i>Collection of In-Depth Data by a scientific interdisciplinary team on scene in time</i>	
2. What organization coordinates data collection (centralizing body)?	<i>General Office for Traffic Statistics</i>	<i>Federal Research Institute BAST Insurance Institute on Traffic Research GDV Research Institutes at Universities and Medical Centers</i>	<i>Medical University Hannover Technical University Dresden</i>	
3. Where is this organization administratively located?	<i>Federal Ministry of traffic and Police</i>	<i>Federal Ministry of Traffic and Police Different Sources of government and universities</i>	<i>Statistical Office Wiesbaden Hannover and Dresden</i>	
4. Who does the field work?	<i>Traffic Police Crash Investigators</i>	<i>Road Traffic Engineers and scientists and others</i>	<i>Engineers and Scientists</i>	
5a. Criteria for case selection	<i>All victims accidents</i>	<i>All victims accidents Selection of severe accidents</i>	<i>All victims in road traffic accidents Statistical random selection of a case sample</i>	
5b. How is the investigation launched? Who decides to launch it (Minister...)?	<i>Automatically as soon as the occurrence of the accident is known</i>	<i>Periodically, after reviewing the list of cases</i>	<i>Ministry of Traffic Together with Vehicle Industry</i>	

COUNTRY: GERMANY	Data collection level			
6. Number of cases investigated per year	<i>Around 300,000</i>	<i>small</i>	<i>2000</i>	
7. Number of persons involved in the activity (please indicated whether part of full time)	<i>N? traffic police investigators (part time), differ in the counties, some have special teams for accident documentation,</i>	<i>small individual</i>	<i>50 to 100</i>	
8. Is the information disseminated and reports published? How?	<i>Year book, press releases...</i>	<i>Yes On different fields In scientific journals</i>	<i>Yes BAST Conferences Papers scientific journals</i>	
9a. Are recommendations issued based on a single case?	<i>No, if media points out importance, than entered into the research discussion</i>	<i>No, sometimes following in deeper discussion</i>	<i>Yes</i>	
9b. Are recommendations issued based on a set of cases?	<i>No in general, sometimes following out of media discussion</i>	<i>No</i>	<i>Yes</i>	
10. Are the implementation of the recommendations followed up?	<i>No</i>	<i>No</i>	<i>Yes</i>	
11. What is the funding source?	<i>Federal Ministry of Traffic</i>	<i>Federal Ministry of Traffic and others</i>	<i>Federal Ministry of Traffic Hannover team Vehicle IndustryDresden team</i>	
12. Is there specific legislation covering this data collection activities?	<i>Yes,</i>	<i>No</i>	<i>No</i>	

COUNTRY: <i>SWEDEN</i>	Data collection level			
	Basic or statistical level (to be filled-in by the road group based on the available CARE info and for EU-15)	Intermediate level (please fill in as many columns as necessary): police reports, black spot analysis...	In-depth technical investigations (no blame-oriented, multi-disciplinary teams collecting several hundreds of items)	Multi-modal investigations (please indicate here transport modes covered)
1. Description of the activity	<i>Registration of data about all police reported accidents</i>	<i>In depth studies of all fatal accidents</i>	<i>OLA – studies of facts, solutions and intentions from organizations, authorities and companies for preventive measures</i>	<i>Independent investigations of fatal accidents with more than 5 victims or with principal system problems involved covering all transport modes</i>
2. What organization coordinates data collection (centralizing body)?	<i>Swedish Road Administration</i>	<i>Swedish Road Administration</i>	<i>Swedish Road Administration</i>	<i>Swedish Accident Investigation Board</i>
3. Where is this organization administratively located?	<i>Ministry of Industry, Employment and Communications</i>	<i>Ministry of Industry, Employment and Communications</i>	<i>Ministry of Industry, Employment and Communications</i>	<i>Ministry of Defence</i>
4. Who does the field work?	<i>Regional Police offices and hospitals</i>	<i>Staff members of Regional Road Administration offices</i>	<i>Staff members of Swedish Road Administration and of Regional Road Administration offices</i>	<i>Expert investigators of the Swedish Accident Investigation Board</i>
5a. Criteria for case selection	<i>All accidents with personal injuries</i>	<i>All fatal accidents</i>	<i>Decision by staff members of Swedish Road Administration and of Regional Road Administration offices</i>	<i>Fatal accidents with more than 5 victims or with principal system problems involved</i>
5b. How is the investigation launched? Who decides to launch it (Minister...)?	<i>As soon as an accident occurs</i>	<i>As soon as a fatal accident occurs</i>	<i>The director general of the Swedish Road Administration och the director of a regional road administration</i>	<i>The director general in charge of the Swedish Accident Investigation Board</i>
6. Number of cases investigated per year	<i>About 17 000 (accidents resulting in personal injuries)</i>	<i>About 450</i>	<i>About 45</i>	<i>2-3 average</i>

COUNTRY: SWEDEN	Data collection level			
7. Number of persons involved in the activity (please indicated whether part of full time)		<i>About 25</i>	<i>About 15</i>	
8. Is the information disseminated and reports published? How?	<i>Yes, official statistics</i>	<i>Yes, different reports issued by the Swedish Road Administration on both national and regional levels</i>	<i>Yes, reports are published</i>	<i>Yes, official investigation reports</i>
9a. Are recommendations issued based on a single case?	<i>No</i>	<i>Yes, in most cases</i>	<i>In most cases, yes</i>	<i>Yes</i>
9b. Are recommendations issued based on a set of cases?	<i>No</i>	<i>Yes, but mostly in the OLA-process based on a cluster of accidents of the same type</i>	<i>In most cases, yes</i>	<i>No</i>
10. Are the implementation of the recommendations followed up?		<i>In most cases, no. Swedish Road Traffic Inspectorate is though developing a routine for evaluating in-depth studies.</i>	<i>Yes, by the Swedish Road Traffic Inspectorate</i>	<i>Yes, by the Swedish Accident Investigation Board and the Swedish Road Traffic Inspectorate</i>
11. What is the funding source?	<i>Government</i>	<i>Government</i>	<i>Government</i>	<i>Government</i>
12. Is there specific legislation covering this data collection activities?	<i>Yes, the Official Statistics Act and Ordinance and the Ordinance with instruction to the Swedish Institute for Transport and Communications Analysis</i>	<i>Yes, the Ordinance with instruction to the Swedish Road Administration</i>	<i>No</i>	<i>Yes, the Accident Investigation Act and Ordinance</i>

COUNTRY: NORWAY	Data collection level			
	Basic or statistical level (to be filled-in by the road group based on the available CARE info and for EU-15)	Intermediate level (please fill in as many columns as necessary): police reports, black spot analysis...	In-depth technical investigations (not blame-oriented, multi-disciplinary teams collecting several hundreds of items)	Multi-modal investigations (please indicate here transport modes covered)
1. Description of the activity	<i>Collection of basic data in a statistical form. "STRAKS"-accidentdatabase)</i>	<i>Police reports,</i>	<i>Technical and root cause investigation of all elements.</i>	<i>Multimodal investigation is established at AIBN, with common methodology.</i>
2. What organization coordinates data collection (centralizing body)?	<i>Norwegian Public Road Administration (NPRA) Statistics Norway(SSB)</i>	<i>NPRA and SSB</i>	<i>Accident investigation board Norway (AIBN) NPRA also makes depth investigations, but <u>not</u> separated from the Police.</i>	<i>Accident investigation board Norway (AIBN)</i>
3. Where is this organization administratively located?	<i>Ministry of transport and communication. (for NPRA) Ministry of Finance (for SSB)</i>		<i>Ministry of Transport and Communication (AIBN)</i>	<i>AIBN is a multimodal organisation, with aviation, rail and road sections. Maritime section will be established in 2007.</i>
4. Who does the field work?	<i>Police officers</i>	<i>Police officers. with support from engeneers in NPRA.</i>	<i>AIBN makes its own investigation, supported from police and NPRA.</i>	<i>AIBN</i>
5a. Criteria for case selection	<i>All injury accidents</i>	<i>All injury accidents.</i>	<i>Serious and fatal accidents with commercial transport and heavy vehicles. (regulated in separate law and roubles).</i>	<i>Different level for each mode.</i>
5b. How is the investigation launched? Who decides to launch it (Minister...)?	<i>Automatically as soon as the occurrence of the accident is known, The Police officer is responsible for this.</i>	<i>Periodically, after accumulating reports of cases sent to NPRA og SSB.</i>	<i>Direct calls to AIBN who decides how to act according to the law. NPRA also gets warnings for all fatal accidents.</i>	<i>AIBN decides.</i>

COUNTRY: <i>NORWAY</i>	Data collection level			
6. Number of cases investigated per year	<i>Approximately 9000 injury accidents during a year.</i> <i>Appr. 12000 injury persons during a year.</i>	???	<i>ca 10-15 for AIBN.</i> <i>Appr. 250 for NPRA.</i>	<i>Totally about 100 cases a year.</i>
7. Number of persons involved in the activity (please indicated whether part of full time)	??	???	<i>4-6 persons at AIBN.</i> <i>Appr. 100 persons in NTRA.</i>	<i>Total about 30 persons at the AIBN.</i>
8. Is the information disseminated and reports published? How?	<i>Press releases, statistics on web sites and publications.</i>	<i>No (reports only for internal use)</i>	<i>Yes.</i> <i>The final reports are official.</i>	
9a. Are recommendations issued based on a single case?	<i>No</i>		<i>Yes for AIBN.</i> <i>No for NPRA.</i>	
9b. Are recommendations issued based on a set of cases?	<i>No</i>	<i>Yes, for internal use, and as support to research work.</i>	<i>Not yet, but possibly in the future for AIBN.</i> <i>Yes for NPRA.</i>	
10. Are the implementation of the recommendations followed up?	<i>No</i>	<i>Yes (but only internal control in NPRA)</i>	<i>Yes for AIBN. Recommendations delivered to the Ministry of Transport and C.</i>	
11. What is the funding source?	<i>Ministry of Transp. and Communication for NPRA.</i> <i>Ministry of Finance for SSB.</i>	<i>Ministry of Transport and Communication</i> <i>Ministry of Finance.</i>	<i>Ministry of Transport and Communication.</i>	
12. Is there specific legislation covering this data collection activities?	<i>Yes, personal data is covered by law.</i>	<i>Yes. Only anonym data is used.</i>	<i>Yes, separate legislation for the AIBN, connected to a non punitive principle.</i>	

**ANNEX 3. COMPARATIVE ANALYSIS OF EUROPEAN BASIC ACCIDENT INVESTIGATION LEGISLATION
IN THE AVIATION, RAILWAY AND MARITIME TRANSPORT SECTOR. EXAMPLE OF
FUNDAMENTAL PRINCIPLES FOR ROAD ACCIDENT INVESTIGATIONS**

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p><i>Article 1 Objective</i></p> <p>The purpose of this Directive is to improve air safety by facilitating the expeditious holding of investigations, the sole objective of which is the prevention of future accidents and incidents.</p>	<p><i>Article 1 Objective</i></p> <p>The objective of this Directive is to contribute to the improvement of air safety by ensuring that relevant information on safety is reported, collected, stored, protected and disseminated.</p> <p>The sole objective of occurrence reporting is the prevention of accidents and incidents and not to attribute blame or liability.</p>	<p><i>Article 1 Purpose</i></p> <p>The purpose of this Directive is to ensure the development and improvement of safety on the Community's railways and improved access to the market for rail transport services by:</p> <p>...</p> <p>(d) requiring the establishment, in every Member State, of a safety authority and an accident and incident investigating body;</p> <p>...</p>	<p>1. Introduction</p> <p>...</p> <p>1.2 The aim of this Code is to promote a common approach to the safety investigation of marine casualties and incidents, and also to promote co-operation between States in identifying the contributing factors leading to marine casualties. The result of this common approach and co-operation will be to aid remedial action and to enhance the safety of seafarers and passengers and the protection of the marine environment. In achieving these aims, this Code recognizes the need for mutual respect for national rules and practices and puts particular emphasis upon co-operation.</p> <p>1.3 By introducing a common approach to marine casualty investigations and the reporting on such casualties, the international maritime community may be better informed about the factors which lead up to and cause, or contribute to, marine casualties. This may be facilitated by:</p> <p>.1 Clearly defining the purpose of marine casualty investigation and the guiding principles for its conduct.</p> <p>.2 Defining a framework for consultation and co-operation between substantially interested States.</p> <p>.3 Recognizing that the free flow of information will be promoted if individuals who are attempting to assist the investigation may be offered a degree of immunity, both from self-incrimination and from any ensuing risk to their livelihood.</p> <p>(continues in the next page)</p>	<p><i>Article 1 Objective</i></p> <p>The purpose of this Set of Fundamental Principles is to improve road safety by facilitating the expeditious holding of investigations, the sole objective of which is the prevention of future serious accidents.</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
<i>Article 1 Objective</i>	<i>Article 1 Objective</i>	<i>Article 1 Purpose</i>	<p>1. Introduction (continued from previous page)</p> <p>.4 Establishing a common format for reports to facilitate publication and sharing of the lessons to be learned.</p> <p>1.4 It is not the purpose of the Code to preclude any other form of investigation, whether for civil, criminal, administrative, or any other form of action, but to create a marine casualty investigation process the aim of which is to establish the circumstances relevant to the casualty, to establish the causal factors, to publicise the causes of the casualty and to make appropriate safety recommendations. Ideally, marine casualty investigation should be separate from, and independent of, any other form of investigation.</p>	<i>Article 1 Objective</i>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
<i>Article 1 Objective</i>	<i>Article 1 Objective</i>	<i>Article 1 Purpose (cont'd)</i>	<p>2. Objective</p> <p>The objective of any marine casualty investigation is to prevent similar casualties in the future. Investigations identify the circumstances of the casualty under investigation and establish the causes and contributing factors, by gathering and analysing information and drawing conclusions. Ideally, it is not the purpose of such investigations to determine liability, or apportion blame. However, the investigating authority should not refrain from fully reporting the causes because fault or liability may be inferred from the findings.</p>	<i>Article 1 Objective</i>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p><i>Article 2 Scope</i></p> <p>1. This Directive shall apply to investigations into civil aviation accidents and incidents which have occurred in the territory of the Community taking into account the international obligations of the Member States.</p> <p>2. This Directive shall also apply outside the territory of the Community to:</p> <p>(i) investigations into accidents involving aircraft registered in a Member State, when such investigations are not carried out by another State;</p> <p>(ii) investigations into serious incidents involving aircraft registered in a Member State or operated by an undertaking established in a Member State, when such investigations are not carried out by another State.</p>	<p><i>Article 3 Scope</i></p> <p>1. This Directive shall apply to occurrences which endanger or which, if not corrected, would endanger an aircraft, its occupants or any other person. A list of examples of these occurrences appears in Annexes I and II.</p> <p>2. The Commission may, in accordance with the procedure laid down in Article 10(2), decide to amend the Annexes in order to expand upon, or change, the examples.</p> <p>3. The application of this Directive to the airport of Gibraltar is understood to be without prejudice to the respective legal positions of the Kingdom of Spain and the United Kingdom with regard to the dispute over sovereignty over the territory in which the airport is situated.</p> <p>4. Application of this Directive to the airport of Gibraltar shall be suspended until the arrangements in the Joint Declaration made by the Foreign Ministers of the Kingdom of Spain and the United Kingdom on 2 December 1987 have come into operation. The Governments of Spain and the United Kingdom will inform the Council of such date of entry into operation.</p>	<p><i>Article 2 Scope</i></p> <p>1. This Directive applies to the railway system in the Member States, which may be broken down into subsystems for structural and operational areas. It covers safety requirements on the system as a whole, including the safe management of infrastructure and of traffic operation and the interaction between railway undertakings and infrastructure managers.</p> <p>2. Member States may exclude from the measures they adopt in implementation of this Directive:</p> <p>(a) metros, trams and other light rail systems;</p> <p>(b) networks that are functionally separate from the rest of the railway system and intended only for the operation of local, urban or suburban passenger services, as well as railway undertakings operating solely on these networks;</p> <p>(c) privately owned railway infrastructure that exists solely for use by the infrastructure owner for its own freight operations.</p>	<p>3. Application</p> <p>This Code applies, as far as national laws allow, to the investigation of marine casualties or incidents where either one or more interested States have a substantial interest in a marine casualty involving a ship under their jurisdiction.</p>	<p><i>Article 2 Scope</i></p> <p>1. This Set of Fundamental Principles shall apply to investigations into very serious road traffic accidents which have occurred in the territory of the Community.</p> <p>2. This Set of Fundamental Principles shall also apply outside the territory of the Community to investigations into very serious accidents involving road vehicles registered in a Member State, when such investigations are not carried out by another State;</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p><i>Article 3 Definitions</i></p> <p>For the purposes of this Directive:</p> <p>(a) 'accident' means an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:</p> <p>1. a person is fatally or seriously injured as a result of:</p> <ul style="list-style-type: none"> - being in the aircraft, or - direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or - direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or <p>2. the aircraft sustains damage or structural failure which:</p> <ul style="list-style-type: none"> - adversely affects the structural strength, performance or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents or puncture holes in aircraft skin; <p>3. the aircraft is missing or is completely inaccessible;</p> <p>(continues in the next page)</p>	<p><i>Article 2 Definitions</i></p> <p>For the purpose of this Directive:</p> <p>1. "occurrence" means an operational interruption, defect, fault or other irregular circumstance that has or may have influenced flight safety and that has not resulted in an accident or serious incident, hereinafter referred to as "accident or serious incident", as defined in Article 3(a) and (k) of Directive 94/56/EC;</p> <p>2. "disidentification" means removing from reports submitted all personal details pertaining to the reporter and technical details which might lead to the identity of the reporter, or of third parties, being inferred from the information.</p>	<p><i>Article 3 Definitions</i></p> <p>For the purpose of this Directive, the following definitions shall apply:</p> <p>...</p> <p>(g) "safety authority" means the national body entrusted with the tasks regarding railway safety in accordance with this Directive or any binational body entrusted by Member States with these tasks in order to ensure a unified safety regime for specialised cross-border infrastructures;</p> <p>...</p> <p>(j) "investigator-in-charge" means a person responsible for the organisation, conduct and control of an investigation;</p> <p>(k) "accident" means an unwanted or unintended sudden event or a specific chain of such events which have harmful consequences; accidents are divided into the following categories: collisions, derailments, level-crossing accidents, accidents to persons caused by rolling stock in motion, fires and others;</p> <p>(l) "serious accident" means any train collision or derailment of trains, resulting in the death of at least one person or serious injuries to five or more persons or extensive damage to rolling stock, the infrastructure or the environment, and any other similar accident with an obvious impact on railway safety regulation or the management of safety; "extensive damage" means damage that can immediately be assessed by the investigating body to cost at least EUR 2 million in total;</p> <p>(continues in the next page)</p>	<p>4. Definitions For the purpose of this Code:</p> <p>4.1 Marine casualty means an event that has resulted in any of the following:</p> <ul style="list-style-type: none"> .1 the death of, or serious injury to, a person that is caused by, or in connection with, the operations of a ship; or .2 the loss of a person from a ship that is caused by, or in connection with, the operations of a ship; or .3 the loss, presumed loss or abandonment of a ship; or .4 material damage to a ship; or .5 the stranding or disabling of a ship, or the involvement of a ship in a collision; or .6 material damage being caused by, or in connection with, the operation of a ship; or .7 damage to the environment brought about by the damage of a ship or ships being caused by, or in connection with, the operations of a ship or ships. <p>4.2 Very serious casualty means a casualty to a ship which involves the total loss of the ship, loss of life or severe pollution.</p> <p>4.3 Serious casualty means a casualty which does not qualify as a very serious casualty and which involves:</p> <ul style="list-style-type: none"> .1 a fire, explosion, grounding, contact, heavy weather damage, ice damage, hull cracking or suspected hull defect, etc., resulting in; <p>(continues in the next page)</p>	<p><i>Article 3 Definitions</i></p> <p>For the purposes of this Set of Fundamental Principles:</p> <p>(a) 'very serious accident' means an occurrence associated with the operation of a road vehicle in which:</p> <ul style="list-style-type: none"> 1. a considerably large number of persons are fatally or seriously injured as a result of: <ul style="list-style-type: none"> - being in the vehicle, or - direct contact with any part of the vehicle, including parts which have become detached from the vehicle, or except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and driver; or 2. a large number of vehicles sustain damage or structural failure which: <ul style="list-style-type: none"> - adversely affects the structural strength, performance or roadworthiness characteristics of the vehicle, and - would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine or accessories; or for damage limited to tyres, brakes, small dents or puncture holes in vehicle skin; <p>(b) 'serious injury' means an injury which is sustained by a person in an accident and which:</p> <ul style="list-style-type: none"> 1. requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or <p>(continues in the next page)</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p>Article 3 Definitions (continued from previous page)</p> <p>(b) 'serious injury' means an injury which is sustained by a person in an accident and which:</p> <ol style="list-style-type: none"> 1. requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or 2. results in a fracture of any bone (except simple fractures of fingers, toes, or nose); or 3. involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or 4. involves injury to any internal organ; or 5. involves second or third degree burns, or any burns affecting more than 5% of the body surface; or 6. involves verified exposure to infectious substances or harmful radiation; <p>(c) 'fatal injury' means an injury which is sustained by a person in an accident and which results in his/her death within 30 days of the date of the accident;</p> <p>(d) 'causes' means actions, omissions, events or conditions, or a combination thereof, which led to the accident or incident;</p> <p>(continues in the next page)</p>	<p>Article 2 Definitions</p>	<p>Article 3 Definitions (continued from previous page)</p> <p>(m) "incident" means any occurrence, other than accident or serious accident, associated with the operation of trains and affecting the safety of operation;</p> <p>(n) "investigation" means a process conducted for the purpose of accident and incident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of causes and, when appropriate, the making of safety recommendations;</p> <p>(o) "causes" means actions, omissions, events or conditions, or a combination thereof, which led to the accident or incident;</p> <p>...</p>	<p>4. Definitions (continued from previous page)</p> <p>.2 structural damage rendering the ship unseaworthy, such as penetration of the hull underwater, immobilization of main engines, extensive accommodation damage etc.; or</p> <p>.3 pollution (regardless of quantity); and/or</p> <p>.4 a breakdown necessitating towage or shore assistance.</p> <p>4.4 Marine incident means an occurrence or event being caused by, or in connection with, the operations of a ship by which the ship or any person is imperilled, or as a result of which serious damage to the ship or structure or the environment might be caused.</p> <p>4.5 Causes means actions, omissions, events, existing or pre-existing conditions or a combination thereof, which led to the casualty or incident.</p> <p>4.6 Marine casualty or incident safety investigation means a process held either in public or in camera conducted for the purpose of casualty prevention which includes the gathering and analysis of information, the drawing of conclusions, including the identification of the circumstances and the determination of causes and contributing factors and, when appropriate, the making of safety recommendations.</p> <p>(continues in the next page)</p>	<p>Article 3 Definitions (continued from previous page)</p> <ol style="list-style-type: none"> 2. results in a fracture of any bone (except simple fractures of fingers, toes, or nose); or 3. involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or 4. involves injury to any internal organ; or 5. involves second or third degree burns, or any burns affecting more than 5% of the body surface; or 6. involves verified exposure to infectious substances or harmful radiation; <p>(c) 'fatal injury' means an injury which is sustained by a person in an accident and which results in his/her death within 30 days of the date of the accident;</p> <p>(d) 'causes' means actions, omissions, events or conditions, or a combination thereof, which led to the accident or incident;</p> <p>(e) 'investigation' means a process conducted for the purpose of accident and incident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of cause(s) and, when appropriate, the making of safety recommendations;</p> <p>(continues in the next page)</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p>Article 3 Definitions (continued from previous page)</p> <p>(e) 'investigation' means a process conducted for the purpose of accident and incident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of cause(s) and, when appropriate, the making of safety recommendations;</p> <p>(f) 'investigator-in-charge' means a person charged, on the basis of his qualifications, with responsibility for the organization, conduct and control of an investigation;</p> <p>(g) 'flight recorder' means any type of recorder installed in the aircraft for the purpose of facilitating accident/incident investigations;</p> <p>(h) 'undertaking' means any natural person, any legal person, whether profit-making or not, or any official body whether having its own legal personality or not;</p> <p>(i) 'operator' means any person, body or undertaking operating or proposing to operate one or more aircraft;</p> <p>(j) 'incident' means an occurrence, other than an accident, associated with the operation of an aircraft which affects or would affect the safety of operation;</p> <p>(continues in the next page)</p>	<p>Article 2 Definitions</p>	<p>Article 3 Definitions</p>	<p>4. Definitions (continued from previous page)</p> <p>4.7 Marine casualty investigator means a person or persons qualified and appointed to investigate a casualty, or incident, under procedures laid down in national legislation for the furtherance of marine safety and protection of the marine environment.</p> <p>4.8 Serious injury means an injury which is sustained by a person in a casualty resulting in incapacitation for more than 72 hours commencing within seven days from the date of injury.</p> <p>4.9 Ship means any kind of vessel which is used in navigation by water.</p> <p>4.10 Lead investigating State means the State that takes responsibility for the conduct of the investigation as mutually agreed between the substantially interested States.</p> <p>4.11 Substantially interested State means a State:</p> <p>.1 which is the flag State of a ship that is the subject of an investigation; or</p> <p>.2 in whose internal waters or territorial sea a marine casualty has occurred; or</p> <p>.3 where a marine casualty caused, or threatened, serious harm to the environment of that State, or within those areas over which the State is entitled to exercise jurisdiction as recognised under international law; or</p> <p>(continues in the next page)</p>	<p>Article 3 Definitions (continued from previous page)</p> <p>(f) 'investigator-in-charge' means a person charged, on the basis of his qualifications, with responsibility for the organization, conduct and control of an investigation;</p> <p>(g) 'event recorder' means any type of recorder installed in the vehicle for the purpose of facilitating accident/incident investigations. Tachographs are a type of event data recorder;</p> <p>(h) 'undertaking' means any natural person, any legal person, whether profit-making or not, or any official body whether having its own legal personality or not;</p> <p>(i) 'operator' means any person, body or undertaking operating or proposing to operate one or more vehicle;</p> <p>(j) 'safety recommendation' means any proposal by the investigating body of the State conducting the technical investigation, based on information derived from that investigation, made with the intention of preventing accidents.</p> <p>(continues in the next page)</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
<p data-bbox="174 335 562 383"><i>Article 3 Definitions (continued from previous page)</i></p> <p data-bbox="174 406 562 526">(k) 'serious incident' means an incident involving circumstances indicating that an accident nearly occurred (a list of examples of serious incidents can be found in the Annex);</p> <p data-bbox="174 550 562 742">(l) 'safety recommendation' means any proposal by the investigating body of the State conducting the technical investigation, based on information derived from that investigation, made with the intention of preventing accidents and incidents.</p>	<p data-bbox="571 335 936 359"><i>Article 2 Definitions</i></p>	<p data-bbox="945 335 1310 359"><i>Article 3 Definitions</i></p>	<p data-bbox="1319 335 1684 383">4. Definitions (continued from previous page)</p> <p data-bbox="1319 406 1684 526">.4 where the consequences of a marine casualty caused, or threatened, serious harm to that State or to artificial islands, installations, or structures over which it is entitled to exercise jurisdiction; or</p> <p data-bbox="1319 534 1684 598">.5 where, as a result of a casualty, nationals of that State lost their lives or received serious injuries; or</p> <p data-bbox="1319 606 1684 670">.6 that has at its disposal important information that may be of use to the investigation; or</p> <p data-bbox="1319 678 1684 742">.7 that for some other reason establishes an interest that is considered significant by the lead investigating State.</p>	<p data-bbox="1693 335 2042 359"><i>Article 3 Definitions</i></p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p>Article 4 <i>Obligation to investigate</i></p> <p>1. Every accident or serious incident shall be the subject of an investigation. However, Member States may take measures to enable incidents not covered by the first subparagraph to be investigated when the investigating body may expect to draw air safety lessons from it.</p> <p>2. The extent of investigations and the procedure to be followed in carrying out such investigations shall be determined by the investigating body, taking into account the principles and the objective of this Directive and depending on the lessons it expects to draw from the accident or serious incident for the improvement of safety.</p> <p>3. The investigations referred to in paragraph 1 shall in no case be concerned with apportioning blame or liability.</p>	<p>Article 4 <i>Mandatory reporting</i></p> <p>1. Member States shall require that occurrences covered by Article 3 are reported to the competent authorities referred to in Article 5(1) by every person listed below in the exercise of his/her functions:</p> <p>(a) the operator or commander of a turbine-powered or a public transport aircraft used by an operator for which a Member State ensures safety oversight of operations;</p> <p>(b) a person who carries on the business of designing, manufacturing, maintaining or modifying a turbine-powered or a public transport aircraft, or any equipment or part thereof, under the oversight of a Member State;</p> <p>(c) a person who signs a certificate of maintenance review, or of release to service in respect of a turbine-powered or a public transport aircraft, or any equipment or part thereof, under the oversight of a Member State;</p> <p>(d) a person who performs a function which requires him to be authorised by a Member State as an air traffic controller or as a flight information officer;</p> <p>(e) a manager of an airport covered by Council Regulation (EEC) No 2408/92 of 23 July 1992 on access for Community air carriers to intra-Community air routes(6);</p> <p>(f) a person who performs a function connected with the installation, modification, maintenance, repair, overhaul, flight-checking or inspection of air navigation facilities for which a Member State ensures responsibility;</p> <p>(continues in the next page)</p>	<p>CHAPTER V ACCIDENT AND INCIDENT INVESTIGATION</p> <p>Article 19 <i>Obligation to investigate</i></p> <p>1. Member States shall ensure that an investigation is carried out by the investigating body referred to in Article 21 after serious accidents on the railway system, the objective of which is possible improvement of railway safety and the prevention of accidents.</p> <p>2. In addition to serious accidents, the investigating body referred to in Article 21 may investigate those accidents and incidents which under slightly different conditions might have led to serious accidents, including technical failures of the structural subsystems or of interoperability constituents of the trans-European high-speed or conventional rail systems. The investigating body shall, at its discretion, decide whether or not an investigation of such an accident or incident shall be undertaken. In its decision it shall take into account:</p> <p>(a) the seriousness of the accident or incident;</p> <p>(b) whether it forms part of a series of accidents or incidents relevant to the system as a whole;</p> <p>(c) its impact on railway safety on a Community level, and</p> <p>(d) requests from infrastructure managers, railway undertakings, the safety authority or the Member States.</p> <p>(continues in the next page)</p>	<p>6. Responsibility for investigating casualties and incidents</p> <p>6.1 Flag States are encouraged to ensure that investigations are carried out into all casualties occurring to its ships. All cases of serious and very serious casualties should be investigated.</p> <p>6.2 Where a marine casualty or incident occurs within the territorial sea of a State, the flag and coastal States recognizing the obligations of that State to its citizens and the legal status of the territorial sea under the provisions of UNCLOS and also recognising the duties placed on a flag State, the flag and coastal States should co-operate to the maximum extent possible, and mutually agree which State should take the role of lead investigating State.</p> <p>6.3 Where a marine casualty or incident occurs on the high seas, a flag State should carry out an investigation into a casualty to, or on, any of its ships. If that casualty is a collision involving a ship of another flag State, then the States should consult with each other and agree which will be the lead investigating State and determine the best means of co-operation under this Code. In line with 9.1, if another State is a substantially interested State by virtue of the nationality of the ship's crew, passengers or other persons, or the location of the casualty, that State or States should be invited to take part in the investigation.</p> <p>(continues in the next page)</p>	<p>Article 4 <i>Obligation to investigate</i></p> <p>1. Every very serious accident shall be the subject of an investigation. However, Member States may take measures to enable accidents or incidents not covered by the first subparagraph to be investigated when the investigating body may expect to draw road safety lessons from it.</p> <p>2. The extent of investigations and the procedure to be followed in carrying out such investigations shall be determined by the investigating body, taking into account the principles and the objective of this Set of Fundamental Principles and depending on the lessons it expects to draw from the accident for the improvement of safety.</p> <p>3. The investigations referred to in paragraph 1 shall in no case be concerned with apportioning blame or liability.</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
Article 4 <i>Obligation to investigate</i>	<p>Article 4 <i>Mandatory reporting (continued from previous page)</i></p> <p>(g) a person who performs a function connected with the ground-handling of aircraft, including fuelling, servicing, loadsheet preparation, loading, de-icing and towing at an airport covered by Regulation (EEC) No 2408/92.</p> <p>2. Member States may encourage voluntary reporting on occurrences mentioned in Article 3(1) by every person who exercises, in other civil aviation operations, functions similar to those listed in paragraph 1.</p>	<p>CHAPTER V ACCIDENT AND INCIDENT INVESTIGATION</p> <p>Article 19 <i>Obligation to investigate (continued from previous page)</i></p> <p>3. The extent of investigations and the procedure to be followed in carrying out such investigations shall be determined by the investigating body, taking into account the principles and the objectives of Articles 20 and 22 and depending on the lessons it expects to draw from the accident or incident for the improvement of safety.</p> <p>4. The investigation shall in no case be concerned with apportioning blame or liability.</p>	<p>6. Responsibility for investigating casualties and incidents <i>(continued from previous page)</i></p> <p>6.4 By fully participating in an investigation conducted by another substantially interested State, the flag State shall be considered as fulfilling its obligations under UNCLOS article 94, section 7.</p> <p>6.5 An investigation should be started as soon as practicable after the casualty occurs. Substantially interested States should, by mutual agreement, be allowed to join an investigation conducted by another substantially interested State at any stage of the investigation.</p>	Article 4 <i>Obligation to investigate</i>

<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p>Article 4 <i>Obligation to investigate</i></p>	<p>Article 4 <i>Mandatory reporting</i></p>	<p>CHAPTER V ACCIDENT AND INCIDENT INVESTIGATION</p> <p>Article 19 <i>Obligation to investigate</i></p>	<p>8. Consultation</p> <p>8.1 Notwithstanding the obligation placed on the master or owners of a ship to inform its flag State authority of any casualty occurring to the ship, where a casualty or incident occurs in the internal waters or territorial sea of another State, the coastal State should notify, with a minimum of delay, the flag State or States of the circumstances and what, if any, action is proposed by the coastal State.</p> <p>8.2 Following a casualty, the investigating State should inform the other substantially interested States, either through the Consular Office in that State or by contacting the relevant authorities listed in MSC/Circ.781/MEPC.6/Circ.2. That State and the other substantially interested States should consult, at the earliest opportunity, on the conduct of the investigation and to determine details of co-operation.</p> <p>8.3 Nothing should prejudice the right of any State to conduct its own separate investigation into a marine casualty occurring within its jurisdiction according to its own legislation. Ideally, if more than one State desires to conduct an investigation of its own, the procedures recommended by this Code should be followed, and those States should co-ordinate the timing of such investigations to avoid conflicting demands upon witnesses and access to evidence.</p>	<p>Article 4 <i>Obligation to investigate</i></p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
<p><i>Article 5 Status of investigation</i></p> <p>1. Member States shall define, in the framework of their respective internal legal systems, a legal status of the investigation that will enable the investigators-in-charge to carry out their task in the most efficient way and within the shortest time.</p> <p>2. In accordance with the legislation in force in the Member States and, where appropriate, in cooperation with the authorities responsible for the judicial inquiry, the investigators shall be authorized inter alia to:</p> <p>(a) have free access to the site of the accident or incident as well as to the aircraft, its contents or its wreckage;</p> <p>(b) ensure an immediate listing of evidence and controlled removal of debris, or components for examination or analysis purposes;</p> <p>(c) have immediate access to and use of the contents of the flight recorders and any other recordings;</p> <p>(d) have access to the results of examination of the bodies of victims or of tests made on samples taken from the bodies of victims;</p> <p>(e) have immediate access to the results of examinations of the people involved in the operation of the aircraft or of tests made on samples taken from such people;</p> <p>(f) examine witnesses;</p> <p>(g) have free access to any relevant information or records held by the owner, the operator or the manufacturer of the aircraft and by the authorities responsible for civil aviation or airport operation.</p>		<p><i>Article 20 Status of investigation</i></p> <p>1. Member States shall define, in the framework of their respective legal system, the legal status of the investigation that will enable the investigators-in-charge to carry out their task in the most efficient way and within the shortest time.</p> <p>2. In accordance with the legislation in force in the Member States and, where appropriate, in cooperation with the authorities responsible for the judicial inquiry, the investigators shall, as soon as possible, be given:</p> <p>(a) access to the site of the accident or incident as well as to the rolling stock involved, the related infrastructure and traffic control and signalling installations;</p> <p>(b) the right to an immediate listing of evidence and controlled removal of wreckage, infrastructure installations or components for examination or analysis purposes;</p> <p>(c) access to and use of the contents of on-board recorders and equipment for recording of verbal messages and registration of the operation of the signalling and traffic control system;</p> <p>(d) access to the results of examination of the bodies of victims;</p> <p>(e) access to the results of examinations of the train staff and other railway staff involved in the accident or incident;</p> <p>(f) the opportunity to question the railway staff involved and other witnesses;</p> <p>(g) access to any relevant information or records held by the infrastructure manager, the railway undertakings involved and the safety authority.</p> <p>3. The investigation shall be accomplished independently of any judicial inquiry.</p>	<p>7. Responsibilities of the lead investigating State</p> <p>The lead investigating State should be responsible for:</p> <p>.1 developing a common strategy for investigating the casualty in liaison with substantially interested States;</p> <p>.2 providing the investigator in charge and coordinating the investigation;</p> <p>.3 establishing the investigation parameters based on the laws of the investigating State and ensuring that the investigation respects those laws;</p> <p>.4 being the custodian of records of interviews and other evidence gathered by the investigation;</p> <p>.5 preparing the report of the investigation, and obtaining and reflecting the views of the substantially interested States;</p> <p>.6 coordinating, when applicable, with other agencies conducting other investigations;</p> <p>.7 providing reasonable logistical support; and for</p> <p>.8 liaison with agencies, organizations and individuals not part of the investigating team.</p>	<p><i>Article 5 Status of investigation</i></p> <p>1. Member States shall define, in the framework of their respective internal legal systems, a legal status of the investigation that will enable the investigators-in-charge to carry out their task in the most efficient way and within the shortest time.</p> <p>2. In accordance with the legislation in force in the Member States and, where appropriate, in cooperation with the authorities responsible for the judicial inquiry, the investigators shall be authorized inter alia to:</p> <p>(a) have free access to the site of the accident or incident as well as to the vehicles, its contents or its wreckage;</p> <p>(b) ensure an immediate listing of evidence and controlled removal of debris, or components for examination or analysis purposes;</p> <p>(c) have immediate access to and use of the contents of the event recorders and any other recordings;</p> <p>(d) have access to the results of examination of the bodies of victims or of tests made on samples taken from the bodies of victims;</p> <p>(e) have immediate access to the results of examinations of the people involved in the operation of the vehicle or of tests made on samples taken from such people;</p> <p>(f) examine witnesses;</p> <p>(g) have free access to any relevant information or records held by the owner, the operator or the manufacturer of the vehicle and by the authorities responsible for road traffic or road construction and maintenance.</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p>Article 6 Investigating body or entity</p> <p>1. Each Member State shall ensure that technical investigations are conducted or supervised by a permanent civil aviation body or entity. The body or entity concerned shall be functionally independent in particular of the national aviation authorities responsible for airworthiness, certification, flight operation, maintenance, licensing, air traffic control or airport operation and, in general, of any other party whose interests could conflict with the task entrusted to the investigating body or entity.</p> <p>2. Notwithstanding paragraph 1, the activities entrusted to this body or entity may be extended to the gathering and analysis of air safety related data, in particular for prevention purposes, in so far as these activities do not affect its independence and entail no responsibility in regulatory, administrative or standards matters.</p> <p>3. The body or entity referred to in paragraph 1 shall be given the means required to carry out its responsibilities independently of the authorities referred to in paragraph 1 and should be able to obtain sufficient resources to do so. Its investigators shall be afforded status giving them the necessary guarantees of independence. It shall comprise at least one investigator able to perform the function of investigator-in-charge in the event of an aircraft accident or serious incident.</p> <p>(continues in the next page)</p>	<p>Article 5 Collection and storage of information</p> <p>1. Member States shall designate one or more competent authorities to put in place a mechanism to collect, evaluate, process and store occurrences reported in accordance with Article 4.</p> <p>The following authorities, working with impartiality, may be entrusted with that responsibility:</p> <p>(a) the national civil aviation authority; and/or</p> <p>(b) the investigating body or entity established under Article 6 of Directive 94/56/EC; and/or</p> <p>(c) any other independent body or entity entrusted with this function.</p> <p>If a Member State designates more than one body or entity, it shall designate one of these as point of contact for the exchange of information mentioned in Article 6(1).</p> <p>2. The competent authorities shall store the reports collected in their databases.</p> <p>3. Accidents and serious incidents shall also be stored in these databases.</p>	<p>Article 21 Investigating body</p> <p>1. Each Member State shall ensure that investigations of accidents and incidents referred to in Article 19 are conducted by a permanent body, which shall comprise at least one investigator able to perform the function of investigator-in-charge in the event of an accident or incident. This body shall be independent in its organisation, legal structure and decision-making from any infrastructure manager, railway undertaking, charging body, allocation body and notified body, and from any party whose interests could conflict with the tasks entrusted to the investigating body. It shall furthermore be functionally independent from the safety authority and from any regulator of railways.</p> <p>2. The investigating body shall perform its tasks independently of the organisations referred to in paragraph 1 and shall be able to obtain sufficient resources to do so. Its investigators shall be afforded status giving them the necessary guarantees of independence.</p> <p>3. Member States shall make provision that railway undertakings, infrastructure managers and, where appropriate, the safety authority, are obliged immediately to report accidents and incidents referred to in Article 19 to the investigating body. The investigating body shall be able to respond to such reports and make the necessary arrangements to start the investigation no later than one week after receipt of the report concerning the accident or incident.</p> <p>(continues in the next page)</p>		<p>Article 6 Investigating body or entity</p> <p>1. Each Member State shall ensure that technical investigations are conducted or supervised by a permanent road traffic body or entity. The body or entity concerned shall be functionally independent in particular of the national road traffic authorities responsible for vehicle roadworthiness, certification, road operation, maintenance, licensing, road traffic control or road construction and maintenance and, in general, of any other party whose interests could conflict with the task entrusted to the investigating body or entity.</p> <p>2. Notwithstanding paragraph 1, the activities entrusted to this body or entity may be extended to the gathering and analysis of road safety related data, in particular for prevention purposes, in so far as these activities do not affect its independence and entail no responsibility in regulatory, administrative or standards matters.</p> <p>3. The body or entity referred to in paragraph 1 shall be given the means required to carry out its responsibilities independently of the authorities referred to in paragraph 1 and should be able to obtain sufficient resources to do so. Its investigators shall be afforded status giving them the necessary guarantees of independence. It shall comprise at least one investigator able to perform the function of investigator-in-charge in the event of a very serious accident.</p> <p>(continues in the next page)</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p>Article 6 <i>Investigating body or entity (cont'd)</i></p> <p>4. If necessary, the body or entity may request the assistance of bodies or entities from other Member States to supply:</p> <p>(a) installations, facilities and equipment for:</p> <ul style="list-style-type: none"> - the technical investigation of wreckage and aircraft equipment and other objects relevant to the investigation, - the evaluation of information from flight recorders, and - the computer storage and evaluation of air accident data. <p>(b) accident investigation experts to undertake specific tasks but only when an investigation is opened following a major accident. When available, such assistance should, as far as possible, be free of charge.</p> <p>5. A Member State may delegate the task of carrying out an investigation into an accident or incident to another Member State.</p>	<p>Article 5 <i>Collection and storage of information</i></p>	<p>Article 21 <i>Investigating body (cont'd)</i></p> <p>4. The investigating body may combine its tasks under this Directive with the work of investigating occurrences other than railway accidents and incidents as long as such investigations do not endanger its independence.</p> <p>5. If necessary the investigating body may request the assistance of investigating bodies from other Member States or from the Agency to supply expertise or to carry out technical inspections, analyses or evaluations.</p> <p>6. Member States may entrust the investigating body with the task of carrying out investigations of railway accidents and incidents other than those referred to in Article 19.</p> <p>7. The investigating bodies shall conduct an active exchange of views and experience for the purpose of developing common investigation methods, drawing up common principles for follow-up of safety recommendations and adaptation to the development of technical and scientific progress.</p> <p>The Agency shall support the investigating bodies in this task.</p>		<p>Article 6 <i>Investigating body or entity (cont'd)</i></p> <p>4. If necessary, the body or entity may request the assistance of bodies or entities from other Member States to supply:</p> <p>(a) installations, facilities and equipment for:</p> <ul style="list-style-type: none"> - the technical investigation of wreckage and road vehicle equipment and other objects relevant to the investigation, - the evaluation of information from event recorders, and - the computer storage and evaluation of road accident data. <p>(b) accident investigation experts to undertake specific tasks but only when an investigation is opened following a major accident or disaster. When available, such assistance should, as far as possible, be free of charge.</p> <p>5. A Member State may delegate the task of carrying out an investigation into an accident to another Member State.</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p>Article 7 Accident report</p> <p>1. Any investigation into an accident shall be the subject of a report in a form appropriate to the type and seriousness of the accident. The report shall state the sole objective of the investigation as referred to in Article 1 and contain, where appropriate, safety recommendations.</p> <p>2. The investigating body or entity shall make public the final accident report in the shortest possible time, and if possible within 12 months of the date of the accident.</p> <p>Article 8 Incident report</p> <p>1. Any investigation into an incident shall be the subject of a report in a form appropriate to the type and seriousness of the incident. The report shall, where appropriate, contain relevant safety recommendations. The report shall protect the anonymity of the persons involved in the incident.</p> <p>2. The incident report shall be circulated to the parties likely to benefit from its findings with regard to safety.</p>	<p>Article 7 Dissemination of information</p> <p>1. Any entity entrusted with regulating civil aviation safety or with investigating civil aviation accidents and incidents within the Community shall have access to information on occurrences collected and exchanged in accordance with Articles 5 and 6 to enable it to draw the safety lessons from the reported occurrences.</p> <p>2. Without prejudice to the public's right of access to the Commission's documents as laid down in Regulation (EC) No 1049/2001 of the European Parliament and the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents(7), the Commission shall adopt on its own initiative and, in accordance with the procedure referred to in Article 10(2), measures for the dissemination to interested parties of the information referred to in paragraph 1 and the associated conditions. These measures, which can be general or individual, shall be based on the need:</p> <ul style="list-style-type: none"> - to provide persons and organisations with the information they need to improve civil aviation safety, - to limit the dissemination of information to what is strictly required for the purpose of its users, in order to ensure appropriate confidentiality of that information. <p>The decision to disseminate information under this paragraph shall be limited to what is strictly required for the purpose of its user, without prejudice to the provisions of Article 8.</p> <p>3. Member States may publish at least annually a safety review containing information on the types of occurrences collected by their national mandatory occurrence-reporting system to inform the public of the level of safety in civil aviation. Member States may also publish disidentified reports.</p>	<p>Article 23 Reports</p> <p>1. An investigation of an accident or incident referred to in Article 19 shall be the subject of reports in a form appropriate to the type and seriousness of the accident or incident and the relevance of the investigation findings. The reports shall state the objectives of the investigations as referred to in Article 19(1) and contain, where appropriate, safety recommendations.</p> <p>2. The investigating body shall make public the final report in the shortest possible time and normally not later than 12 months after the date of the occurrence. The report shall, as close as possible, follow the reporting structure laid down in Annex V. The report, including the safety recommendations, shall be communicated to the relevant parties referred to in Article 22(3) and to bodies and parties concerned in other Member States.</p> <p>3. Each year the investigating body shall publish by 30 September at the latest an annual report accounting for the investigations carried out in the preceding year, the safety recommendations that were issued and actions taken in accordance with recommendations issued previously.</p>	<p>12. Issue of marine casualty reports and submission to IMO</p> <p>...</p> <p>12.3 Reports, or relevant parts of reports, into the circumstances and causes of a marine casualty should be completed as quickly as practicable, and be made available to the public and the shipping industry in order to enhance safety of life at sea and protection of the marine environment through improved awareness of the factors which combine to cause marine casualties.</p> <p>12.4 Where a substantially interested State disagrees with whole or part of the report referred to in 12.1 above, it may submit its own report to the Organization.</p> <p>...</p>	<p>Article 7 Accident report</p> <p>1. Any investigation into a very serious road accident shall be the subject of a report in a form appropriate to the type and seriousness of the accident. The report shall state the sole objective of the investigation as referred to in Article 1 and contain, where appropriate, safety recommendations.</p> <p>2. The investigating body or entity shall make public the final accident report in the shortest possible time, and if possible within 12 months of the date of the accident.</p>

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p>Article 9 <i>Safety recommendations</i></p> <p>The reports and the safety recommendations referred to in Articles 7 and 8 shall be communicated to the undertakings or national aviation authorities concerned and copies forwarded to the Commission. Member States shall take the necessary measures to ensure that the safety recommendations made by the investigating bodies or entities are duly taken into consideration, and, where appropriate, acted upon without prejudice to Community law.</p>		<p>Article 25 <i>Safety recommendations</i></p> <p>1. A safety recommendation issued by an investigating body shall in no case create a presumption of blame or liability for an accident or incident.</p> <p>2. Recommendations shall be addressed to the safety authority and, where needed by reason of the character of the recommendation, to other bodies or authorities in the Member State or to other Member States. Member States and their safety authorities shall take the necessary measures to ensure that the safety recommendations issued by the investigating bodies are duly taken into consideration, and, where appropriate, acted upon.</p> <p>3. The safety authority and other authorities or bodies or, when appropriate, other Member States to which recommendations have been addressed, shall report back at least annually to the investigating body on measures that are taken or planned as a consequence of the recommendation.</p>	<p>12. Issue of marine casualty reports and submission to IMO</p> <p>...</p> <p>12.5 The investigating State, upon determining that urgent safety action is needed, may initiate interim recommendations to the appropriate authority.</p>	<p>Article 9 <i>Safety recommendations</i></p> <p>The reports and the safety recommendations referred to in Articles 7 and 8 shall be communicated to the undertakings or national road traffic authorities concerned and copies forwarded to the Commission. Member States shall take the necessary measures to ensure that the safety recommendations made by the investigating bodies or entities are duly taken into consideration, and, where appropriate, acted upon without prejudice to Community law.</p>
<p>Article 10</p> <p>A safety recommendation shall in no case create a presumption of blame or liability for an accident or incident.</p>				<p>Article 10</p> <p>A safety recommendation shall in no case create a presumption of blame or liability for an accident or incident.</p>
<p>Article 11</p> <p>Council Directive 80/1266/EEC of 16 December 1980 on future cooperation and mutual assistance between the Member States in the field of air accident investigation (4) is hereby repealed.</p>	<p>Article 12 <i>Entry into force</i></p> <p>This Directive shall enter into force on the day of its publication in the Official Journal of the European Union.</p>			

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
Article 12 1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than 21 November 1994. They shall forthwith inform the Commission thereof. 2. When Member States adopt these provisions, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.	Article 11 Implementation 1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive before 4 July 2005. They shall forthwith inform the Commission thereof. When Member States adopt those measures, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States. 2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field covered by this Directive.	Article 33 Implementation Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by ... (two years after the entry into force of this Directive) at the latest. They shall forthwith inform the Commission thereof. When Member States adopt those measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.		Article 12 1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Set of Fundamental Principles not later than ??????. They shall forthwith inform the Commission thereof. 2. When Member States adopt these provisions, they shall contain a reference to this Set of Fundamental Principles or shall be accompanied by such reference on the occasion of their official publication. The methods of making such reference shall be laid down by Member States.
Article 13 This Directive is addressed to the Member States.	Article 13 Addressees This Directive is addressed to the Member States.	Article 34 Addressees This Directive is addressed to the Member States.		Article 13 This Set of Fundamental Principles is addressed to the Member States.

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
	<p data-bbox="560 335 927 357">Article 6 <i>Exchange of information</i></p> <p data-bbox="560 386 927 552">1. Member States shall participate in an exchange of information by making all relevant safety-related information stored in the databases mentioned in Article 5(2) available to the competent authorities of the other Member States and the Commission. The databases shall be compatible with the software described in paragraph 3.</p> <p data-bbox="560 632 927 871">2. The competent authority designated in accordance with Article 5(1) receiving an occurrence report shall enter it into the databases and notify, whenever necessary, the competent authority of the Member State where the occurrence took place, where the aircraft is registered, where the aircraft is manufactured and/or where the operator is certificated.</p> <p data-bbox="560 903 927 1094">3. The Commission shall develop specific software for the purpose of this Directive. In so doing, it shall take into account the need for compatibility with existing softwares in the Member States. The competent authorities may use this software for running their own databases.</p> <p data-bbox="560 1126 927 1235">4. The Commission shall take appropriate measures to facilitate the exchange of information mentioned in paragraph 1 in accordance with the procedure set out in Art. 10(2).</p>			

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
	<p data-bbox="555 338 927 362">Article 8 <i>Protection of information</i></p> <p data-bbox="555 386 927 577">1. Member States shall, according to their national legislation, take necessary measures to ensure appropriate confidentiality of the information received by them pursuant to Articles 6(1) and 7(1). They shall use this information solely for the objective of this Directive.</p> <p data-bbox="555 609 927 753">2. Regardless of the type or classification of occurrence and accident or serious incident, names or addresses of individual persons shall never be recorded on the database mentioned in Article 5(2).</p> <p data-bbox="555 785 927 1000">3. Without prejudice to the applicable rules of penal law, Member States shall refrain from instituting proceedings in respect of unpremeditated or inadvertent infringements of the law which come to their attention only because they have been reported under the national mandatory occurrence-reporting scheme, except in cases of gross negligence.</p> <p data-bbox="555 1032 927 1200">4. In accordance with the procedures defined in their national laws and practices, Member States shall ensure that employees who report incidents of which they may have knowledge are not subjected to any prejudice by their employer.</p> <p data-bbox="555 1232 927 1319">5. This Article shall apply without prejudice to national rules related to access to information by judicial authorities.</p>		<p data-bbox="1317 338 1688 362">10. Disclosure of records</p> <p data-bbox="1317 386 1688 729">10.1 The State conducting the investigation of a casualty or incident, wherever it has occurred, should not make the following records, obtained during the conduct of the investigation, available for purposes other than casualty investigation, unless the appropriate authority for the administration of justice in that State determines that their disclosure outweighs any possible adverse domestic and international impact on that or any future investigation, and the State providing the information authorizes its release:</p> <ul style="list-style-type: none"> <li data-bbox="1317 737 1688 801">.1 all statements taken from persons by the investigating authorities in the course of the investigation; <li data-bbox="1317 809 1688 873">.2 all communications between persons having been involved in the operation of the ship; <li data-bbox="1317 880 1688 944">.3 medical or private information regarding persons involved in the casualty or incident; <li data-bbox="1317 952 1688 1000">.4 opinions expressed during the conduct of the investigation. <p data-bbox="1317 1032 1688 1168">10.2 These records should be included in the final report, or its appendices, only when pertinent to the analysis of the casualty or incident. Parts of the record not pertinent, and not included in the final report, should not be disclosed.</p>	

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
	<p>Article 9 <i>Voluntary reporting</i></p> <p>1. In addition to the system of mandatory reporting established under Articles 4 and 5, Member States may designate one or more bodies or entities to put in place a system of voluntary reporting to collect and analyse information on observed deficiencies in aviation which are not required to be reported under the system of mandatory reporting, but which are perceived by the reporter as an actual or potential hazard.</p> <p>2. If a Member State chooses to put in place a system of voluntary reporting, it shall establish the conditions for the disidentification, by the one or more bodies or entities that it has designated under paragraph 1, of voluntary reports presented under such system.</p> <p>3. Member States shall ensure that relevant disidentified safety information deriving from the analysis of confidential reporting is stored and made available to all parties so that it can be used for improving safety in aviation.</p>			
	<p>Article 10 <i>Committee</i></p> <p>1. The Commission shall be assisted by the committee instituted by Article 12 of Council Regulation (EEC) No 3922/91 of 16 December 1991 on the harmonisation of technical requirements and administrative procedures in the field of civil aviation(8).</p> <p>2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof. The period provided for in Article 5(6) of Decision 1999/468/EC shall be set at three months.</p> <p>3. The Committee shall adopt its rules of procedure.</p>			

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
		<p>Article 22 Investigation procedure</p> <p>1. An accident or incident referred to in Article 19 shall be investigated by the investigation body of the Member State in which it occurred. If it is not possible to establish in which Member State it occurred or if it occurred on or close to a border installation between two Member States the relevant bodies shall agree which one of them will carry out the investigation or shall agree to carry it out in cooperation. The other body shall in the first case be allowed to participate in the investigation and fully share its results. Investigation bodies from another Member State shall be invited to participate in an investigation whenever a railway undertaking established and licensed in that Member State is involved in the accident or incident. This paragraph shall not preclude Member States from agreeing that the relevant bodies should carry out investigations in cooperation in other circumstances.</p> <p>2. For each accident or incident the body responsible for the investigation shall arrange for the appropriate means, comprising the necessary operational and technical expertise to carry out the investigation. The expertise may be obtained from inside or outside the body, depending on the character of the accident or incident to be investigated.</p> <p>3. The investigation shall be carried out with as much openness as possible, so that all parties can be heard and can share the results. The relevant infrastructure manager and railway undertakings, the safety authority, victims and their relatives, owners of damaged property, manufacturers, the emergency services involved and representatives of staff and users shall be regularly informed of the investigation and its progress and, as far as practicable, shall be given an opportunity to submit their opinions and views to the investigation and be allowed to comment on the information in draft reports.</p> <p>4. The investigating body shall conclude its examinations at the accident site in the shortest possible time in order to enable the infrastructure manager to restore the infrastructure and open it to rail transport services as soon as possible.</p>	<p>5. Conduct of marine casualty investigations</p> <p>5.1 Where an investigation is to be conducted, the following should be taken into consideration:</p> <p>.1 Thorough and unbiased marine casualty investigations are the most effective way of establishing the circumstances and causes of a casualty.</p> <p>.2 Only through co-operation between States with a substantial interest can a full analysis be made of a marine casualty.</p> <p>.3 Marine casualty investigations should be given the same priority as criminal or other investigations held to determine responsibility or blame.</p> <p>.4 Marine casualty investigators should have ready access to relevant safety information including survey records held by the flag State, the owners, and classification societies. Access to information should not be barred by reason of competing investigations.</p> <p>.5 Effective use should be made of all recorded data, including voyage data recorders (VDR), if fitted, in the investigation of a marine casualty or marine incident wherever it occurred. The State conducting the investigation should arrange for the read-out of the VDR.</p> <p>.6 Marine casualty investigators should be afforded access to Government surveyors, coastguard officers, vessel traffic service operators, pilots or other marine personnel of the respective States.</p> <p>.7 The investigation should take into account any recommendations or instruments published by IMO or ILO, in particular those relating to the human factor, and any other recommendations or instruments adopted by other relevant international organizations.</p> <p>.8 Reports of investigations are most effective when released to the shipping industry & public.</p> <p>5.2 In accordance with 9, other substantially interested States should be invited to be represented during any such investigation and should be admitted as a party in the proceedings and have equal standing, rights and access to evidence as the State conducting the investigation.</p> <p>5.3 Recognizing that any vessel involved in a casualty may continue in service and that a ship should not be delayed more than is absolutely necessary, the State conducting the investigation should start the investigation as soon as practicable, without delaying the ship unreasonably. Other substantially interested States may, by mutual agreement, join the investigation either immediately or at later stage</p>	

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
		<p data-bbox="824 336 1173 384"><i>Article 24 Information to be sent to the Agency</i></p> <p data-bbox="824 408 1173 600">1. Within one week after the decision to open an investigation the investigating body shall inform the Agency thereof. The information shall indicate the date, time and place of the occurrence, as well as its type and its consequences as regards fatalities, injuries and material damage.</p> <p data-bbox="824 632 1173 751">2. The investigating body shall send the Agency a copy of the final report referred to in Article 23(2) and of the annual report referred to in Article 23(3).</p>	<p data-bbox="1198 336 1742 359">12. Issue of marine casualty reports and submission to IMO</p> <p data-bbox="1198 384 1816 632">12.1 The lead investigating State should send a copy of the draft of the final report to all substantially interested States, inviting their significant and substantiated comments on the report as soon as possible. If the lead investigating State receives comments within thirty days, or within some mutually agreed period, it should either amend the draft final report to include the substance of the comments, or append the comments to the final report. If the lead investigating State receives no comments after the mutually agreed period has expired, it should send the final report to the Organization in accordance with applicable requirements and cause the report to be published.</p> <p data-bbox="1198 655 1816 751">12.2 By fully participating in an investigation conducted by another substantially interested State that will be reporting to IMO, the flag State shall be considered as fulfilling its obligations under IMO conventions.</p> <p data-bbox="1198 783 1227 799">...</p>	
			<p data-bbox="1198 804 1346 826">9. Co-operation</p> <p data-bbox="1198 852 1816 975">9.1 Where two or more States have agreed to co-operate and have agreed the procedures for a marine casualty investigation, the State conducting the investigation should invite representatives of other substantially interested States to take part in the investigation and, consistent with the purpose of this Code, allow such representatives to:</p> <ul style="list-style-type: none"> <li data-bbox="1198 979 1391 1002">.1 question witnesses; <li data-bbox="1198 1007 1756 1029">.2 view and examine evidence and take copies of documentation; <li data-bbox="1198 1034 1541 1056">.3 produce witnesses or other evidence; <li data-bbox="1198 1061 1816 1102">.4 make submissions in respect of the evidence, comment on and have their views properly reflected in the final report; and <li data-bbox="1198 1107 1816 1149">.5 be provided with transcripts, statements and the final report relating to the investigation. <p data-bbox="1198 1174 1816 1246">9.2 States are encouraged to provide for maximum participation in the investigation by all States with a substantial interest in the marine casualty.</p> <p data-bbox="1198 1272 1816 1342">9.3 The flag State of a ship involved in a marine casualty should help to facilitate the availability of the crew to the investigation and encourage the crew to co-operate with the State conducting the investigation.</p>	

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents	Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation	Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)	IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents	Proposal of fundamental principles governing the investigation of road accidents
			<p>11. Personnel and material resources</p> <p>Governments should take all necessary steps to ensure that they have available sufficient means and suitably qualified personnel and material resources to enable them to undertake casualty investigations.</p>	
			<p>13 Re-opening of investigations</p> <p>When new evidence relating to any casualty is presented, it should be fully assessed and referred to other substantially interested States for appropriate input. In the case of new evidence which may materially alter the determination of the circumstances under which the marine casualty occurred, and may materially alter the findings in relation to its cause or any consequential recommendations, States should reconsider their findings.</p>	

AVIATION	AVIATION	RAILWAYS	MARITIME	ROAD
<p>Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents</p>	<p>Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation</p>	<p>Directive 2004/49/EC of the European Parliament and of the Council of 20 April 2004 on safety on the Community's railways (Railway Safety Directive)</p>	<p>IMO Assembly Resolution A.849 (2.0) Code for the Investigation of Marine Casualties and Incidents</p>	<p>Proposal of fundamental principles governing the investigation of road accidents</p>
<p>ANNEX</p> <p>LIST OF EXAMPLES OF SERIOUS INCIDENTS</p> <p>The incidents listed below are typical examples of serious incidents. The list is not exhaustive and only serves as a guide to the definition of 'serious incident'.</p> <ul style="list-style-type: none"> - A near collision requiring an avoidance manoeuvre or when an avoiding manoeuvre would have been appropriate to avoid a collision or an unsafe situation. - Controlled flight into terrain (CFIT) only marginally avoided. - An aborted take-off on a closed or engaged runway, or a take-off from such runway with marginal separation from obstacle(s). - A landing or attempted landing on a closed or engaged runway. - Gross failure to achieve predicted performance during take-off or initial climb. - All fires and smoke in the passenger compartment or in cargo compartments, or engine fires, even though such fires are extinguished with extinguishing agents. - Any events which required the emergency use of oxygen by the flight crew. - Aircraft structural failure or engine disintegration which is not classified as an accident. - Multiple malfunctions of one or more aircraft systems that seriously affect the operation of the aircraft. - Any case of flight crew incapacitation in flight. - Any fuel state which would require the declaration of an emergency by the pilot. - Take-off or landing incidents, such as undershooting, overrunning or running off the side of runways. - System failures, weather phenomena, operation outside the approved flight envelope or other occurrences which could have caused difficulties controlling the aircraft. - Failure of more than one system in a redundancy system which is mandatory for flight guidance and navigation. 	<p>ANNEX I</p> <p>LIST OF AIRCRAFT OPERATIONS, MAINTENANCE, REPAIR, AND MANUFACTURE-RELATED OCCURRENCES TO BE REPORTED</p> <p>...</p> <p>ANNEX II</p> <p>LIST OF AIR NAVIGATION SERVICES RELATED OCCURRENCES TO BE REPORTED</p> <p>...</p>	<p>ANNEX I</p> <p>COMMON SAFETY INDICATORS</p> <p>...</p> <p>ANNEX II</p> <p>NOTIFICATION OF NATIONAL SAFETY RULES</p> <p>...</p> <p>ANNEX III</p> <p>SAFETY MANAGEMENT SYSTEMS</p> <p>...</p> <p>ANNEX IV</p> <p>DECLARATIONS FOR NETWORK SPECIFIC PART OF SAFETY CERTIFICATE</p> <p>...</p> <p>ANNEX V</p> <p>PRINCIPAL CONTENT OF ACCIDENT AND INCIDENT INVESTIGATION REPORT</p> <p>...</p>		