FRAMEWORK SERVICES CONTRACT
ENTR/2008/006/LOT 1

Ex-Post Evaluation and Impact Assessment Study on Enhancing the Implementation of the Internal Market Legislation Relating to Motor Vehicles

Final Impact Assessment Report

prepared for
DG Enterprise and Industry

RPA

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DG Enterprise & Industry

by

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Executive Summary

1. Background

The EU's technical harmonisation legislation for motor vehicles, their components and systems has been progressively introduced since 1970, under the framework of Directive 70/156/EEC. This original framework directive has now been replaced by Directive 2007/46/EC, establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles.

This legislation for motor vehicles has been further updated, mainly with the aim of improving the internal market for motor vehicles, achieving simplification and promoting alignment with the international regulatory framework established by the United Nations' Economic Commission for Europe (UNECE). However, as noted in the Study Specifications, it is recognised that there is still room for improvement as far as the implementation and enforcement of the existing framework is concerned.

Risk & Policy Analysts (RPA) was contracted by DG Enterprise and Industry to support the European Commission Services in carrying out an impact assessment of possible policy options for enhancing the current legal framework for the type-approval of motor vehicles.

The draft Roadmap for the Impact Assessment identified a number of problem areas to be addressed. These are:

- *Problem Area A*: traceability of products and responsibilities of economic operators;
- *Problem Area B*: lack of clarity in responsibilities and cooperation of enforcement authorities;
- *Problem Area C*: weaknesses in the quality of type approval and conformity of production tasks carried out by Technical Services;
- *Problem Area D*: post safeguard measures and recalls; and
- *Problem Area E*: weak links in procedures for ensuring conformity of production.

For each of these problem areas, the policy options to be considered are:

- *Policy Option 1*: Baseline scenario, i.e. do nothing;
- *Policy Option 2*: Self-regulatory initiatives, i.e. awareness campaigns and/or VAs;
- *Policy Option 3*: Co-regulatory initiatives, i.e. joint actions by the Commission and the Member States; and
- *Policy Option 4*: Regulatory initiatives, i.e. amending the existing technical harmonisation legislation relating to motor vehicles.

This report presents the results of the impact assessment, highlighting the economic and social impacts associated with each of these options.

2. Approach to Quantification of Impacts

Quantifying the impacts of the proposed policy options poses a number of difficulties. There is a lack of quantitative data on the extent of problems with the implementation and enforcement of the legal framework for the free movement of motor vehicles. There is general agreement amongst stakeholders on the relevance of the problems, but less agreement on their significance.

The analysis involved a number of different steps:

- determining the size of the market for products covered by the EU's technical harmonisation legislation for motor vehicles, their components and systems;
- establishing the proportion of automotive devices on the market that are either unsafe (UADs) or non-compliant (NCDs) with the legislation;
- evaluating the likely contribution of each of the problem areas identified in the draft Impact Assessment Roadmap to the number of UADs and NCDs on the market;
- assessing the extent to which the policy options to address the problem areas would reduce the number of UADs and NCDs on the market; and
- assessing the proportion of vehicle recalls associated with UADs and NCDs, the costs to different stakeholders associated with these recalls and the extent to which these costs would be reduced by the policy options.

The calculations of costs resulting from these steps are subject to considerable uncertainty, because of the number of assumptions that have had to be made. Although we have tested these assumptions with stakeholders as far as possible, they remain based on limited data. Nevertheless, they provide an indication of the potential quantitative impacts of the policy options, as a basis for comparison.

3. Problem Area A: Traceability of Products and Responsibilities of Economic Operators

Traceability of products is important in ensuring UADs and NCDs found on the market are adequately remedied by the party responsible for the product. The aim of intervention for this product area is to:

a) address the problems relating to the identification and traceability of UADs and NCDs encountered on the market (i.e. to ensure that automotive products on the market can be effectively traced to enable effective remedy in the event of faults); and

b) clarify the responsibilities and accountability of various economic operators with regard to the compliance of the products they are involved with (i.e. *to ensure that all economic operators are fully aware of their responsibilities*).

The three policy options assessed are:

- *A1 - Baseline scenario*: do nothing (no change from the existing situation);
- *A2 - Self-regulatory option*: voluntary agreements (VA) between industry associations to clarify their respective roles and responsibilities, based on that set out in the NLF regulation, and on the identification and traceability of automotive products on the market (taking account of the ODETTE recommendations). This would be accompanied by awareness campaigns to promote the VA; and
- *A3 - Regulatory option*: amendment of the Directive to incorporate elements of the NLF relating to clarification of responsibilities, product traceability and company traceability.

The baseline scenario would do nothing to address the current level of UADs and NCDs on the EU market linked to this problem area, estimated to account for up to €4.9 billion of the total. Responsible economic operators would continue to be disadvantaged by competition from less scrupulous operators. There would be no change to the lack of coherence of the Directive with the NLF and there could be a risk of Member States taking their own national measures to address the problem of UADs and NCDs, leading to regulatory fragmentation. There would be no costs associated with this option, but no benefits.

The self-regulatory option would provide clarity regarding the responsibilities of economic operators. However, neither VAs nor awareness campaigns are likely to affect the behaviour of less scrupulous economic operators. The coverage and enforcement of VAs is also uncertain, given that many SMEs in particular are not members of industry associations. The option would improve coherence with the NLF, and the costs would be low; however, there is considerable uncertainty that any benefits would be achieved.

The regulatory option is likely to be the most effective. It would provide legal clarity on the responsibilities of economic operators and clear rules on traceability are likely to assist enforcement authorities. It is estimated that this option could reduce the level of UADs and NCDs on the market by up to €3 billion per year. The costs of this option will depend on the measures used to ensure product traceability. If this involved compulsory use of RFID, the costs could be significant and could have a disproportionate impact on certain automotive parts or sectors. Overall, though, the costs are likely to be outweighed by the benefits.

4. Problem Area B: Responsibilities and Cooperation Between National Authorities

Directive 2007/46/EC currently focuses on the procedures for type-approval and CoP and defines and refers mainly to approval authorities and the competent authorities for the assessment of TS. Other national authorities that are involved in the implementation and enforcement of the Directive (e.g. market surveillance authorities and border controls) are neither clearly defined nor their roles clearly explained. This downplays the contribution these authorities can make to effective enforcement of the legislation.

The aim of the intervention is to improve the enforcement of the current legal framework by:

a) clarifying the respective roles and responsibilities of enforcement authorities in the Member States; and

b) enhancing or establishing clear procedures for information exchange and co-operation amongst enforcement authorities in the Member States, both at national and cross border level.

The four policy options assessed are:

- *B1 - Baseline scenario*: do nothing (no change from the existing situation);
- *B2 - Self-regulatory option*: voluntary agreements (VA) between national bodies involved in enforcement which clarify their respective roles and responsibilities (based on the NLF) and commit them to co-operate and exchange information on their market surveillance programmes. This would be supported by an awareness campaign to the authorities involved in enforcement;
- *B3 - Co-regulatory* I: joint action between the Commission and Member State authorities to provide targeted training for national authorities and developing interpretation guidelines on the legal provisions on type-approval, conformity of production, recall of vehicles, safeguard measures and market surveillance; and
- *B4 - Regulatory option*: amending the existing technical harmonisation legislation to clarify the roles and responsibilities of enforcement authorities, in line with the NLF, and amending the existing technical harmonisation legislation to enhance information exchange and co-operation amongst national authorities.

The baseline scenario would do nothing to clarify the responsibilities of enforcement authorities nor address issues relating to information exchange and cooperation between them. It would have no impact on the current level of UADs and NCDs on the market linked to this problem area, estimated to account for up to €6 billion of the total market. No costs would be incurred with this option, but there would be no benefits.

The self-regulatory option would provide clarity on the roles and responsibilities of enforcement authorities. The extent to which actions would actually be modified from the current situation is highly uncertain; however, this option could still reduce the level of UADs and NCDs on the market by up to €300 million per year. It would provide consistency with the NLF. Some costs would be incurred by the authorities in developing and implementing VAs, but these are likely to be balanced by the benefits of a reduction in UADs/NCDs on the market and benefits to the authorities and economic operators from better communication.

The co-regulatory option would improve enforcement capabilities through training, while the guidelines would provide more clarity. Its effectiveness would be enhanced if it was combined with either the self-regulatory or the regulatory initiative. It would provide consistency with the NLF. The costs would be relatively low and the option could reduce the share of the market taken by UADs/NCDs by up to €4.5 billion per year, so that the benefits would significantly outweigh the costs.

The regulatory option would provide increased legal clarity for enforcement bodies regarding their responsibilities. Clear rules on information exchange and cooperation are also likely to assist enforcement. It will provide consistency with the NLF, which will be of particular benefit to authorities that are also responsible for other products already covered by the NLF. The costs incurred by stakeholders are likely to be exceeded by the benefits to stakeholders from a potential reduction in the market share of UADs/NCDs by up to €3 billion per year.

5. Problem Area C: Quality and Performance of Technical Services

The effectiveness of Directive 2007/46/EC relies significantly on the quality and performance of TS. However, a majority of all respondents to the Commission's public consultation believe that the quality and performance of TS in type-approval and verification of conformity of production (CoP) vary considerably and could be improved by strengthening the quality criteria in the current legal framework.

The aim of the intervention is to:

a) clarify and strengthen the respective roles and responsibilities of TS, as well as the requirements they have to comply with to be entitled to perform type-approval testing and verification of CoP; and

b) achieve a uniform level of stringency in type-approval testing and verification of the CoP, including mechanisms for information exchange and co-operation between them.

The three policy options assessed are:

- *C1 - Baseline scenario*: do nothing (no change from the existing situation);

- *C2 - Self-regulatory option*: a VA between TS associations which clarifies their roles and responsibilities and aims to achieve a uniform level of stringency in type-approval testing and verification of CoP. The VA would include mechanisms for information exchange and co-operation, as well as a body (or bodies) responsible for managing and monitoring the agreement. An awareness campaign would be aimed at disseminating the terms of the agreement to TS and economic operators; and

- *C3 - Regulatory option*: amendment of the Directive to incorporate elements of the NLF relating to the technical and financial independence of TS.

The baseline scenario would do nothing to address the disparities in the level of quality and performance of TS, which is estimated to account for up to €7.8 billion per year of UADs/NCDs on the market. Responsible TS would continue to be disadvantaged by competition from those that are less stringent and TS with other products in their portfolio would not benefit from consistency with the NLF. There would be no costs and no benefits under this option.

The potential impacts of a self-regulatory option have not been assessed in detail as, in practice, it would be difficult to agree and enforce a VA across a large number of TS, especially where there appears to be no common understanding of the problem and no existing body to agree and enforce a VA. Because of this, even though the potential costs are low, they are still likely to outweigh the benefits which are highly uncertain, bearing in mind that the likely impact of self-regulation in encouraging less stringent TS to improve their performance is doubtful.

The regulatory option would provide increased legal clarity for TS on the requirements they need to meet. Although TS could incur some costs in ensuring legal, physical or personnel separation of conformity assessment from other activities, these costs are likely to be outweighed by a potential reduction in the value of UADs/NCDs on the market of €5.6 billion per year. TS could also benefit from consistency with the NLF, if their portfolio includes other products covered by the NLF.

6. Problem Area D: Post Market Safeguard Measures and Recalls

Two separate issues have been identified under this problem area; a lack of clear definitions of roles and responsibilities of the various enforcement authorities involved in post-market safeguard procedures and recalls and a possible need to simplify the current procedures for dealing with products presenting a risk at national level only.

The aim of the intervention is to:

a) specify the roles, responsibilities and interaction between the different authorities involved in post-market safeguard measures and recall actions – including clarifying the communication channels and procedures for (cross-border)

information exchange and co-operation amongst national enforcement authorities; and

b) consider introducing a new two-step approach for safeguard measures in line with the principles of the NLF Decision 768/2008/EC, which means that not all cases would have to be dealt with under the comprehensive procedure at EU level.

The three policy options assessed are:

- *D1 - Baseline scenario*: do nothing (no change from the existing situation);
- *D2 - Self-regulatory option*: the 27 national authorities signing up to a VA which clarifies their respective roles and responsibilities in the areas of post-market safeguard measures and recall actions. This VA would mirror the definitions set out in the NLF Regulation, but amended to be specific to enforcement roles and approaches for vehicles and vehicle devices; and
- *D3 - Regulatory option*: amendment of the Directive to introduce a new two-step approach for safeguard measures.

The baseline scenario would involve no change from the existing situation. However, there is some uncertainty over the significance of this problem area and it would also be partly addressed by the options for Problem Area B.

The self-regulatory option would not be practicable, as a VA cannot supersede legislation and is unlikely to have sufficient legal standing in the event of a recall.

The regulatory option is unlikely to have a significant impact, unless it results to a large number of challenges from other Member States in response to national procedures. In this case, it would be less efficient than the current situation. It would be unlikely to have any effect on the number of UADs/NCDs on the market and could incur costs to economic operators and authorities from challenges. For this reason, the costs would be likely to outweigh the benefits.

7. Problem Area E: Verification of Procedures for Ensuring Conformity of Production

By aiming to ensure that all vehicles produced based on an approved type comply with the applicable requirements in practice, the procedures for ensuring CoP constitute a very important connecting link between the ex-ante type approval procedure and the ex-post market surveillance activities. Thus any shortcoming in verification procedures could have a significant impact on the effectiveness of the Directive.

The aim of the intervention is to ensure that the CoP procedures are tailored in such a way that they contribute effectively to reducing the likelihood of NCDs and UADs being placed on the market and the need for post-market actions to remedy the problems associated with such products.

The three policy options assessed are:

- *E1 - Baseline scenario*: do nothing (no change from the existing situation);
- *E2 - Self-regulatory option*: awareness campaigns and/or VAs between the different stakeholders (manufacturers, TS and type-approval authorities in the Member States) involved in the CoP to clarify and agree on the quality criteria and procedures to be applied for verifying and ensuring the CoP; and
- *E3 - Regulatory option*: amending the existing Directive through the application of the principles and provisions of the NLF related to the verification of conformity during the production stage.

The baseline scenario would do nothing to address the disparities in the quality criteria and procedures for CoP, which is estimated to account for up to €7.3 billion per year of UADs/NCDs on the market. The costs to stakeholders associated with this would continue and there would be no increase in coherence with the NLF.

The self-regulatory option would be unlikely to have a significant impact on the proportion of UADs/NCDs on the market. It would be difficult to agree and enforce a VA across numerous economic operators and TS and the need for a body to monitor and enforce a VA raises a number of legal, commercial and organisational issues which could increase costs. In addition, the options identified for problem areas A and B address the key responsibilities of economic operators, enforcement authorities and TS, which should also help to address this problem area.

The regulatory option is likely to ensure consistency and coherence between Directive 2007/47/EC and the principles and provisions of the NLF. While the vast majority of vehicle manufacturers are likely to have robust quality assurance (QA) structures in place already, this may not be the case for manufacturers of some vehicle parts and for some SMEs. These companies would incur some costs to improve QA structures; these costs are, however, likely to be outweighed by a potential reduction in the value of UADs/NCDs on the market of around €2.2 billion per year. Having a more robust QA system in place could also benefit economic operators, by increasing the efficiency of production and ensuring that fewer poor quality products are produced.

8. Comparison of Options

The 'do nothing' option will result in these problems with implementation and enforcement of the Directive remaining unsolved. Indeed, changes in the automotive market, which is increasingly international, may increase the difficulties of implementation and enforcement.

The self-regulatory initiatives are likely to have some effect in terms of reducing the share of UADs and/or NCDs on the market and their set-up costs are likely to be relatively low. However, the outcome of voluntary agreements is uncertain, due to a lack of common understanding of the problem areas and/or potential solutions

amongst stakeholders, especially where there are many players involved (e.g. for economic operators). They may also be difficult to enforce, either because there is no existing body which could take this role (in the case of TS for example) or because not all players are members of existing bodies (e.g. many SME economic operators are not members of industry associations). They are therefore likely to be less effective than direct regulatory action.

Amending the WVTA Directive is likely to be more effective in achieving a level playing field for economic operators and can be expected to have an overall positive economic impact in the long term, although the initial set-up costs are likely to be higher than for self-regulatory initiatives. The social benefits of the regulatory initiatives are also likely to be larger than for the other options envisaged, simply by providing an enforceable framework. Co-regulatory initiatives can also play a role in supporting the regulatory initiatives, for instance, by providing training to enforcement authorities, which would improve the enforcement of Directive 2007/46/EC. Table 1 sets out the potential impacts of the policy options on the value of NCDs and UADs on the EU market.

Table 1: **Comparison of Impacts of Preferred Policy Options on the value of NCDs and UADs on the EU Market (€ million)**

	Problem Area A	**Problem Area B**	**Problem Area C**	**Problem Area D**	**Problem Area E**	**TOTAL**
Policy Option 1: Do Nothing						
NCDs on the market	375	125	250		500	**1 250**
UADs on the market	3 000	6 000	7 500		4 500	**21 000**
Policy Option 2: Self-regulatory Initiatives						
Reduction in NCDs		6				**6**
Reduction in UADs		300				**300**
Policy Option 3: Co-regulatory Initiatives						
Reduction in NCDs		94				**94**
Reduction in UADs		4 500				**4 500**
Policy Option 4: Regulatory Initiatives						
Reduction in NCDs	188	63	125		250	**625**
Reduction in UADs	1 500	3 000	3 750		2 250	**10 500**
Preferred Combination of Options						
	Option A3	***Option B3 & B4**	**Option C3**	**Option D3**	**Option E3**	
Reduction in NCDs	188	94	125		250	**656**
Reduction in UADs	1 500	4 500	3 750		2 250	**12 000**
* In this context, Option B3 is implemented as a complementary option to Option B4 and provides additional or benefits by reducing NCDs and UADs by €31 million and €1.5 billion respectively						

Addressing the problems of NCDs and UADs on the market will also result in benefits for vehicle owners, in the form of reductions in the costs associated with recalls. Given the overlap between the problem areas, a combination of policy options is likely to be the most effective in addressing the problems of implementation and enforcement. Table 2 summarises the preferred combination of policy options, based on the analysis in Sections 3 to 7 of this report.

Table 2: Preferred Combination of Policy Options
• Amending the Directive to incorporate key elements of the NLF related to clarification of responsibilities (Options A3 and B4 – regulatory initiative), product traceability and company traceability (Option A3 – regulatory initiative), the technical and financial independence of Technical Services (Option C3) and the verification of conformity during the production stage (Option E3 – regulatory initiative); • Maintaining the existing requirements in the Directive regarding post-safeguard measures and recalls (Option D1 – do nothing); • Amending the existing technical harmonisation legislation to enhance information exchange and cooperation amongst national authorities (Option B4 – regulatory initiative); and • Joint action between the Commission and Member State Authorities to improve enforcement through targeted training for national authorities and developing interpretation guidelines on the legal provisions on type approval, conformity of production, recall of vehicles, safeguard measures and market surveillance (Option B3 – co-regulatory initiative).

This combination of policy options could reduce the value of the market taken up by UADs and NCDs by between **€656 million and €12 billion per year**. It could also reduce the number of recalls faced by vehicle owners by between 4 and 38 per year, leading to cost savings of **€2.1 million to €34.2 million** per year.

In most cases, the costs of the options are at least an order of magnitude lower than the benefits, in the range of **€15 million to €131 million**. However, this would not be the cases under Option A3, should RFID tags be required for all vehicle parts. In this case, the costs could increase by up to €105 billion under a worst case estimate.

The overall cost benefit ratio of the package would be highly positive, with future benefits exceeding the costs to stakeholders of implementation. It is also in line with the preferences of stakeholders who participated in the study.

In order to monitor progress and achievement of the aims of the intervention, we have identified the following key indicators:

- changes in the views of/complaints from consumers received by enforcement authorities relating to vehicles and vehicle components;
- changes in the number/percentage of UADs and NCDs present on the EU market (e.g. compared with existing surveys);
- changes in the number/percentage of "removal notes", "warning letters" or other similar regulatory action taken by EU authorities against both intra-EU and extra-EU manufacturers/importers (i.e. taking into account increased traceability requirements for automotive products); and
- changes in trends in RAPEX notifications and recalls of motor vehicles.

A reasonable timeline to review the selected indicators for monitoring and evaluation (taking into account the nature and effect of the preferred policy options) would be in five years after the revised Directive has come into force.

TABLE OF CONTENTS

ACRONYMS

ACEA	Association des Constructeurs Europèens d'Automobile
ACEM	Association des Constructeurs Européens de Motocycles
AIAG	Autmotive Industry Action Group
CARACAL	Competent Authroities for REACH and CLP
CARS21	Competitive Automotive Regulatory framework for the 21st century
CIRCA	Communication and Information Resource Centre Administrator
CLEPA	European Association of Autmotive Suppliers
CoP	Conformity of Production
DfT	Department for Transport (UK)
DPM	Direct Product Marking
EO	Economic Operators
EFTA	European Free Trade Area
ETRMA	European Tyre and Rubber Manufacturers Association
FIGIEFA	Fédération Internationale des Grossistes, Importateurs & Exportateurs en Fournitures Automobiles
GISS	General Information Support System
IA	Impact Assessment
ICSMS	Information and Communication System for Market Surveillance
ISO	International Organisation for Standardization
MSA	Market Surveillance Authority
NCDs	Non-Compliant Automotive Devices
NLF	New Legislative Framework
ODETTE	Organisation for Data Exchange by Tele Transmission in Europe
QA	Quality Assessment
RAPEX	Rapid Alert System for Non-Food Consumer Products
REACH	Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals
RFID	Radio Frequency Identification
RPA	Risk & Policy Analysts Ltd
SME	Small and Medium-sized Enterprise
TAA	Type Approval Authority
TAAM	Type Approval Authorities Meeting
TAAEG	Type Approval Authorities Expert Group
TCMV	Technical Committee – Motor Vehicles
TS	Technical Services
UADs	Unsafe Automotive Devices
UNECE	United Nations Economic Committee for Europe
VA	Voluntary Agreement
VOSA	Vehicle & Operator Services Agency (UK)
WVTA	Whole Vehicle Type Approval

1. INTRODUCTION

1.1 Background to Study

The EU's technical harmonisation legislation for motor vehicles, their components and systems has been progressively introduced since 1970, under the framework of Directive 70/156/EEC. Over the last 40 years, the nature of the regime has evolved from being a system designed to allow free trade of vehicle components between Member States, to a system based on compulsory whole vehicle type-approval (WVTA) for most categories of motor vehicles. This has resulted in the original framework directive being replaced by Directive 2007/46/EC[1] (also referred to as the WVTA Framework Directive).

This internal market legislation for motor vehicles has been further updated over the recent years and significantly revised, in line with the recommendations of the CARS 21[2] High Level group, mainly with the aim of improving the internal market for motor vehicles, achieving simplification and promoting alignment with the international regulatory framework established by the United Nations' Economic Commission for Europe (UNECE). At the same time, new requirements have been introduced to increase the levels of safety, environmental protection and energy performance of motor vehicles.

However, as noted in the Study Specifications (see Annex 1), it is recognised that there is still room for improvement as far as the implementation and enforcement of the existing framework (summarised in Annex 2) is concerned. The Commission has, therefore, set up an initiative aimed at exploring appropriate ways and means to enhance the implementation and enforcement of the legal framework for the free movement of motor vehicles. This will involve a critical review of:

- the role and responsibilities of the different actors in the type-approval process and its implementation;
- the current procedures that have been put in place for verifying conformity of production, for the recall of vehicles and for the general safeguard measures; and
- the procedures that have been (or need to be put in place) to ensure an effective and proportionate enforcement of the legislation, including the role and responsibilities of different national authorities within the Member States.

A public consultation exercise was undertaken by the Commission from December 2010 to February 2011 in order to obtain views of stakeholders and the wider public on the proposed initiative to review the type-approval legislation for motor vehicles and for stakeholders to comment on the possible policy options that had been identified by various stakeholders.

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[1] Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive).

[2] CARS21 is the acronym for: Competitive Automotive Regulatory framework for the 21st Century.

1.2 Study Objectives

Following on from this public consultation, Risk & Policy Analysts (RPA) has been contracted by DG Enterprise and Industry to collect more information from specific stakeholder groups[3] to undertake a two-fold study:

- an ex-post evaluation of the current legal framework for the type-approval of motor vehicles (Module 1); and
- an Impact Assessment on a possible policy initiative aimed at enhancing the implementation of the internal market legislation relating to motor vehicles (Module 2).

The purpose of the study is to:

- evaluate the effectiveness of the current legal framework; and

- assess the impact of the policy options which have been identified as possibly containing the potential to address the specific problems in the different areas identified and enhance the implementation and enforcement of the EU technical harmonisation legislation relating to motor vehicles.

In performing this assessment, due account has been given to the New Legislative Framework (NLF), by exploring whether and to what extent the solutions offered by the NLF toolbox can contribute effectively in addressing the issues at stake.

This report presents the results of the impact assessment (Module 2).

1.3 Methodology and Approach to Impact Assessment

1.3.1 Overview

The key tasks under the impact assessment (as set out in the proposal) were:

- Task 3.1: Collecting and Analysing the Relevant Impact Assessment Data
- Task 3.2: Identification of Policy Options based on the Evaluation Findings
- Task 3.3: Validation of Identified Objectives
- Task 3.4: Assessment of the Identified Policy Options
- Task 3.5: Comparison of the Policy Options
- Task 3.6: Monitoring and Evaluation
- Task 3.7: Submission of Draft Impact Assessment
- Task 3.8: Impact Assessment Meeting
- Task 3.9: Drafting of Minutes
- Task 3.10: Final Impact Assessment

[3] The stakeholder groups are: national authorities, technical services, consumer organisations and economic operators in the automotive manufacturing industry.

1.3.2 Tasks 3.1 – 3.6: Impact Assessment

Task 3.1: Data Collation

The purpose of Task 3.1 was to collate data from various sources in order to provide the basis for the impact assessment.

The approach to the collection of data for the impact assessment was based on a combination of desk research and stakeholder engagement. Taking into account the low number and representativeness of responses to the data collection exercise undertaken for the ex-post evaluation (28 valid responses across all stakeholder groups in May 2011) and the number of responses received in response to the Commission's public consultation (40 valid responses across all stakeholder groups in February 2011), a staged approach was taken to stakeholder engagement.

First, we developed an email-compatible two-page questionnaire for Member State national authorities and technical services (TS), considerably shorter than the (~10 page) questionnaires used for the previous data collection exercise. The questions were formulated to require a simple YES/NO answer, with a box provided for further additional explanation or information. We assumed that people would be more likely to respond to an information request which did not require opening a large attachment and could be completed speedily and easily. These questionnaires were reviewed by the Commission prior to dissemination.

The questionnaire for national authorities was sent to the 27 national authorities across the EU (one national authority per Member State with, on average, two contacts per authority) as well as the EFTA secretariat. The questionnaire for TS was sent to over 250 TS (as listed on the Commission's website and including those with offices in different countries). Both sets of stakeholders were given a four-week period to complete the questionnaire, with responses due by 12 September 2011.

We carried out further follow-up to obtain responses from national authorities which had not completed the questionnaire via telephone calls in October and November. For TS, the two-page questionnaire was translated into eight languages: German, Greek, French, Czech, Polish, Hungarian, Italian and Spanish (see Annex 11) and sent to TS in these countries. The aim was to encourage further TS to respond to questions by providing them in their national language. Follow-up was also undertaken by telephone calls, although it was not possible to contact all TS by phone as identifying the appropriate person was more difficult than for national authorities (i.e. generic rather than personal email addresses and phone numbers were generally provided). Email reminders were also sent out to non-respondents. In each case, email "read receipts" have been retained as proof that the majority of these emails reached their intended targets.

In total, as shown in Table 1.1, **51** responses were received to the questionnaires from TS and national authorities.

Table 1.1: Responses Received to Impact Assessment Questionnaire		
Stakeholder	**Responses**	**Further Breakdown**
Technical Services	33	Responses from 18 countries: Austria (2), Czech Republic, Denmark, Finland, Germany (9), Hungary, Ireland, Italy (3), Latvia, Lithuania, Luxembourg, Malta, Poland (2), Slovakia, Slovenia, Spain, Sweden and the United Kingdom (3).
National Authorities	18	Responses from 18 countries: Austria, Cyprus, Czech Republic, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Malta, Norway, Romania, Slovakia, Spain, Switzerland, the Netherlands and the United Kingdom

Based on the previous data collection exercises, it appeared that a low response rate to consultations is the norm for economic operators in the automotive industry. The exact reason for this is unclear, although it may reflect the fact that economic operators feel well-represented by their industry associations, which in turn are represented on various fora (e.g. CARS21, Motor Vehicles Working Group, etc.) for making their policy-related views known. The response rate may also reflect a general satisfaction with the current regulatory framework, which is less than five years old and is still being fully implemented. Finally, telephone discussions with some of the companies (particularly during the case studies) highlight that small and medium-sized enterprises (SMEs) do not have the time or resources to commit to completing long questionnaires and, faced with multiple requests for information, are increasingly being highly selective, responding only on those proposals which are thought to have particularly burdensome implications. For these reasons, we considered that sending another questionnaire in August 2011 was unlikely to elicit a better reaction than to the earlier consultation.

We therefore opted to arrange face-to-face meetings[4] with economic operators and their associations or industry representatives in Brussels to discuss the study and data requirements. The industry associations were specifically requested to inform and encourage their member companies to participate in the face-to-face discussions. Round table discussions were held with key stakeholder organisations (ACEA, CLEPA, ETRMA and FIGIEFA) on 12 September 2011 in Brussels; however, only three companies (vehicle manufacturers) were in attendance. Further communication with these representatives took place by email and conference call to obtain specific views on the costs and other aspects of the impact assessment.

In terms of the representativeness of the responses, it is considered that:

- the responses from the **national authorities** are statistically representative and relevant for policy making purposes, as they cover over 60% of all national authorities, including some of the countries which have the most important automotive markets (France, Germany, Italy, the UK,). No reasons have been

[4] In the Inception Report for this study, it was noted that "*we do not anticipate holding face-to-face meetings with specific companies or stakeholders, except where it is determined that such a meeting would be of significant additional value in clarifying or validating information received or filling information gaps*".

provided by other Member States for not responding, although the improved response rate for the IA questionnaire may highlight the need for short questionnaires, where possible. One Member State indicated it they was unable to answer the questionnaire because of a lack of time and resources to become familiar with the topic;

- the views of the **TS**, while not statistically representative, are likely to be reasonably representative of the views of TS for policy making purposes, as they cover TS in two-thirds of EU countries (including Germany, Sweden and Italy). Discussions with TS did not provide any clear explanation for the low response rate, beyond an assumption that they may be solely focused on their technical tasks and may not particularly see the point of contributing to policy discussions as the type approval authorities are responsible for this aspect under the current system; and

- the views of economic operators, as provided by the industry associations, are likely to representative for the majority of the automotive sector.

The information for the impact assessment has therefore drawn on four key sources:

- the first set of data came from the **responses to the evaluation questionnaire**. 28 valid responses were received to this questionnaire from national authorities, TS, economic operators and consumer organisations in the EU-27, as well as Switzerland, Iceland and Turkey. The responses to the evaluation questionnaire provided some useful information as to:
  - whether the policy options identified to date are relevant and eligible for further assessment;
  - whether there are any other problem areas and/or policy options that would need to be considered;
  - whether the objectives of the study are relevant; and
  - inform an initial assessment of the importance of the likely impacts of the policy options;

- the second set of data came from **responses to the impact assessment (IA) questionnaire** (and email) sent to all the national authorities and TS across the EU, as discussed above. The responses to these questions provided some useful information as to:
  - the feasibility and acceptability of the proposed policy options; and
  - the likely actions and implications (including costs and benefits) of the proposed policy options for these organisations;

- the third set of data was the result of **targeted data collection**, focusing on specific respondents who indicated an interest and/or had input which was of relevance for the impact assessment. This information:
  - informed the qualitative and quantitative socio-economic assessment of the policy options;
  - informed the comparison of the policy options (including implementation obstacles and associated risks) and monitoring progress; and

- the final set of data came from **desk research and publications**. This involved analysis of existing reports and documents to identify additional quantitative information for the impact assessment.

Task 3.3: Validation of Identified Objectives

As noted in the EC Roadmap (2011), the overall policy objective of Directive 2007/46/EC is to safeguard and strengthen the internal market for motor vehicles by ensuring that all necessary mechanisms are in place for an effective and uniform implementation and enforcement of the automotive product framework legislation. It also aims at achieving the situation that all motor vehicles, as well as components/units intended for such vehicles which are placed on the EU market, fulfil the applicable requirements, with a view to ensuring a high level of safety and environmental protection and that a level playing field is maintained for the economic operators involved.

Three specific objectives have been identified for improvement of the Directive in the EC Roadmap (2011):

- to reduce the number of non-compliant motor vehicles and components/units intended for such vehicles on the EU market;
- to ensure effective and uniform action against non-compliant automotive products (NCDs) across the EU market and equal treatment of economic operators in the implementation and enforcement process; and
- to ensure the reliability and high quality of type-approval of motor vehicles and the conformity of their production.

The aim of this task is to verify the policy objectives in terms of their relevance in the light of the results of the data collection exercise.

A review of RAPEX notifications identified NCDs as one of the causes of recalls (accounting for around 4% of recalls in 2010), thus highlighting that this is an issue that warrants attention. This confirms the relevance of the policy objectives which aim to address the issue of NCDs. Similarly, all respondents to the evaluation questionnaire (except three national authorities) believe that there is an issue with unsafe automotive products (UADs), although there is again disagreement on its magnitude. This, again, confirms the relevance of all of the policy objectives.

In relation to the equal treatment of economic operators in the enforcement process, it is clear that some economic operators are suffering unfair competition from economic operators offering NCDs and UADs on the market. Sellers of such products would be able to avoid the costs associated with ensuring the safety and compliance of their products, in the knowledge that it would take a significant amount of time between the actual discovery of the NCDs or UADs and taking enforcement action against the economic operator (assuming the products are identified). This confirms the relevance of the policy objective which aims to address the issue of equal treatment.

Finally, it is clear that the problem areas identified in the EC Roadmap (2011) and ex-post evaluation report impact on the number of non-compliant motor vehicles and components/units on the EU market and are therefore closely linked to the policy objectives. Responses to the evaluation questionnaire showed that a substantial proportion of respondents indicated that these areas are "somewhat problematic" or "highly problematic" and some respondents expect the importance of these problem areas to further increase in the future. This confirms the relevance of the policy objectives for the purposes of further impact assessment of the identified options.

Task 3.2 – Task 3.10: Impact Assessment and Deliverables

The remaining tasks of the impact assessment are addressed in the report, as follows:

- ***Task 3.2: Identification of Policy Options based on the Evaluation Findings*** and ***Task 3.4: Assessment of the Identified Policy Options*** are addressed in Sections 3 to 7;
- ***Task 3.5: Comparison of the Policy Options*** and ***Task 3.6: Monitoring and Evaluation*** is addressed in Section 8;
- ***Task 3.7: Submission of Draft Impact Assessment Report***: The Draft Impact Assessment Report was submitted on 28 September 2011;
- ***Task 3.8: Impact Assessment Meeting***: The Draft Impact Assessment was presented to and discussed with the Commission and stakeholders at a meeting held on 19 October 2011;
- ***Task 3.9: Drafting of Minutes of the Meeting***: Minutes of the meeting(s) were drafted and submitted for endorsement by the Commission; and
- ***Task 3.10: Re-submission of Final Impact Assessment Report***: Following the Impact Assessment meeting and receipt of comments on the draft impact assessment, a revised Impact Assessment was submitted on 21 December 2011. Comments on this report were received on 14 February 2012 and a Final Impact Assessment Report was submitted on 23 February 2012.

1.4 Structure of this Report

The remainder of this report has been organised as follows:

- Section 2 sets out the basis for the **quantitative assessment of impacts** of the policy options;
- Sections 3 – 7 provide an **in-depth assessment for each problem area** identified in the Commission's draft Impact Assessment Roadmap (EC Roadmap, 2011). For each problem area, the following aspects have been set out:
    - the significance of the problem area;
    - the specific problems to be addressed;

  - the aim of the intervention;
  - a definition of the relevant policy options;
  - an assessment of the economic, social and environmental impacts of each policy option; and
  - a summary of key findings.

- Section 8 provides a **comparison of impacts**; and

- Section 9 provides a list of **references**.

The Study Specifications are provided in Annex 1 and Annex 2 provides an overview of the regulatory framework for type-approval of motor vehicles. Detailed analyses of the responses of Economic Operators (Annex 3), Technical Services (Annex 4), National Authorities (Annex 5) and Consumer Organisations/Other Users (Annex 6) to the evaluation questionnaire are also provided as Annexes.

Two case studies developed (Case Study 1: Problems and Challenges for SMEs and Case Study 2: Optimising Ex-ante Pre-market Controls) are presented in Annexes 7 and 8 respectively, while Annex 9 provides an overview of the automotive industry.

Annex 10 provides a list of respondents to the data collection exercise for both the evaluation (Module 1) and impact assessment (Module 2) and copies of the questionnaires used for data collection for both modules are provided in Annex 11.

Annex 12 provides a screening of the relevant provisions of the NLF, which are of relevance for the impact assessment. Annex 13 and Annex 14 provide detailed analyses of the responses of National Authorities and Technical Services respectively to the impact assessment questionnaire.

2. KEY DATA UNDERLYING THE QUANTIFICATION OF IMPACTS

2.1 Introduction

Quantifying the impacts of the proposed policy options poses a number of difficulties. There is a lack of quantitative data on the extent of problems with the implementation and enforcement of the legal framework for the free movement of motor vehicles. As the Evaluation Report indicated, there is general agreement on the relevance of the problems, but less agreement on their significance.

Organisations consulted for the study were, in most cases, unable to provide relevant quantitative information. In addition, the number of responses (described in Section 1.3.2) meant that any quantitative information provided was subject to considerably uncertainty in terms of its wider applicability.

In discussion with the Steering Group for the study, it was agreed that RPA would draw on available data from consultees and in the literature, making assumptions where necessary, to provide a broad indication of the quantitative impacts of the policy options. This section describes how the analysis was carried out and sets out the assumptions that have been made.

The analysis involved a number of different steps:

- determining the size of the market for products covered by the EU's technical harmonisation legislation for motor vehicles, their components and systems;
- establishing the proportion of automotive devices on the market that are either unsafe (UADs) or non-compliant (NCDs) with the legislation;
- evaluating the likely contribution of each of the problem areas identified in the draft Impact Assessment Roadmap to the number of UADs and NCDs on the market;
- assessing the extent to which the policy options identified to address the problem areas would reduce the number of UADs and NCDs on the market; and
- assessing the proportion of vehicle recalls associated with UADs and NCDs, the costs to different stakeholders associated with these recalls and the extent to which these costs would be reduced by the policy options.

The calculations of costs resulting from these steps are subject to considerable uncertainty, because of the number of assumptions that have had to be made. Although we have tested these assumptions with stakeholders as far as possible, they remain based on limited data. Nevertheless, they provide an indication of the potential quantitative impacts of the policy options, as a basis for comparison.

2.2 Establishing the Relevant Market Size

According to EC (2009) and ACEA (2010), the EU automotive sector has an annual turnover of over €780 billion. While a breakdown of this figure is not provided, an examination of Eurostat statistics for 2008 indicates that this figure is consistent with the Eurostat figure of €794 million relating to the annual turnover for the *manufacture of motor vehicles, trailers and semi-trailers* (NACE Code C29), as shown in Table 2.1 below.

As can be seen in Table 2.1, industrial activities accounted for around 80% of the total turnover indicated; with 18% relating to 'trading' and 2% to 'service' activities. Motor vehicle manufacture is also indicated to account for around 70% of total turnover, while the manufacture of parts and accessories accounts for around 25%. There are, however, some uncertainties associated with this data. For instance, it is unclear to what extent the turnover relating to the tyre sector (estimated at around €28 billion) has been captured in the above data, as there is a separate NACE code for tyre and rubber-related activities (*NACE Code C22.1.1 - Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres*).

Table 2.1: Turnover for the Automotive Industry

	Manufacture of motor vehicles, trailers and semi-trailers		**Manufacture of motor vehicles**		**Manufacture of bodies for motor vehicles; manufacture of trailers and semi-trailers**		**Manufacture of parts and accessories for motor vehicles**	
NACE Rev 2 code	**C29***		**C29.1**		**C29.2**		**C29.3**	
	€,000	**%**	**€,000**	**%**	**€,000**	**%**	**€,000**	**%**
Industrial activities	642,297	**81%**	410,411	**75%**	34,503	**93%**	186,276	**93%**
Service activities	12,472	**2%**	7,870	**1%**	446	**1%**	4,136	**2%**
Trading activities of purchase, resale and intermediary activities	139,142	**18%**	126,743	**23%**	2,170	**6%**	9,247	**5%**
Total	**793,910**	**100%**	**545,024**	**100%**	**37,119**	**100%**	**199,658**	**100%**
Total as % of Total Turnover for C29	**~100%**		**~70%**		**~5%**		**~25%**	

Source: Eurostat

** There is a small discrepancy between the sum of C29.1, C29.2 and C29.3 and the value given for C29 in the Eurostat data. This difference is, however, not overly significant for the analysis (<2%).*

Based on this table, we have therefore assumed for the purposes of the impact assessment that:

- the automotive sector has a total turnover of around **€800 billion;**
- the turnover associated with "industrial activities" in the automotive sector (excluding services and trading) is around **€640 billion**;
- of this total for industrial activities, the *manufacture of motor vehicles, trailers and semi-trailers accounts* for, around **€440 billion**; and

- the *manufacture of parts and accessories* accounts for around **€200 billion**. The aftermarket parts is estimated at around half of this (€100 billion), split evenly between the independent side (accessories) and the original equipment side (replacement parts) (European Aftermarket Report, 2009 – see Table 2.2). Note that CLEPA quotes a turnover of €300 billion for its members; however, it is unclear what this includes and it has not therefore been used in the analysis.

Figure 2.1 below sets out the market breakdown assumed for this study.

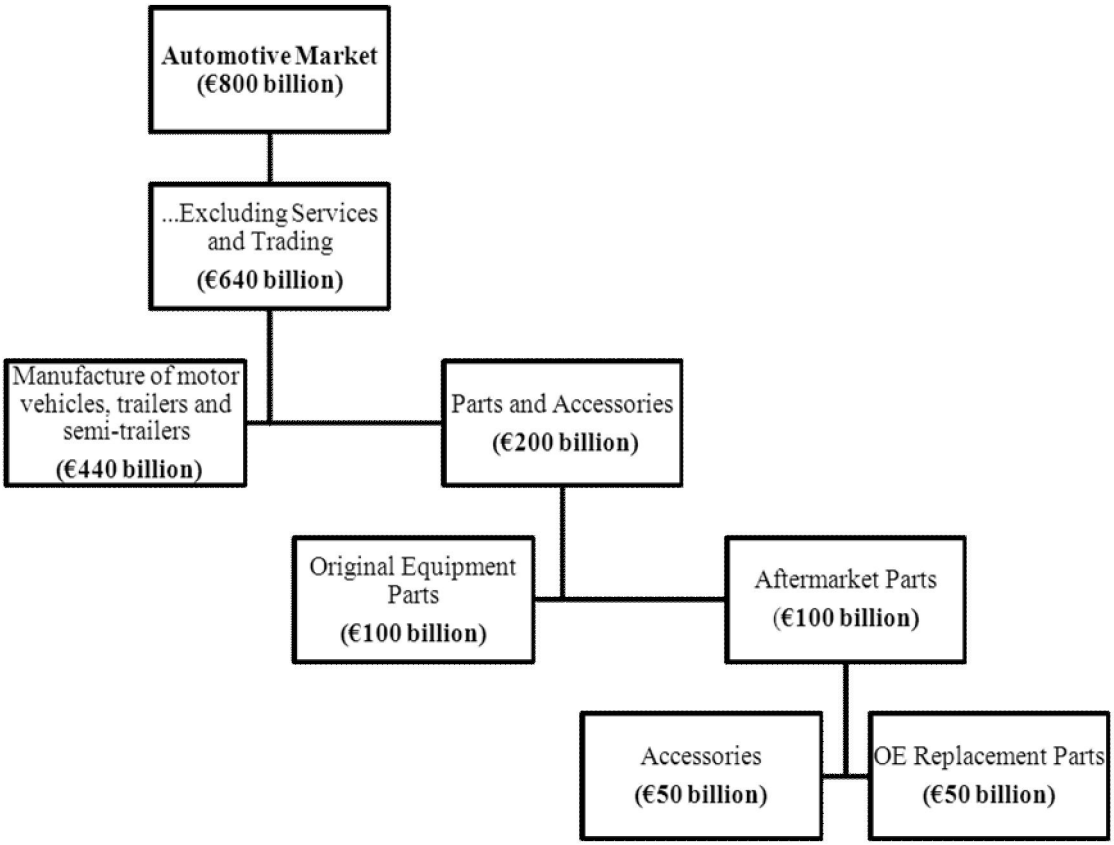

Figure 2.1: EU Automotive Market Breakdown

Table 2.2: Definition of Automotive Parts
Automotive parts are generally defined as either: • *Original Equipment* parts, which are used in the assembly of a new motor vehicle or are purchased by the manufacturer for its service network. • *Aftermarket* parts, which can be divided into two categories: **replacement parts** (which are automotive parts built or re-manufactured to replace original equipment parts as they become worn or damaged and accessories) and **accessories** (which are parts made for comfort, convenience, performance, safety, or customisation, and are designed for add-on after the original assembly of the motor vehicle).
Source: US OTM (2011)

According to ACEA (2008), there are more than 250 million vehicles across the EU-27 (*256 million units in 2008*), with passenger cars accounting for around 87% of these (*224 million vehicles*). Around 34% of the cars on EU roads are older than 10 years, while around 6% are new cars (~15 million cars). The European car fleet is mainly concentrated in Western Europe, with around seven out of 10 cars registered in Germany (18%), Italy (15%), France (13%), the UK (12.5%) and Spain (9.5%). 80% of cars produced in the EU are also registered in the EU.

2.3 Establishing the Proportion of NCDs and UADs on the Market

2.3.1 Background

First, it is important to differentiate between unsafe automotive devices (UADs) and non-compliant automotive devices (NCDs). Vehicle recalls occur when automotive devices which present a "*serious risk to road safety, public health or environmental protection*" are identified and, as such, can be said to be a direct result of UADs.

Directive 2007/46/EC provides the overall framework for type-approval of whole vehicles, systems, components and separate technical units intended for those vehicles. It is complemented by over 60 directives and regulations that deal with specific subject areas, such as brakes, emissions, noise, etc. and some of these Directives will be repealed by Regulation (EC) No. 661/2009 which simplifies the type-approval legislation. Non-compliance or NCDs are considered to refer to the extent to which the automotive products covered under these Directives comply with the relevant legislation. In this context, non-compliance (or NCDs) is one of many other important reasons why UADs are found on the market (as shown in Figure 2.2).

2.3.2 Proportion of Unsafe Automotive Devices (UADs) on the EU Market

The exact proportion of UADs on the EU market is also unknown. Consultation for the evaluation report indicated that the majority of national authorities (who consider UADs a serious problem) believe that UADs account for more than 10% of automotive products on the market. For the purposes of this study, we have assumed that UADs are likely to account for between **5% and 15%** of automotive products on the market. Applying these percentages to the relevant turnover of the EU automotive sector (depending on the assumptions made about the size of the market affected) would suggest that UADs account for between **€5 billion** and **€45 billion** of automotive products present on the EU market, as shown in Table 2.3 below.

Table 2.3: Estimating the Market for Unsafe Automotive Products (UADs)

	Lower Estimate	**Upper Estimate**
Annual turnover affected by UADs*	€ 100 billion	€ 200 billion
% of annual turnover accounted for by UADs	5%	15%
Size of market accounted for by UADs	€ 5 billion	€ 30 billion

** The lower estimate of €100 billion assumes only aftermarket parts are affected while the upper estimate of €200 billion assumes all parts and accessories are affected*

There are, however, uncertainties associated with the scope of the CLEPA turnover figure of €300 billion and, as such, we considered the lower and central estimates in Table 2.3 to be more relevant for determining the actual size of the market accounted for by UADs. These have been taken forward as lower and upper estimates in Table 2.5 and Table 2.6.

In this regard, it is recognised that there may be significant debate regarding the extent to which UADs are present in original equipment parts (and OE replacement parts) and, as such, the extent to which the market size of €200 billion overestimates the market affected. In response to this, we note that 90% of safety recalls are issued within the first three model-years of vehicle introduction (Macdonald, 2009) and these are likely to be original equipment parts. Thus, while 5% is the lower bound assumption for UADs, the 15% has been used to provide a realistic upper estimate which offsets the effect of not using the €300 billion CLEPA figure (i.e. it has the same effect as assuming that 10% of €300 billion is affected).

2.3.3 Proportion of Non-compliant Automotive Devices (NCDs) on the EU Market

The exact proportion of NCDs on the EU market is not known. CLEPA (representing automotive parts suppliers) suggests that around 10 - 15% of multi-brand independent replacement parts on the market are non-compliant, rising up to 50% for specific automotive parts as shown in an industry survey. A separate survey by ETRMA (representing the tyres and rubber industry) indicates that around 10-12% of the 300 million tyres sold annually were non-compliant with EU legislation (Automotive Industry Roundtable, 2011). Consultation for the evaluation report indicated that the majority of national authorities (who consider NCDs a serious problem) believe that NCDs account for less than 10% of automotive products on the market; some other respondents consider they account for more than 25% of automotive products. For the purposes of this study, we have assumed that NCDs are likely to account for between **5% and 15%** of automotive products on the market.

Applying these percentages to the relevant turnover of the EU automotive sector suggests that NCDs account for between **€2.5 billion** and **€30 billion** of automotive products present on the EU market, as shown in Table 2.4 below (depending on the assumptions made about the size of the market affected, whether replacement parts, aftermarket parts or the entire parts and accessories market, including original equipment parts).

Table 2.4: Estimating the Market for Non-compliant Automotive Products (NCDs)

	Lower Estimate	Central Estimate	Upper Estimate
Annual turnover affected by NCDs*	€ 50 billion	€ 100 billion	€ 200 billion
% of annual turnover accounted for by NCDs	5%	5%	15%
Size of market accounted for by NCDs	€ 2.5 billion	€ 5 billion	€ 30 billion

** The lower estimate of €50 billion assumes only replacement parts are affected, the upper estimate assumes all aftermarket parts and the upper estimate assumes all parts and accessories are affected*

An analysis of RAPEX data (as shown in Figure 2.3) would suggest that NCDs account for less than 5% of all vehicle recalls, where all vehicle recalls are the result of UADs. However, it is uncertain whether all 'defective products' which resulted in a RAPEX notification were in compliance with the Directive or not. Indeed, an analysis of the vehicle parts associated with recalls (see Table 2.14) will also show that a high percentage of recalls are associated with automotive systems, components and/or units which are subject to legislative requirements and, as such, it seems unlikely that all these automotive parts were compliant (even with regard to CoP). As such, it seems reasonable to deduce that NCDs account for more than 5% of UADs.

Using the lower figure of €2.5 billion from Table 2.4 (and dividing by the total market for UADs of **€30 billion**) suggests that NCDs account for 8% of UADs and that only replacement parts are affected. While the 8% is likely to be reasonable, the assumption that only replacement parts are affected may underestimate the situation. Similarly, using the upper estimate of NCDs of €30 billion would suggest that NCDs account for all UADs and that all parts and accessories are affected. This significantly overestimates the contribution of NCDs to UADs and, as such, this value is not taken forward. Using the central estimate of NCDs of €5 billion would suggest that NCDs account for around 17% of UADs and that only aftermarket parts are affected. It also suggests that the lower bound market size of €5 billion for UADs may be a significant underestimate of the market. This is explained in Table 2.5 below.

Table 2.5: Comparing the Market Estimates for NCDs and/or UADs

	Lower Estimate	**Upper Estimate**
Annual turnover affected by UADs (see Table 2.3)	€ 100 billion	€ 200 billion
Annual turnover affected by NCDs (see Table 2.4)	€ 50 billion	€ 200 billion
Annual turnover affected by NCDs and UADs	**€ 100 billion**	**€ 200 billion**
Size of market accounted for by UADs	€ 5 billion	€ 30 billion
Size of market accounted for by NCDs (low)	€ 2.5 billion	
NCDs (low estimate) as a % of UADs	50%	8%
Size of market accounted for by UADs	€ 5 billion	€ 30 billion
Size of market accounted for by NCDs (central)	€ 5 billion	
NCDs (central estimate) as a % of UADs	100%	17%
Size of market accounted for by UADs	€ 5 billion	€ 30 billion
Size of market accounted for by NCDs (upper)	€ 30 billion	
NCDs (upper estimate) as a % of UADs	600%	100%

Overall, the assumption that NCDs account for around **€5 billion** of automotive products present on the EU market - where this €5 billion is a subset of the €30 billion of automotive products accounted for by UADs - and are effectively responsible for around 17% of UADs on the market appears reasonable. Taking into account the discussion earlier on RAPEX, we consider that an assumption that NCDs account for between 5% and 20% of UADs would seem reasonable for the purposes of the impact assessment and, as such, this value has been taken forward in Table 2.6.

2.3.4 Summary of UADs and NCDs on the Market

Table 2.6 summarises the key figures which are used for the impact assessment. Overall, we have assumed that UADs account for up to **€30 billion** of automotive products present on the EU market and NCDs account for around **€5 billion** of automotive products present on the EU market. Although, as noted earlier, the lower bound market size of €5 billion for UADs is likely to be a significant underestimate of the market, it has been retained in the impact assessment analysis mainly because it effectively estimates the impacts if NCDs alone are considered.

There is, of course, significant uncertainty associated with the figures which have been derived above; however, they allow for an indicative quantification to allow comparison of the impacts of different options, to inform decision making.

Table 2.6: Estimating the Market for NCDs and/or UADs

	Lower Estimate	Upper Estimate
Annual turnover affected by NCDs and UADs	€ 100 billion	€ 200 billion
% of annual turnover accounted for by NCDs and UADs	5%	15%
Size of market accounted for by NCDs and UADs	€ 5 billion	€ 30 billion
Size of market accounted for by NCDs		€ 5 billion
NCDs as a % of UADs		17%

2.4 Problem Areas and their Contribution to NCDs and UADs

2.4.1 Background

The problem areas identified in the EC Roadmap (2011) contribute in various ways and to different extents to the presence of NCDs and UADs on the market, as illustrated in Figure 2.2.

The exact proportion of UADs, NCDs and vehicle recalls that could realistically be attributed to each problem area (or solved by addressing the problem areas) is fundamentally uncertain. However, in order to quantify the impacts of the measures, assumptions have to be made about the likely contribution of these problem areas. This means, of course, that the quantifications resulting from these allocations are indicative only; their main aim is to highlight the potential order of magnitude of benefits associated with any intervention.

For the purposes of the analysis, a relative contribution has been estimated for each problem area, based on two criteria:

- a review of RAPEX notifications in 2010; and
- the information provided by stakeholders on the relative importance of each problem area.

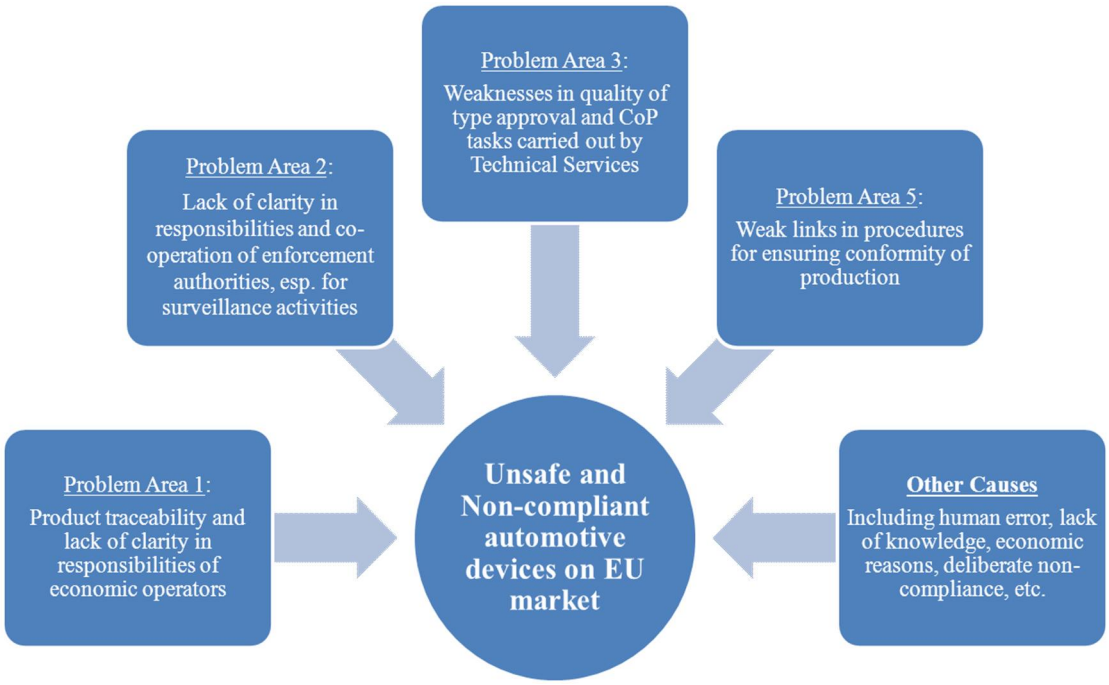

Figure 2.2: Links between Problem Areas and UADs and NCDs on EU Market

2.4.2 RAPEX notifications

A review of recent RAPEX annual reports[5] indicates that motor vehicles (including motorcycles) account for around 10-15% of "*notifications of products presenting a serious risk*". In 2010, 146 RAPEX notifications related to motor vehicles; in the majority of cases (over 82%), the notification was linked to a risk of injury, with the remaining cases being fire risks.

The review of the RAPEX notifications (for 2010) also enabled some judgement to be made of the likely cause of the notification. Although there are inherent uncertainties, it would appear that most involved defective products – as shown in Figure 2.3.

Unfortunately, it cannot be determined with certainty from RAPEX whether the defective automotive devices which warranted a notification were in compliance with the Directive or not[6]. However, it does appear possible that products may appear on the market which conform with the Directive but are considered unsafe by national authorities.

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5 Available from: http://ec.europa.eu/consumers/safety/rapex/stats_reports_en.htm#annual

6 Article 29 of the Directive recognises that new vehicles or vehicle components/units which are in compliance with the applicable requirements or properly marked may present a serious risk to road safety, or seriously harm the environment or public health. Article 30 also recognises that vehicles or vehicle components/units accompanied by a certificate of conformity or bearing an approval mark may not conform to the type which was approved.

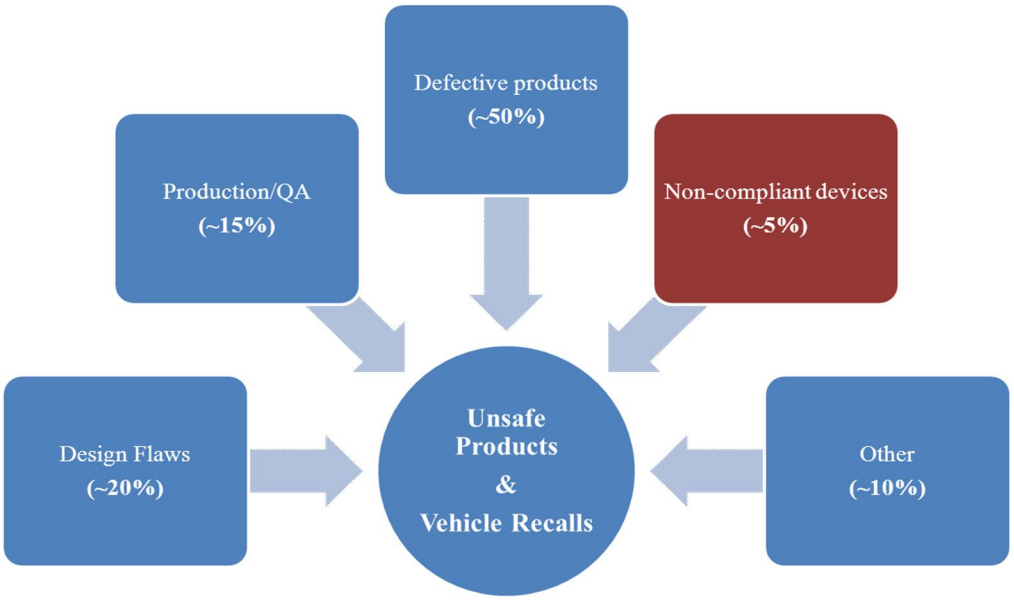

Figure 2.3: Contribution of NCDs to UADs on the EU Market Based on a Review of RAPEX Notifications for 2010

It is important to note that any analysis of RAPEX recalls is looking at a sub-set of all recalls or 'major' faults addressed by vehicle and product manufacturers, as it covers only recalls associated with products which present a "*serious risk to road safety, public health or environmental protection*". The analysis does not also cover automotive products, which are not subject to any specific Directives in terms of testing requirements and, which by definition cannot be considered non-compliant. Such products may, however, be low quality.

2.4.3 Views of Stakeholders

We have used the views of stakeholders responding to the evaluation questionnaire, presented in Table 2.7 and Table 2.8 (over page), to provide some indication of the likely contribution of each problem area to the total number of NCDs and UADs on the market. These views have allowed a ranking of the relative contributions of the problem areas to be developed and this is set out in Table 2.9. For example, where over 60% of stakeholders believe a problem area to be 'somewhat' or 'highly' problematic, and likely to 'increase' or 'significantly increase' in the future, this problem area is ranked as having a 'high' contribution to NCDs.

There is, of course, a significant amount of subjectivity and uncertainty associated with the rankings which have been derived; however, they allow for an indicative quantification to allow comparison of the impacts of different options, to inform decision making.

Table 2.7: Responses to the question: Five problem areas have been identified as having the potential to affect the effective implementation of the EU type-approval legislation for automotive products. Indicate the extent to which you consider these areas to be problematic

Area of attention	Response	Percentage of responses (Response Count)			
		Economic Operators	Technical Services	National Auths	Consumer Orgs
A. Traceability of products and clarifying the role and responsibilities of economic operators	Highly problematic	0% (0)	33% (2)	20% (2)	100% (2)
	Somewhat problematic	25% (1)	50% (3)	20% (2)	0% (0)
	Not an important problem	75% (3)	17% (1)	30% (3)	0% (0)
	Do not know	0% (0)	0% (0)	30% (3)	0% (0)
B. Responsibilities of and co-operation between the different national authorities within the Member States involved in the enforcement of the legislation (type-approval, recalls, market surveillance, border controls)	Highly problematic	0% (0)	17% (1)	10% (1)	100% (2)
	Somewhat problematic	67% (2)	50% (3)	50% (5)	0% (0)
	Not an important problem	33% (1)	17% (1)	30% (3)	0% (0)
	Do not know	0% (0)	17% (1)	10% (1)	0% (0)
C. Quality and performance of technical services	Highly problematic	0% (0)	0% (0)	30% (3)	100% (2)
	Somewhat problematic	25% (1)	17% (1)	40% (4)	0% (0)
	Not an important problem	75% (3)	67% (4)	20% (2)	0% (0)
	Do not know	0% (0)	17% (1)	10% (1)	0% (0)
D. Application of post-market safeguard measures and obligatory recall of vehicles (and components)	Highly problematic	0% (0)	17% (1)	10% (1)	100% (2)
	Somewhat problematic	0% (0)	50% (3)	30% (3)	0% (0)
	Not an important problem	50% (2)	17% (1)	50% (5)	0% (0)
	Do not know	50% (2)	17% (1)	10% (1)	0% (0)
E. Verification procedures for ensuring conformity of production	Highly problematic	25% (1)	0% (0)	10% (1)	100% (2)
	Somewhat problematic	25% (1)	67% (4)	40% (4)	0% (0)
	Not an important problem	50% (2)	17% (1)	30% (3)	0% (0)
	Do not know	0% (0)	17% (1)	20% (2)	0% (0)

Table 2.8: Responses to the question - Are expected developments or changes (whether geographical, design, technological or market-related) in the market for motor vehicles likely to increase or decrease the importance of the identified problem areas?

Problem Areas	Importance will …	Percentage of Responses (Response Count)		
		Economic Operators	Technical Services	National Authorities
A. Traceability of products and clarifying the role and responsibilities of economic operators	Significantly increase	0% (0)	20% (1)	22% (2)
	Increase	33% (1)	60% (3)	33% (3)
	No change	67% (2)	20% (1)	44% (4)
	Decrease	0% (0)	0% (0)	0% (0)
	Significantly decrease	0% (0)	0% (0)	0% (0)
B. Responsibilities of and co-operation between the different national authorities within the Member States involved in the enforcement of the legislation (type-approval, recalls, market surveillance, border controls)	Significantly increase	0% (0)	0% (0)	22% (2)
	Increase	0% (0)	60% (3)	11% (1)
	No change	100% (3)	40% (2)	67% (6)
	Decrease	0% (0)	0% (0)	0% (0)
	Significantly decrease	0% (0)	0% (0)	0% (0)
C. Quality and performance of technical services	Significantly increase	0% (0)	0% (0)	11% (1)
	Increase	33% (1)	40% (2)	33% (3)
	No change	67% (2)	60% (3)	33% (3)
	Decrease	0% (0)	0% (0)	22% (2)
	Significantly decrease	0% (0)	0% (0)	0% (0)
D. Application of post-market safeguard measures and obligatory recall of vehicles (and components)	Significantly increase	0% (0)	0% (0)	0% (0)
	Increase	0% (0)	60% (3)	44% (4)
	No change	100% (3)	40% (2)	44% (4)
	Decrease	0% (0)	0% (0)	11% (1)
	Significantly decrease	0% (0)	0% (0)	0% (0)
E. Verification procedures for ensuring conformity of production	Significantly increase	0% (0)	0% (0)	0% (0)
	Increase	0% (0)	60% (3)	67% (6)
	No change	100% (3)	40% (2)	33% (3)
	Decrease	0% (0)	0% (0)	0% (0)
	Significantly decrease	0% (0)	0% (0)	0% (0)

Table 2.9: Ranking of Problem Areas Based on Likely Contribution to NCDs and UADs

Problem Area	CURRENT – 'somewhat' or 'highly' problematic	FUTURE – 'increase' or 'significantly increase'	RANKING – Assumed Contribution to NCDs and UADs
Problem Area A	Somewhat problematic	Increase	Medium/High
Problem Area B	Highly problematic	Increase	High
Problem Area C	Somewhat problematic	No change/ Increase	Medium
Problem Area D	Somewhat problematic	No change/ Increase	
Problem Area E	Somewhat problematic	Increase	Medium/High

No ranking has been given to Problem Area D as there is considerable uncertainty over the significance of this problem area (see Section 6.1) and it would also be partly addressed by the issues under Problem Area B

2.4.4 Contributions of the Problem Areas to UADs and NCDs on the Market

Taken together, the information obtained from a review of the RAPEX notifications (for 2010) and the views of stakeholders provide a rough basis for allocating the NCDs and UADs across the problem areas, for the purposes of quantification, this is shown in Table 2.10. As can be appreciated, there are some inconsistencies in the views of stakeholders and the information from RAPEX, for instance, while Problem Area C is ranked as having a 'medium' contribution to recalls and UADs, if it is assumed that (some) defective products are the result of weaknesses in the quality and performance of TS, the actual percentage which could be allocated to this problem area is much higher. We have, therefore, derived ranges to reflect possible lower and upper ranges of the contributions of each problem area (as shown in Table 2.10).

Table 2.10: Contribution of Problem Areas to Recalls and UADs Based on Likely Cause of RAPEX Notification in 2010 and Stakeholder Views

Problem Areas	Likely Cause of Recall*	Ranking of contribution of problem area based on views of stakeholders	% of notifications linked to cause of recall*	% of recalls and UADs which could be avoided if problem area is addressed	
				Lower Range	Upper Range
Problem Area A		Medium/High		7.5% [2]	10% [2]
Problem Area B	Non-compliant products	High	3.40%	2.5% [1]	20% [3]
Problem Area C	Defective products	Medium	52.70%	5% [2]	25% [1]
Problem Area D		Medium			
Problem Area E	Production/QA	Medium/High	14.40%	10% [1]	15% [3]
Other	*Design Flaws*		*17.10%*		
	Not known		*12.30%*	*75%*	*30%*

1 Based on a % reduction in notifications linked to cause of recall (Column 4)
2 Based on stakeholder views on the ranking of the problem areas (Column 3)
3 Some defective products or those with design flaws will also be non-compliant (Problem Area B) and or result from weak links in CoP (Problem Area E)
** Obtained from review of RAPEX entries for motor vehicles in 2010*

Applying the percentages in Table 2.10 to the estimated value of the NCDs and UADs on the market allows for an indicative quantification of the potential contribution of each of the problem areas to the presence of NCDs and UADs on the market, as set out in Table 2.11.

Table 2.11: Contribution of Problem Area to NCDs and UADs

Problem Areas	Contribution to NCDs/UADs market	Estimated Value of NCDs/UADs on the Market Resulting from Problem Area (€ million)	
		Lower (NCDs)	Upper (UADs)
Problem Area A*	7.5% - 10%	€ 375	€ 3, 000
Problem Area B	2.5% - 20%	€ 125	€ 6,000
Problem Area C	5% - 25%	€ 250	€ 7,500
Problem Area D	-	€ 0	€ 0
Problem Area E	10% – 15%	€ 500	€ 4,500
Other Causes	30% - 75%		
Total Contribution		**€ 1,250**	**€ 21,000**

*For instance, for Problem Area A, multiplying 7.5% by €5 billion (UADs low estimate) gives €375 million and multiplying 10% by €30 billion (UADs central estimate) gives €3 billion.

Although the indicated percentage contributions are subject to considerable uncertainty, they provide a basis for an indicative quantification of some of the potential benefits of intervention.

2.5 Contributions of the Policy Options to Reducing UADs and NCDs on the Market

In the previous section, it was estimated that Problem Areas A to E are responsible for between 25% (lower estimate) and 70% (upper estimate) of NCDs and UADs placed on the EU market; effectively resulting in around €1.2 billion in NCDs and €21 billion in UADs on the EU market (see Table 2.11).

The next step in the analysis is therefore to determine the extent that the policy options would reduce the number of UADs/NCDs on the market associated with each problem area. We have based this on the judgement of stakeholders, together with our own evaluation, of the likely effectiveness of the policy options, to give a verbal ranking into four categories:

- highly effective;
- effective;
- uncertain; and
- highly uncertain.

We have converted this verbal ranking into a numerical ranking to indicate the percentage reduction in UADs/NCDs that would result (see Table 2.12).

Table 2.12: Quantifying the Potential Reduction in UADs Based on Potential Effectiveness of the Policy Options

Potential Effectiveness of Policy Option	% Reduction in UADs
Highly Effective	75%
Effective	50%
Uncertain	15%
Highly Uncertain	5%

With regard to 'other causes' which are assumed to account for 30% – 75% of NCDs and/or UADs on the market, as shown in Table 2.13, it is unlikely that the policy options would address all of these causes fully. In particular, those manufacturers that specifically intend to gain a competitive advantage through non-compliance are unlikely to respond to most options; as Bates (2004) notes "*the production of defective vehicles is not necessarily unprofitable*".

Table 2.13: Possible Reasons for Non-compliant Automotive Products Being Placed on the EU Market (from ACEM Report)

A number of reasons have been advanced why a manufacturer would allow series production to slip outside the tolerance allowed for by CoP and/or deliberate non-compliance with the WVTA Directive.

- Manufacturers are in competition with each other, for the "lowest possible price" market sector and are under pressure from their EU distributors to achieve this price position. Under such

Table 2.13: Possible Reasons for Non-compliant Automotive Products Being Placed on the EU Market (from ACEM Report)

pressures, any small savings that can be achieved between the costs of a type approved component and the production component can be a significant step towards achieving the "lowest possible price".

- As yet, there seems to have been little effort on the part of overseas manufacturers or their EU importers to create a brand with values to protect. Therefore there is little stigma (or cost) attached to being found to be selling automotive products that do not comply with their EU type approval.
- Some manufacturers of non-compliant products simply do not fully understand the EU Type approval process and the conformity of production obligations that it imposes.
- For some market entrants, usually in the low price sector, the need to save costs to a minimum may make the risk of non-compliance acceptable.
- A lack of a clear definition of how many samples need to be tested to confirm that non-compliance has occurred means that an in depth investigation of several sample vehicles is likely to be required. Such an in-depth investigation would be a long and slow process for the Competent Authority concerned. For the manufacturer of low value automotive products, any cost saving per vehicle is very tempting, particularly as non-compliances are most unlikely to be detected and (when detected, a long process ensues) and the consequences minimal.

2.6 Number and Costs of Vehicle Recalls

2.6.1 Number of Vehicles Recalled Annually

There are a number of different databases (including privately-owned ones) which record information on recalls of vehicles across Member States and the EU-27. Examples include EU Rapex Notifications[7], the UK VOSA website[8] and the UK Car recalls website[9]. The amount of information available on each website varies, as does the extent to which this information can be downloaded and analysed. For instance, the UK Vehicle and Operator Services Agency (VOSA) maintains a database of all motor vehicle recalls in the UK since 1992, whereas there are relatively few RAPEX entries prior to 2006.

Information from these websites has been used to estimate the number of vehicle recall incidents and the number of vehicles and faults involved. The key source of information has been the UK datasets, however, as there was a broad consistency between the number of faults resulting in vehicle recalls based on UK data and the number of notifications to RAPEX in 2010 (±5). We have therefore assumed that the UK data is suitable for extrapolating to the EU situation.

Based on the UK datasets, it has been estimated that there were around 150 faults which resulted in around **150 vehicle recalls per year** across the EU (based on data for 2010 from national authorities and from RAPEX). These faults/recall incidents

7 http://ec.europa.eu/consumers/dyna/rapex/rapex_archives_en.cfm

8 http://www.dft.gov.uk/vosa/apps/recalls/default.asp?tx=VOSA

9 http://www.recalluk.com/latest/car-recall.aspx

affected over **300 vehicle models**, which highlights the fact that some faults may affect more than one vehicle model or manufacturer as components, facilities and designs are shared between manufacturers, producers or suppliers (although some brands do issue a single recall covering more than one model).

By comparison, according to Elmerraji (2010), the US National Highway Traffic Safety Administration (NHTSA) has recorded 8,759 safety related and compliance recalls between 1967 and March 2008, around **200 recalls every year**. More recently, Which (2010) indicates that over the past three years, the NHTSA's 'defect and compliance investigations' have resulted in 492 recalls involving more than 20 million vehicles. In 2010, 648 recalls were issued for the year.

While the estimated number of vehicle recalls (150) may be higher than the five-year average for 2006 – 2010 (114 recalls per year for the UK), there is a clear upward trend in the numbers of vehicle recalls from the early 1990s, based on RAPEX data, even if the trend post-2005 is not clear. It is also important to highlight that the number of cars recalled underestimates the number of faults which occur as, in some cases, these are not considered to meet the definition of a safety defect, and therefore simply not recalled (Which, 2010), or may be judged as suitable for rectification on next service.

Based on the information from the UK, it has been estimated that faults and recall incidents affected around **760,000 vehicles** in total in the UK alone[10]. As the UK accounts for around 12.5% of all EU cars, the number across of cars affected across the EU could be around 6 million cars. This includes a single recall incident in 2010 which accounted for around 25% of all vehicles, which is very unusual and could distort the data. Taking account of this, for the purposes of the study, it is estimated that between **4.5** and **6 million vehicles** per year are affected by recalls across the EU.

Macdonald (2009) estimates that 90% of safety recalls are issued within the first three model-years of vehicle introduction. Assuming that 45 million cars are introduced in any three-year period in the EU (15 million new cars per annum), it can therefore be estimated that around **10% of all new cars** are likely to be affected by a recall.

Taking all this information together, it can be estimated that each vehicle recall incident is likely to result in around **30,000 vehicles being recalled across the EU-27** (4.5 million/150 recalls); around 21,000 of these cars would be in Germany, Italy, France, the UK and Spain (around 4,000 cars recalled per country) and the remaining 9,000 spread across the rest of the EU. It can also be estimated that around 27,000 of these recalled vehicles are likely to be less than three years old.

[10] Information from Which (2010) indicates that there were around 4.5 million cars recalled in the UK over the last five years, an average of 900,000 cars per year. Which (2010) also identifies 572 recall incidents over these five years, an average of 114 recall incidents per year.

2.6.2 Cost of Recalls

Recalls result in costs to manufacturers, consumers and public authorities. These include the direct costs, such as those associated with remedying the fault and accidents (including lives lost), as well as indirect costs associated with inconvenience and administrative work.

In 2004, the NHTSA estimated that safety recalls cost automakers about $100 per vehicle per recall (Elmerraji, 2010). This figure did not include the indirect costs caused by recalls (e.g. brand damage) or other proactive actions manufacturers undertake to correct "non-safety" defects, such as emission-related recalls, non-safety or non-emissions service actions, customer satisfaction campaigns, extended warranties, etc. Rupp (2003) found that these indirect costs of automotive recalls are likely larger than the direct costs.

Recall costs for manufacturers of components can also be quite expensive. For instance, one company recalled 14 million tyres in 2000 and analysts estimate that this particular recall cost about $750 million - not counting costs associated with any lawsuits (Bates, 2004).

For the purposes of the impact assessment, we have assumed a cost to vehicle manufacturers of €100 per vehicle as a lower bound and €250 per vehicle as an upper bound. These estimates take into account the vehicle parts most commonly associated with vehicle recalls (as shown in Table 2.14), and the fact that repair costs for a car manufacturer are significantly lower than they would be for consumers given the lower part costs and labour expenses that the manufacturers enjoy (Elmerraji, 2010).

Table 2.14: Most Common Reasons for Vehicle Recalls in the UK

Reason	Number of Recalls*	% of Recalls	Covered by Specific Existing Legislation?
Engine, exhaust, emissions	159	21%	Yes
Brakes, ABS	123	16%	Yes
Bodywork, wipers, seats	67	9%	Yes
Risk of fire	65	8%	Yes
Electrics, lights	63	8%	Yes (lights)
Steering problems	57	7%	Yes
Airbag	54	7%	Yes
Chassis, suspension	51	7%	
Seat belts	34	4%	Yes
Accelerator, clutch, gearbox	34	4%	
Miscellaneous	33	4%	-
Tyres, wheels	31	4%	Yes

** from those issued from 1st January 2006*

Costs to consumers from a recall include:

- the fuel and time cost of driving to the dealership;

- the risk of injury involved with additional trips to dealerships;
- the environmental costs associated with emissions from these trips;
- the effect on the depreciation of the recalled vehicle; and
- the social costs, including the inconvenience and worry associated with having a recalled vehicle; etc.

2.6.3 Calculating Administrative Costs

For the calculation of administrative costs, we have adopted the earnings per hour rates which are used as a basis for the calculation of administrative costs in the context of the Action Programme for reducing administrative burdens. For the purposes of the study, we have used €30 as the average wage rate for senior staff and €18 for other staff (mostly recording clerks and administrative staff); these values have been updated to 2011 prices, based on inflation. Table 2.15 below shows how these figures were obtained.

Table 2.15: Tariffs/Gross Earnings per hour in 27 EU Member States (€)

Country	Senior Officials/ Corporate Managers	Legal/Business Professionals	Technicians/ Inspectors	Clerks/ Secretaries
Belgium	50.63	35.25	27.34	23.38
Bulgaria	3.3	2.24	1.94	1.42
Czech Republic	11.52	7.74	6.28	4.81
Denmark	51.99	45.4	38.41	27.66
Germany	46.4	43.15	31.12	24.93
Estonia	8.1	7.83	5.83	4.36
Ireland	49.56	45.94	32.86	24.97
Greece	26.98	21	15.15	12.22
Spain	37.11	23.94	18.72	12.89
France	51.14	47.02	26.79	20.71
Italy	61.5	59.26	25.07	20.38
Cyprus	31.64	20.29	15.72	10.25
Latvia	5.86	5.81	5.36	3.73
Lithuania	7.38	6.06	4.23	3.46
Luxembourg	56.63	41.58	34.33	27.8
Hungary	11.66	7.78	6.12	4.87
Malta	16.67	13.21	11.39	8.85
Netherlands	36.88	35.19	27.85	21.94
Austria	51.53	38.75	29.21	22.34
Poland	13.02	10.37	5.78	5.01
Portugal	31	19.32	13.93	9.52
Romania	9.73	5.97	4.3	3.61
Slovenia	18.34	18.75	11.97	9.74
Slovakia	7.83	5.19	4.34	2.76
Finland	44.75	34.74	26.71	20.85
Sweden	50.8	40.47	31.29	22.86
United Kingdom	52.81	49.75	36.56	23.69
Average	**31.3**	**25.6**	**18.5**	**14.0**
Rounded	**33**	**27**	**20**	**16**

Source: Tariffs used as a basis for the calculation of administrative costs in the context of the Action Programme for reducing administrative burdens in 2008-2009 – and adjusted for inflation

3. PROBLEM AREA A - TRACEABILITY OF PRODUCTS AND RESPONSIBILITIES OF ECONOMIC OPERATORS

3.1 Introduction

3.1.1 Significance of the Problem Area

The first problem area relates to the "traceability of products and the respective responsibilities of economic operators in the supply chain". Nearly 70% of all respondents to the Commission's public consultation believe that there is a need to clarify the rules on providing information to ensure the traceability of automotive products and the role and responsibilities of the economic operators involved in the supply chain.

Responses to the evaluation questionnaire also indicated that, of the five problem areas identified in the roadmap, traceability of products and clarifying the role and responsibilities of economic operators is considered the most problematic by the responding TS, with three TS rating it as 'highly problematic' and two TS as 'somewhat problematic'. Five TS also expect an 'increase' or 'significant increase' in its importance due to market changes. A review of the literature also indicates the increasing importance of product traceability for the automotive industry (see Table 3.1) and some of the challenges being faced in ensuring the maximum benefits are obtained from it by all stakeholders (see Table 3.2).

3.1.2 Defining the Specific Problems

Traceability of products is important in ensuring that UADs and NCDs found on the market are adequately remedied[11] by the party responsible for the product.

Directive 2007/46/EC (Article 19) currently requires the manufacturer of a component or separate technical unit, whether or not it is part of a system, *"to affix to each component or unit manufactured in conformity with the approved type, the EC type-approval mark[12] required by the relevant separate directive or regulation. Where no EC type-approval mark is required, the manufacturer is to affix at least his trade name or trade mark, and the type number and/or an identification number*".

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[11] Article 32 of Directive 2007/46/EC states that where a manufacturer is obliged to recall vehicles already sold, registered or put into service because one or more of the parts presents a serious risk to road safety, public health or environmental protection, the manufacturer is to propose to the approval authority a set of appropriate remedies to neutralise the risks. If the approval authority which granted the EC type-approval is not satisfied with the measures of the manufacturer, it should take all protective measures required, including the withdrawal of the EC vehicle type-approval.

[12] The 'e' mark consists of a rectangle surrounding the letter 'e' followed by the distinguishing number or letters of the Member State which has granted type-approval. The marking must also include, in the vicinity of the rectangle, the four-digit sequential number, referred to as 'base approval number', preceded by two figures indicating the sequence number assigned to the most recent major technical amendment to the relevant separate directive or regulation.

Table 3.1 below describes some of the existing technologies (e.g. direct product marking (DPM) and radio frequency identification (RFID)) currently used in the automotive industry to ensure product traceability and the possible drivers for further uptake of product traceability technologies in the industry. For some automotive part suppliers, details including the part lot number, manufacturer and other pertinent tracking information are also automatically recorded as part of a customer's invoice records (MotorAge, 2010).

Table 3.1: The Current Situation of Product Traceability in the Automotive Industry

The automotive industry has a long history of using part identification and tracking technologies. The available technologies can be broadly divided into 'non-optical technologies', i.e. radio frequency identification (RFID) and 'optical technologies' i.e. direct part marking (DPM) which includes a wide range of techniques based on:

- subtractive technologies (which remove material from the substrate), e.g. etching (laser and chemical marking), dot-peening and micro-drilling; or
- deposition technologies (which deposit material on the substrate), e.g. ink-jet marking, laser marking, permanent bar code labels, etc. (QuestSolutions, nd).

Today, RFID tags (which can be active or passive) can be found on engines, vehicle assemblies, and even finished vehicles (Albright, 2005) and a study by the Automotive Industry Action Group (AIAG) and AMR Research found that 11% of companies deploying RFID were doing so because of compliance issues.

The necessity for parts identification and traceability is, however, increasing for a number of reasons (Albright, 2005; Robson, Yuji, & Numao, 2007, Brady, nd):

- the need to improve manufacturing process efficiency, where component traceability can deliver substantial cost reductions, for instance, by improving the ability to identify defective parts and reduce any risk of damage after the point of sale;
- OEMs are also pressuring suppliers to step-up part traceability efforts, either to aid regulatory compliance or improve supply chain efficiencies. The ability to support safety-driven product recalls has also become a basic requirement in the industry;
- changes in the warranties offered and vehicle manufacturers pushing more of the financial risk back to their component suppliers. Vehicle manufacturers' need to protect their brands from damaging safety concerns and, as such, every part of the automotive manufacturing supply chain now has to find ways to make their products fully traceable to the end of the vehicle's life;
- recall costs are also increasing and without being able to match vehicle ID numbers to part lots or serial numbers, the scope of recalls is far in excess of the actual number of affected vehicles;
- developments within the industry, for instance, the Automotive Industry Action Group (AIAG) has developed traceability standards, including its B-4 part identification guideline, the B-11 tire tracking standard, and the B-17 guideline for direct part marking. Similarly, ODETTE (an automotive industry group which develops tools to assist in e-business transactions and supply chain management) has set out recommendations which should make part identification and traceability processes more transparent and more reliable throughout the supply chain;
- driven by new environmental legislations and an industry-wide trend towards "green manufacturing," recyclability of every component of a vehicle is needed and parts traceability system allows nearly-instant identification of the exact components in every vehicle; and
- some suppliers are trying to use their ability to provide traceability as a competitive advantage. One such supplier notes that it "*provides 100 percent traceability… and a lifetime replacement warranty on [their] products*" (MotorAge, 2010).

Based on this information, it could be argued that existing market developments, safety concerns (including the frequency and costs of recalls) and regulatory developments are already increasing product traceability for automotive parts. This view does not, however, take into account some of the challenges in this area, as set out in Table 3.2.

Table 3.2: Challenges to Further Uptake of Traceability within the Automotive Industry

Although automotive parts tracing capabilities already exist, there are a number of obstacles which hinder their optimal effectiveness.

- Increasingly complex supply chains have created a situation where parts' data is distributed across a wide network of suppliers' databases. The challenge of parts tracking in this environment requires maintaining data views across constantly-restructuring networks of information systems as new suppliers are contracted and subassemblies are outsourced (Robson, Yuji, & Numao, 2007).
- A key challenge is the sheer and increasing number of automotive parts (around 14,000 per vehicle on average) in a rapidly growing number of vehicles. Storing information on these and being able to quickly access that data is a daunting task.
- Most components are currently traced by lot and stored at the point of manufacturing or assembly, rather than by serial number. Because of the lack of a one-for-one relationship in identifying the actual parts that make up the final assembly and the unique identification of the final assembly itself, this creates a blind spot in tracing a part genealogy. Also, while engines, air bags and other safety-related parts are traced by serial number, most existing traceability solutions for non- safety-related parts are not automated (Albright, 2005).
- Traceability data is often stored in multiple applications, and seldom shared with supply chain partners. Different coding and presentational formats also increase the technical effort at the supplier side and make data capture difficult (ODETTE, nd).
- Tracing capabilities are heavily customised to support existing trading partner relationships, with a lack of the transparency needed to track parts flows across the entire supply chain. With no means to trace defective parts to the subset of vehicles affected by them, auto manufacturers have, as a matter of safety, followed a sweeping approach in which vehicles of entire model years are recalled. This may be the single most important reason that recalls are so costly and inefficient (IBM, 2009).
- Some automotive parts are particularly difficult to label in practice. For instance, for vehicle batteries, battery housings are subjected to high temperatures, need to be acid-resistant, and significant material expansion is also likely to occur. The labelling employed therefore needs to be exceptionally durable and meet stringent specifications (Kurz, nd).

In general, the evidence indicates that most companies do have a "*number or other element allowing their identification*" placed on their products, the packaging or in a document accompanying the product. The key issue, therefore, relates to the readiness with which this information is accessible to and usable by manufacturers, enforcement authorities and other stakeholders. As noted in the EC roadmap, "*the lack of information to identify and trace the origin of non-compliant products encountered on the market and to establish who are the economic operators in the supply chain to be held accountable is detrimental for an effective enforcement strategy, as it hampers enforcement authorities in identifying and taking remedial action against non-compliant products and economic operators not respecting the rules"*.

While there may be variations in the extent to which different stakeholders[13] consider product traceability to be a major concern at present, stakeholders responding to the ex-post evaluation questionnaire broadly accepted that the general shift of production towards emerging economies is likely to increase supply chain complexity in future and thus increase the importance of a robust framework that ensures product traceability and safety (as shown in Table 3.3 below). Such a trend is considered likely to reduce the future effectiveness of enforcement of Directive 2007/46/EC in ensuring that NCDs found on the market are adequately remedied by the party responsible for compliance of the product.

Table 3.3: Responses to the question - Are expected developments or changes (whether geographical, design, technological or market-related) in the market for motor vehicles likely to increase or decrease the importance of the identified problem areas?

Problem Area	Importance will …	Percentage of Responses / No. of Responses					
		Economic Operators		Technical Services		National Authorities	
A. Traceability of products and clarifying the role and responsibilities of economic operators	Significantly increase	0%	0	20%	2	22%	2
	Increase	33%	2	60%	5	33%	4
	No change	67%	3	20%	2	44%	5
	Decrease	0%	0	0%	0	0%	0
	Significantly decrease	0%	0	0%	0	0%	0

3.1.3 Aim of Intervention

The aim of the intervention is to:

a) address the problems relating to the identification and traceability of UADs and NCDs encountered on the market (i.e. *to ensure that automotive products on the market can be effectively traced to enable effective remedy in the event of faults*); and

b) clarify the responsibilities and accountability of various economic operators with regard to the compliance of the products they are involved with (i.e. *to ensure that all economic operators are fully aware of their responsibilities*).

Three possible policy options have been put forward:

- Option A1 (baseline scenario): do nothing;
- Option A2 (self-regulatory): undertaking awareness campaigns and/or VAs with economic operators; and
- Option A3 (regulatory): amending the existing technical harmonisation legislation relating to motor vehicles.

[13] For instance, the majority of national authorities responding to the evaluation questionnaire did not know the extent to which traceability of products and clarifying the role and responsibilities of economic operators has affected the implementation of EU type-approval legislation for automotive products or did not consider this an important problem.

3.1.4 Defining the Policy Option

Option A1 – Baseline Scenario

Option A1 is the do nothing option and involves making no changes to the existing situation regarding the traceability of products or respective responsibilities of economic operators. The Directive would not be updated to be in line with the NLF and there would be no changes to the Directive's description of the responsibilities and accountability of economic operators to take account of current and future changes in the automotive market.

Option A2 – Self-regulatory Initiative

Under the self-regulatory initiative, three key actions are assumed:

- Firstly, the industry associations (e.g. ACEA, ETRMA, CLEPA and FIGIEFA) would sign up to a VA which clarifies their respective roles and responsibilities. In practice, this VA would mirror the roles and responsibilities for economic operators (manufacturers, distributors, importers, authorised representatives) set out in the NLF Regulation, made specific to the operations of economic operators in the automotive industry.

- Secondly, the industry associations would develop and adopt an industry-wide VA, taking into account the ODETTE Recommendation (see Table 3.4 below) with regard to the identification and traceability of automotive products on the market.

- Finally, the industry associations would undertake an awareness campaign aimed at promoting the terms of the VA; effectively, informing or reminding their members of their roles and responsibilities and the actions required of them to ensure product traceability.

Table 3.4: ODETTE Recommendation Regarding Traceability and the Automotive Industry

Traceability of vehicle components and identification of their technical specification allows identification and traceability of individual parts, packages and deliveries throughout the supply chain. To date, each company has regulated parts identification and traceability individually, but at the interface between companies it becomes more difficult. There is no clear agreement on:

- delimitation accuracy required for parts and their components;
- who stores which process/quality data relative to which references; and
- which references are to be communicated to the customer and linked to the customer's product.

Also, different coding and presentational formats increase the technical effort at the supplier side and make data capture difficult.

The ODETTE recommendation provides in two sections a guideline on how to standardise the traceability processes and their technical applications at the interface between two companies and involves:

- Standardised part identification (part as a technical product);
- Standardised methods of traceability (depending on the required delimitation accuracy – part,

Table 3.4: ODETTE Recommendation Regarding Traceability and the Automotive Industry

package, delivery);
- Standardised set of information to build a reference to the manufacturing process (not to give all Q/process data to customer but just a defined reference) to allow traceability;
- Defined responsibility for data storage and for building links between input components and output products;
- Standardised presentational format and information encoding;
- Respect of existing international norms and regulations; and
- Respect of companies' numbering systems (for part numbers and serial numbers).

The Odette recommendation should make the part identification and traceability processes more transparent and more reliable throughout the supply chain. The effort to implement traceability and part identification will decrease once the process in a company is defined. Printing/marking, reading and data storage of exchanged information will become more harmonised and the investment in this equipment will be lower, especially on shared resources. Respecting existing international standards and company numbering systems will increase the acceptance of the system.

Source: (ODETTE, nd)
Odette International is an organisation, formed by the automotive industry for the automotive industry. It sets the standards for e-business communications, engineering data exchange and logistics management, which link the 4,000 plus businesses in the European motor industry and their global trading partners.

Option A3 – Regulatory Initiative

For the regulatory initiative, the Directive would be amended to incorporate elements of the NLF which could provide added value for improving the enforcement of the current automotive regulatory framework. Three key elements have been identified:

- *Clarification of Responsibilities*: the obligations of economic operators, importers and distributors would be aligned with the provisions of the NLF.

- *Product Traceability*: Manufacturers would be required to ensure that their products (or packaging/documentation, due to size/nature of the product) bear a type, batch or serial number or other element allowing their identification.

- *Company Traceability*: Economic operators would be required to retain full details of all businesses to which they have supplied, or which have supplied them with, vehicles and/or automotive devices.

Table 3.5 below provides an overview of some of the responsibilities of distributors and importers under the NLF.

Table 3.5: Responsibilities of Distributors and Importers under the NLF

'manufacturer' shall mean any natural or legal person who manufactures a product or has a product designed or manufactured, and markets that product under his name or trademark;

'authorised representative' shall mean any natural or legal person established within the Community who has received a written mandate from a manufacturer to act on his behalf in relation to specified tasks;

'importer' shall mean any natural or legal person established within the Community who places a product from a third country on the Community market;

Table 3.5: Responsibilities of Distributors and Importers under the NLF

'distributor' shall mean any natural or legal person in the supply chain, other than the manufacturer or the importer, who makes a product available on the market; and

An importer or distributor shall be considered a manufacturer for the purposes of this ... [act] and he shall be subject to the obligations of the manufacturer under Article [R2], where he places a product on the market under his name or trademark or modifies a product already placed on the market in such a way that compliance with the applicable requirements may be affected.

Amongst other tasks,

- importers shall ensure that the appropriate conformity assessment procedure has been carried out by the manufacturer before placing a product on the market;
- where a product presents a risk, the importer/distributor shall inform the manufacturer and the market surveillance authorities to that effect;
- importers shall indicate their name, registered trade name or registered trade mark and the address at which they can be contacted on the product or, where that is not possible, on its packaging or in a document accompanying the product;
- when deemed appropriate with regard to the risks presented by a product, importers shall, to protect the health and safety of consumers, carry out sample testing of marketed products, investigate, and, if necessary, keep a register of complaints, of non-conforming products and product recalls, and shall keep distributors informed of such monitoring;
- importers/distributors who consider or have reason to believe that a product which they have made available on the market is not in conformity with the Community harmonisation legislation applicable shall make sure that the corrective measures necessary to bring that product into conformity, to withdraw it or recall it, if appropriate, are taken. Furthermore, where the product presents a risk, distributors shall immediately inform the competent national authorities of the Member States in which they made the product available to that effect, giving details, in particular, of the non-compliance and of any corrective measures taken; and
- importers/distributors shall, further to a reasoned request from a competent national authority, provide it with all the information and documentation necessary to demonstrate the conformity of a product. They shall cooperate with that authority, at its request, on any action taken to eliminate the risks posed by products which they have made available on the market.

3.2 Assessment of Economic Impacts

3.2.1 Functioning of Internal Market and Competition

Option A1 – Baseline Scenario

Under Option A1, there will be no clarification of the roles and responsibilities of economic operators. Option A1 would also fail to address the problem, likely to grow in future with the increasing complexity of the supply chain, that product and company-related traceability information is not easily accessible and utilisable in 'real' time. Sellers of UADs and NCDs will continue to place such products on the market, in the knowledge that it would take a significant amount of time between the actual discovery of the NCDs and UADs and identifying the responsible party against which enforcement action would be taken.

Option A1 may also result in differences emerging in the regulatory and/or enforcement approaches across Member States, as they try to counter the threat posed by NCDs and UADs. In response to the IA questionnaire, six national authorities indicated that they would consider adopting additional measures at the national level to counter the threat posed by non-compliant and/or low-quality automotive products and to ensure the continued safety of consumers, if there is no amendment to Directive 2007/46/EC to address these threats. Indeed, some authorities appear already to be taking such action; one national authority indicated that it was already developing (unspecified) national legislation for non–conforming products. In addition, ETRMA indicated that Italy has recently introduced financial penalties for non-compliance with legislation (relating to end-of-life tyres)[14]. Although this was seen by ETRMA as a positive step to discourage non-compliance (Automotive Industry Roundtable, 2011), such divergent enforcement practices at the national level could hinder the functioning of the internal market. Divergences in enforcement approaches between Member States could also discourage economic operators from trading across the EU because of the need to understand different enforcement approaches/requirements in different Member States.

Under Option A1, sellers of NCDs and UADs would continue to avoid incurring the costs associated with ensuring the safety and compliance of their products. Compliance costs can account for a significant proportion of the overall profit margin for a company. Information from industry (CLEPA, 2011) indicates that prices for certain products (e.g. automotive light sources, see Table 3.6 below) vary by up to 30%, even after accounting for overhead factors and perhaps varying profit margins. The industry considers that this price difference could reflect the costs of ensuring safety and compliance of products. If this is the case, this would represent a considerable competitive advantage for economic operators selling NCDs.

[14] http://www.ecopneus.it/la-normativa/articolo-228-d--lgs--n-152-06-s-m-i-.html

Table 3.6: Impact of Compliance on End Product Costs – Automotive Light Sources
A study was performed by CLEPA's light sources manufacturers on NCDs in the aftermarket bearing a UNECE approval mark. In order to manufacture high quality and compliant light sources, a number of key factors need to be taken into account and influence the quality (and cost) of the final product; these are: pre-materials, supplier quality-philosophy, machine selection, machine precision, online quality checks, offline quality checks and sorting. Depending on the light source type (i.e. some require higher precision than others), updating an aftermarket production line to an OEM-quality production line can cost between €150,000 to several €millions per production line (i.e. per product group). Experience suggests that an aftermarket-quality production line will deliver up to 50% non-compliant lamps which are currently sold with a CE-mark. Similarly, in addition to having the correct machine setup, it is important to continuously monitor the output and re-adjust where necessary, which is again a highly skilled task. Overall, it is estimated that all these quality measures can account for up to 50% of the total price. This is confirmed by the prices that on the market, where OEM-quality lamps can cost up to double the price of aftermarket-quality lamps or more. Even accounting for other overhead factors and perhaps varying profit margins, the industry view is that there is still a price-for-production difference of greater than 30%. This suggests unfair competition in the aftermarket sales of automotive light sources, where compliant manufacturers are finding it increasingly hard to compete in the EU.
Source: Information provided by CLEPA to the Study Team, 19 September, 2011

The exact number of NCDs and UADs that will continue to be placed on the market under by Option A1 is difficult to establish accurately. However, the methodology described in Section 2 can be used to provide an indication of the potential costs of this option (see Table 3.7).

Table 3.7: Potential Costs of Option A1 – Value of NCDs and UADs on the EU Market
As shown in Table 2.3, UADs have been estimated to account for between €5 billion and €45 billion of automotive products present on the EU market, while NCDs have been estimated to account for between €2.5 billion and €30 billion (see Table 2.4). For the impact assessment, we have assumed that UADs account for up to **€30 billion** of automotive products present on the EU market and NCDs account for around **€5 billion** of automotive products present on the EU market (see Section 2.3.4). Assuming that the lack of clear roles and responsibilities for economic operators and lack of traceability data, accounts for between 7.5% and 10% of UADs on the EU market, Option A1 would result in **NCDs of around €375 million** and **UADs of around €3 billion** continuing to be placed on the EU market annually.

Overall, under Option A1, it will be difficult to ensure a uniform enforcement level across the EU in the future and the current level of NCDs and UADs on the market is likely to continue.

Option A2 – Self-regulatory Initiative

By following the definitions of the roles and responsibilities of various economic operators set out under the NLF, Option A2 is likely to bring about clarity for both

economic operators and enforcement authorities and in terms of identifying the responsible party where a UAD and/or NCD is identified.

If Option A2 results in traceability information being provided on automotive products by economic operators in a harmonised manner, which can be easily and quickly interpreted by economic operators and enforcement authorities, it is likely to result in a reduction in NCDs and UADs on the market. This is because economic operators will take care to place only high quality, compliant and safe products on the market in the knowledge that NCDs and UADs can rapidly be traced back to them. There is, however, a risk that those less scrupulous operators at whom the VA is targeted will neither sign up to the VA nor comply with it after signing up. There is also a risk that this VA will not result in any real change from the current situation (baseline), as industry representatives indicated that all safety-related and type-approved parts already carry traceability information and, as shown in Table 3.1, developments in the market are already encouraging companies to increase traceability information on their products anyway.

Option A2 would also depend on industry representatives (e.g. ACEA, ETRMA, CLEPA) being able to reach a satisfactory agreement on measures for identification and traceability of automotive products on the market. This is likely to pose considerable difficulties, considering that the approval and/or co-operation of over 100,000 economic operators in the automotive sector would be required. Importantly, a large proportion of small firms that are not members of associations are also likely to be excluded from the VA. These difficulties are not insurmountable, however and it is possible for efficient and effective VA to be agreed within sub-industry groups. For instance, in 2009, ETRMA (representing tyres and rubber industry) launched an industry voluntary action and awareness campaign which was aimed at highlighting some of the problems relating to the identification and traceability of non-compliant tyres encountered on the market, as shown in Table 3.8 below.

Table 3.8: Addressing Problems Relating to the Identification And Traceability Of NCDs – Example of Industry Voluntary Action and Awareness Campaign

In 2009, the European tyre industry set out to engage in a long-term strategic compliance campaign stressing the importance of the quality of tyres. This campaign would be supported by the EU and national governments and enhance awareness of all relevant stakeholders: consumers, dealers, consumer organisations, governments, and enforcement authorities, amongst others.

As a first and immediate step to this overall programme, the tyre industry set out to launch an intelligence-based market surveillance programme specifically on the aromatic oils ban (REACH Regulation 1907/2006, Annex XVII, entry 50). ETRMA funded a study to examine the level of compliance with this requirement in replacement tyres on the market. This involved purchasing 110 tyres and testing them (first internally and then, if they did not appear compliant, independently). The cost was around €300,000. ETRMA then approached the relevant competent authorities with the results and some are now investigating further action (though no action has yet been taken). Publicising the study has already raised awareness of the issue amongst importers (many were not aware of REACH).

The next stage of the compliance campaign would be awareness-raising communication campaigns, coupled with market checks on the tyre labelling legislation and then by tyre checks against type-approval requirements.

Table 3.8: Addressing Problems Relating to the Identification And Traceability Of NCDs – Example of Industry Voluntary Action and Awareness Campaign
A proposal to the Competent Authorities (CARACAL) foresees the budget and sharing of actions and costs over 2010-2011. EU border authorities, national surveillance authorities and laboratories will all be involved. Also, due to the complexity and the different set-ups of legal enforcement systems in the various member states, a necessary condition for a successful compliance programme across the whole EU is the involvement of the national tyre associations: they would be instrumental in giving guidance regarding which levels of the national structure (e.g. regional, federal or both) should be addressed and with what requests. The reference should be to Regulation 765/2008 on market surveillance to get national plans which point out what are the competences of each authority.
Source: TCMV (2009)

Even if the approval of all members is obtained and the VA is signed, it is still uncertain whether the automotive sector will be able to adequately enforce any voluntary rules on all economic players on the market, bearing in mind that an increasing share of automotive products entering the EU market come from third countries. The global nature of the automotive industry, with some European manufacturers moving abroad to low-cost bases, means that it is also geographically difficult to monitor compliance with the VA and/or establish where the imports are coming from. Where the industry is unable to enforce a VA, it is possible that an even more uneven playing field could result in the market, between economic operators complying and bound by the VA and those flouting it.

Finally, awareness campaigns may have a beneficial impact if they can reach that segment of the sector that may be not sufficiently aware of the rules. However, in view of the highly regulated character of the automotive sector, it is unlikely that this segment may be very large. In addition, awareness campaigns will have little or no effect on those operators deliberately ignoring, or cutting corners on complying with, the rules. Information campaigns aimed at consumers may help in drawing the attention of citizens to the possible risks that UADs and NCDs on the market may pose. However, such campaigns may have limited influence on economic operators.

Option A3 – Regulatory Initiatives

Under Option A3, it is assumed that clarifying the roles and responsibilities of economic operators would result in increased legal clarity for economic operators regarding their rights, roles and responsibilities. In the context of clear and common enforcement criteria, this would also ensure that all economic operators are treated equally by the enforcement authorities across Member States (which in turn would be assisted in correctly applying and enforcing the Directive) and, as a result, improve the functioning of the internal market.

Establishing explicit rules for traceability, applicable to importers and distributors of vehicles and/or automotive products from third countries, is likely to help to ensure that an economic operator established in the EU can be identified and contacted in relation to NCDs and UADs been placed on the EU market. Similarly, requiring economic operators to retain full details of all businesses to which they have supplied or which have supplied them with vehicles and/or automotive products would ensure that NCDs and UADs present on the market can be traced quickly and effectively.

These actions should assist in reducing unfair competition from less scrupulous economic operators placing NCDs and UADs on the EU market and, as a result, help ensure a level playing field for all operators. In addition, Option A3 will improve the coherence and consistency of Directive 2007/46/EC with the NLF and would also avoid regulatory fragmentation (from Member States implementing their own national measures), thereby ensuring that the Directive remains up-to-date and well equipped to maintain a fair competitive environment in the future for businesses operating in the automotive market.

Under Option A3, it is assumed that there will be a reduction in the number of NCDs and UADs on the market. Assuming that Option A3 is effective (i.e. 50% reduction) in addressing the problems identified, it is estimated that there would be a reduction of between **€188 million and €1.5 billion** of such products on the market. This figure does not relate to profits or a sectoral loss of market share, as it is anticipated that compliant automotive products would be sold to replace this volume. Effectively, manufacturers or importers of NCDs and UADs would either incur costs to become more compliant or would go out of business. Even assuming an uncertain outcome (i.e. 15% reduction) for Option A3 results in a reduction of NCDs or UADs on the market of between **€56 million and €450 million** (see Table 3.9 below).

Table 3.9: Reduction in NCDs and UADs Associated with Addressing Problem Area A

Policy Option	Likely Effectiveness	Estimated Reduction in Value of NCDs and UADs on the Market (€ million)	
		Lower (NCDs)	Upper (UADs)
Baseline		€ 375	€ 3,000
	Highly Effective	€ 281	€ 2,250
	Effective	*€ 188*	*€ 1,500*
	Uncertain	€ 56	€ 450
	Highly Uncertain	*€ 19*	*€ 150*

3.2.2 Competitiveness

Option A1 – Baseline Scenario

Option A1 is unlikely to result in cross-border investment flows (including relocation of economic activity) or impact on trade barriers. However, it is possible that the global competitive position of EU firms may be compromised if a perception is created of NCDs and UADs being present on the EU market. If EU vehicles and/or automotive parts gain a reputation for being unsafe, this could lead to an increase in imported automotive devices, with impacts for EU businesses. Conversely, if imported devices are seen as unsafe, because the regulatory regime covering the importers' country is considered to be less-stringent, EU manufacturers could gain market share.

Option A2 – Self-regulatory Initiative

Option A2 is unlikely to result in either cross-border investment flows (including relocation of economic activity) or impact on trade barriers.

Option A3 – Regulatory Initiatives

By addressing the presence of NCDs and UADs on the market and protecting the reputation of the EU for safe, compliant and high quality automotive vehicles, the global competitive position of EU firms is likely to be enhanced under Option A3. Suppliers of NCDs and UADs from third countries would be discouraged from bringing such devices to the EU at a price that undercuts the price of safe and compliant products, improving the competitive position of EU-based manufacturers that incur costs in ensuring that their products are safe and compliant.

On the other hand, it is possible that Option A3 could result in some small non-EU importers and distributors exiting the EU market, if they incur additional costs under this option (see Section 3.2.3 below).

3.2.3 Operating Costs and Conduct of Business/Small and Medium Enterprises

Option A1 – Baseline Scenario

As the do nothing option, Option 1 does not impose additional adjustment, compliance or transaction costs on businesses.

Costs will, however, continue to be incurred by reputable economic operators under Option A1, due to the continued distortion of competition between responsible economic operators and unscrupulous sellers avoiding costs. As noted earlier, using the example of automotive light sources (see Table 3.6) avoiding such costs may be a contributory factor to the significant difference in prices of some products on the market. From a competition viewpoint, given that the extent of compliance of vehicles and/or automotive products is not fully understood by potential consumers, honest sellers whose automotive products offer high levels of protection may have difficulty competing with less scrupulous sellers that offer less protection. These sellers of UADs and NCDs can sell at a lower price because they incur fewer costs, without the impact of these lower costs being perceived by consumers (unless a problem arises). They also benefit by taking market share from manufacturers that comply with the regulations. These costs will continue to be incurred by economic operators under Option A1.

Divergences in national approaches to enforcement and market surveillance could also lead to costs for businesses in understanding the different approaches in the different markets they operate in. These costs may increase in future, if certain Member States proceed to take national action to deal with the threat of NCDs and UADs.

Option A2 – Self-regulatory Initiative

The main cost associated with Option A2 would be incurred by industry associations in developing the VA and undertaking an awareness campaign (perhaps also involving regulatory authorities) to ensure that economic operators are aware of their roles and responsibilities relevant requirements.

Lower and higher cost estimates for developing a voluntary agreement are presented in Table 3.10 below. Note that these costs have not been validated by industry representatives as they do not consider a voluntary agreement at the association level as the right approach, noting that economic operators that are not members of an industry association would be excluded from any such VA and this automatically reduces the effectiveness of the VA.

Table 3.10: Costs to Industry Associations for Developing Voluntary Agreement

	Estimate		**No. of Organisations Involved**	
	Low	**High**	**Low**	**High***
Time Required				
Drafting the terms of the VA (staff time, including legal teams)	20 days	50 days	4	10
Consulting with members on the draft terms of the self-regulatory initiative (staff time)	40 days	100 days	4	100
Meetings with members to gain approval on the VA (staff time and facilities)	10 days	27 days	4	27
Meetings with public authorities to build support	5 days	8 days	4	4
Total Number of Days	**75 days**	**185 days**		
Wage rate per hour for work done	€ 27	€ 30		
Cost				
Drafting the terms of the VA (staff time, including legal teams)	€ 2,160	€ 15,000		
Consulting with members on the draft terms of the self-regulatory initiative (staff time)	€ 4,320	€ 300,000		
Meetings with members to gain approval on the VA (staff time and facilities)	€ 1,080	€ 21,870		
Meetings with public authorities to build support	€ 540	€ 960		
Total Cost	**€ 8,100**	**€ 337,830**		

** Costs for the high scenario reflect the involvement other EU associations (10), or of national associations (27) in each of the major EU associations (~100).*

There would also be costs associated with undertaking an **awareness campaign**. This could include preparing a short guidance document setting out the key responsibilities of economic operators and the traceability requirements and distributing this to members. These costs are likely to accrue to the industry associations. We have estimated the costs based on the following assumptions:

- a 5-10 page document will be prepared. The cost of this is estimated at between €5,000 and €8,000, reflecting the likely going rate if contracted to external consultants or, alternatively, the time it would take two or three members of staff at the industry association to prepare the document, including time taken to agree and approve the wording;

- the guidance document will be uploaded on a dedicated page on the associations' website;

- it will be translated into the 23 national languages so that members can be encouraged to read the documents in their native language. The translation costs have been estimated at between €6,000 and €22,000; and

- one or two administrators at the industry association would be responsible for sending out emails to members drawing their attention to the guidance document which are available on the associations' website (the administrative costs associated with this are likely to be absorbed as part of the day-to-day work of the association).

Overall, the total cost of the awareness campaign is estimated at between **€6,000 and €21,000** (see Table 3.11 below).

Table 3.11: Lower and Higher Cost Scenario of Producing and Translating a Guidance Document

	Low Estimate	**High Estimate**
Producing guidance		
Cost of producing guidance (staff time or consultants fees)	€ 5,000	€ 8,000
Translation		
Translation cost per page	€ 9*	€ 57*
Number of pages	5	10
Number of languages	23	23
Cost of translation	€1,035	€13,110
Total cost	**€ 6,035**	**€21,110**
**Source: EC (2009)*		

Taken together, the total cost of Option A2 (developing a VA and the awareness campaign) is estimated at between **€15,000 and €360,000**.

Companies are also likely to incur costs under Option A2, SMEs in particular. These costs will be associated with ensuring that:

- their obligations can be met; and
- manufacturers (or distributors/importers, where relevant) using more traceability markings on their automotive parts to improve traceability.

The exact scale of these costs is not known, although these could be expected to be lower than those to be incurred under Option A3 (using RFID tags). It is also the case that only those companies for which the terms of the VA do not entail significant costs are likely to incur any costs from the VA.

Option A3 – Regulatory Initiatives

Costs to Economic Operators

Option A3 will result in costs to economic operators associated with:

- distributors and importers taking measures to ensure that their obligations can be met; and
- manufacturers (or distributors/importers, where relevant) adding RFID tags to automotive parts to improve traceability.

Under Option A3, importers and distributors will have the same responsibilities with respect to approval and market surveillance as do manufacturers, particularly those that modify or rename (to their own name or trademark) vehicles, systems, components or technical units.

Those importers from outside the EU who operate in the EU may incur additional costs in relation to meeting these requirements to be contactable and available to the type approval authority and undertake market surveillance[15]. Importers and distributors will also be affected by record management requirements[16] associated with the proposal to align their responsibilities more closely with those of manufacturers.

As noted by the UK DfT (2011), large operations should have few difficulties with these types of requirements; for instance, they may simply appoint an existing member of staff who is already dealing with type approval as the company's EU representative. However, smaller importers, particularly those importing from China and India, may have significantly increased costs in relation to having a representative to liaise with type approval authorities. For companies with no staff currently in the EU, additional costs may be incurred in employing a representative and/or secretary, leasing of an office, car and related expenses. Alternatively, a consultant may be appointed or an existing member of staff relocated to the EU. The costs of this have been estimated as ranging from hundreds of Euros up to €300,000 per economic operator for appointment of an EU representative (with associated office facilities) (UK DfT, 2011).

It is not possible to provide an accurate quantification of the total costs of this measure, as:

- the total number of non-EU distributors and importers is not known for certain;

15 Article R4(6) states that: When deemed appropriate with regard to the risks presented by a product, importers shall, to protect the health and safety of consumers, carry out sample testing of marketed products, investigate, and, if necessary, keep a register of complaints, of non-conforming products and product recalls, and shall keep distributors informed of such monitoring.

16 Article R7 states that: Economic operators shall, on request, identify the following to the market surveillance authorities, for ... [period to be specified in proportion to the lifecycle of the product and the level of risk]: (a) any economic operator who has supplied them with a product; (b) any economic operator to whom they have supplied a product.

- the number of countries which each distributor operates in is not known (particularly for the internet based distributors);
- the proportion of these distributors and importers currently without any office in the EU is also not known;
- the specific responses of the distributors cannot be predicted (for instance, how many would be dissuaded from operating from the EU market due to the costs of having a representative); and
- a significant proportion of the costs only arise for the distributors and importers if the manufacturers (and importers, for distributors) have been negligent and it could be argued that these costs could be recouped by them.

However, Table 3.12 below provides some indicative costs of having a representative based on hypothetical numbers of non-EU firms affected and likely actions taken.

Table 3.12: Indicative Costs to Importers of Having an EU Representative			
Cost per economic operator	€5,000	€30,000 (One EU staff)	€300,000 (Full cost)
Indicative number of operators	25	100	300
	€125,000	**€3 million**	**€90 million**

With regard to traceability, we have estimated the potential costs to economic operators of having to put radio frequency identification (RFID) tags on automotive parts.

RFID is a technology that uses radio waves to transfer data from an electronic tag (which can be attached to an object) to an electronic reader, for the purpose of identifying and tracking the object (using a unique serial number). RFID tag technology is currently used in a wide variety of applications and can be affixed to any object that requires tracking or to assist with inventory management. This technology would be useful for tracking and recording different vehicle components sold on the European market and may assist with reducing the number of NCDs and UADs on the EU market.

An attempt has been made to estimate the likely cost of using RFID tags for automotive components across the EU. There are one-off investment costs for equipment associated with RFID implementation (see Table 3.16) as well as recurring costs associated with chips or tags. For the recurring costs, estimates have been made based on low, medium and high costs of €0.5, €1 and €3.50 per tag respectively[17].

If we assume that there are on average 15,000 parts per vehicle (top estimate of 30,000 parts[18]), and 15 million vehicles are produced and sold in the EU annually, this means that 225 billion parts are manufactured in the EU annually. Assuming that

[17] Durable tags are indicated to have an average cost of 75¢ - $3.50. Durable tags can be mounted on metal, reusable plastic containers, or other items that can encounter harsh environmental conditions and, as such, are considered to be relevant to motor vehicles. See http://rfid.net/best-practices/43-best-practices/135-passive-rfid-smart-label-buyers-guide.

[18] http://www2.toyota.co.jp/en/kids/faq/entry/6203.php.

each component will have an RFID tag (costing €0.5), then the lowest estimate for the total cost of introducing RFID tags to vehicle components in the EU is **€15 billion**.

Table 3.13: Estimate of the Total Costs for Using RFID Tags on Vehicle Components Manufactured and Sold in the EU

Number of Vehicle Components per Vehicle	Cost of RFID Tag (€)		
	Low Estimate (€0.5 per tag)	Central Estimate (€1 per tag)	Upper Estimate (€3.50 per tag)
Low Estimate (2,000)	15 billion	30 billion	105 billion
Central Estimate (15,000)	115 billion	225 billion	790 billion
Upper Estimate (30,000)	225 billion	450 billion	1,580 billion

Note: The values above are based on the assumption that 15 million vehicles are manufactured and sold within the EU annually. It should be noted that these figures are presented in order to provide an indication of the likely scale of costs rather than a definitive set of values.

An attempt has also been made to identify the potential costs of introducing RFID tags for a specific manufacturer of a particular component and specific industry sectors; the scenario for the 'brake parts' industry is set out in Table 3.14.

Table 3.14: Cost Implications of RFID tags for the Brake Industry

One organisation produces 80 million disc brake pads and drum brake linings annually and is one of the three largest European manufacturers of these components.

Assuming that the cost of fitting each component with an RFID tag is between €0.5 and €1, the total additional cost to this company is between €40 million and €80 million.

The costs for the European vehicle brake manufacturing industry as a whole can be estimated at between €120 million to €240 million on the basis that there are three main manufacturers of vehicle brakes within the EU, with each producing around 80 million units annually.

Assuming each brake pad/lining costs approximately €20 to manufacture and each tag costs €0.5, then the cost of the RFID tag would add approximately 2.5% to the unit cost. This percentage would increase further should the manufacturing cost be lower than the value of €20 presented here.

For some automotive parts, the cost of introducing RFID tags will be low in proportion to the total cost of the product being manufactured; the current cost of traceability marking on these products would also be avoided. For other products, however (e.g. light bulbs, wiper blades etc.) the manufacturing cost is relatively low (likely to be in the range of €2 to €3 per unit or possibly less), which means that a high percentage of the total item cost will be attributable to the RFID tag. This could potentially result in a significant percentage increase in production costs if RFID tags are introduced to these vehicle components, some of which may be passed onto consumers.

Table 3.15: Proportion of RFID Tag Costs Attributable to Total Costs of Manufacturing Lower Cost Vehicle Components

Component	Estimated Unit Cost (€)	RFID Tag Cost (€)	% of Total Cost
Light Bulbs	2	0.5	25
		1	50
Wiper Blades	3	0.5	15
		1	33

As shown in Table 3.15, in the case of light bulbs, the percentage of the total cost attributable to the RFID tag could be between 25% and 50%, without accounting for the one-off installation costs to the company (see Table 3.16). In the case of wiper blades, the percentage of the total manufacturing cost attributable to the RFID tag is between 15% (assuming an RFID tag costs €0.1) and 33% (assuming an RFID tag costs €1). Therefore, the increase in total costs to these component manufacturers as a result of using RFID tags is potentially significant.

Table 3.16: Cost Implications of using RFID tags

Although much of the focus surrounding the cost of RFID has been on the price of RFID chips or tags, implementing a fully functional RFID system incurs multiple costs, including tags, readers, printers, middleware, infrastructure, consulting, research and development, system changes, implementation, training, change management, and service provider fees. There is also the cost for additional labour that will invariably be needed.

The range of total investment will vary widely between companies based on many factors, however in most cases; companies are looking at investments that can easily reach into millions of dollars. Industry analysts predict that typical, large-scale manufacturers in the consumer goods industry will spend from $9 million to $25 million on RFID mandate compliance.

In addition to initial investment costs associated with RFID implementations, companies will also experience several recurring costs. These include the recurring costs for tags, which will vary greatly between companies. This cost is certain to be reduced over time as tag costs continue to decline. The recurring cost for technology maintenance for RFID components and related infrastructure is typically 15 to 20% of the acquisition cost.

Source: http://www.informationweek.com/news/51201525

Benefits to Companies

Companies are likely to benefit from the legal clarity provided in terms of their roles and responsibilities.

Assuming that increased traceability requirements help some manufacturers to accurately link parts (subject to recall) and assembled vehicles, this could enable them to isolate the scope of a recall, improve customer service, and potentially save lives. As noted by Albright (2005), a typical recall can take 250 days to complete and on average, it takes about 100 days for a manufacturer to detect and correct a defect – at a cost of up to $1 million per day. Any information which reduces the number of vehicles being recalled is therefore likely to result in cost savings to industry. However, this does not necessarily mean that the costs of fitting RFID tags would be offset by these types of benefits.

3.2.4 Administrative Burden on Businesses

Option A1 – Baseline Scenario

By definition[19], Option A1 does not place additional administrative obligations on economic operators and, as such, no additional administrative burden is incurred.

Option A2 – Self-regulatory Initiative

By definition, Option A2 does not place additional administrative obligations on economic operators and, as such, no additional administrative burden is incurred.

Option A3 – Regulatory Initiatives

This option is unlikely to place an administrative burden on businesses, except possibly for a some economic operators in third countries. These economic operators would have to undertake certain responsibilities and incur associated compliance costs.

3.2.5 Public Authorities

Option A1 – Baseline Scenario

Costs and Benefits to the Commission

There are unlikely to be any direct costs to the Commission from maintaining the status quo. Avoiding changes to the regulatory framework will save the administrative costs associated with any intervention, particularly those of a regulatory nature.

Costs and Benefits to National Authorities

There are unlikely to be any direct costs to the national authorities from maintaining the status quo. Avoiding changes to the regulatory framework will also save the administrative costs associated with any intervention, particularly those associated with an amendment of the current national legislation. There are, however, likely to be potential losses relating to:

- benefits which would have accrued from alignment with the NLF; nine national authorities indicated that such alignment would result in benefits (or cost savings) for their organisation; and
- the costs associated with more resources being devoted to post-market control efforts and interventions due to more NCDs encountered on the market.

[19] Administrative burden refers to "the cost of administrative activities that businesses conduct solely in order to comply with legal obligations" See http://ec.europa.eu/enterprise/policies/smart-regulation/glossary/index_en.htm

Costs and Benefits to TS

None identified.

Option A2 – Self-regulatory Initiative

Costs and Benefits to the Commission

None identified, although the Commission may be consulted on some of the pertinent issues while the VA is being developed.

Costs and Benefits to National Authorities

None identified, although national authorities may be involved in some of the discussions while the VA is being developed.

Costs and Benefits to TS

None identified.

Option A3 – Regulatory Initiatives

Costs and Benefits to the Commission

Under Option A3, the Commission is responsible for developing and drafting legislation and would incur any costs associated with this. These are not additional costs as it is one of the functions of the Commission to develop/draft legislation. There are no direct benefits to the Commission under Option A3.

Costs and Benefits to National Authorities

The UK Dft (2011) notes that approval authorities may incur increased costs to ensure that economic operators are satisfying their requirements to ensure only approved products reach the market. The burden of additional work required by the approval authority depends on the increase in notifications from economic operators or other Member States compared with the current situation. Requirements for cooperation with market surveillance and/or approval authorities are also considered likely to result in an increase in cost associated with staff time for this activity.

Assuming an additional 2 – 10 staff are employed per Member State to deal with this additional work – on a salary of around €20,000 - €30,000, this would result in costs of €40,000 to €300,000 per Member State. Including overheads costs (25%[20]), this increases to **€50,000 to €375,000** per Member State. Across the EU-27, the costs could be between €1.4 million to €10.1 million.

[20] Hourly pay should correspond to the gross salary plus overheads costs (25% by default). See http://ec.europa.eu/governance/impact/commission_guidelines/docs/iag_2009_annex_en.pdf

Member States would also incur costs associated with amending their national legislation. Specific data on the costs of transposition of EU legislation by Member States and their relevant departments/ministries are not readily available, as some Member States consider that these costs are difficult to quantify and would occur in the ordinary course of the business. One UK impact assessment notes that "the costs of amending current regulations to implement a Directive are thought to be around £700,000" (around €800,000) (DTI, 2006). Although no details are given of the basis for this calculation, it is expected that these costs would include those costs of making (e.g. preparing an impact assessment, preparing a transposition note and presenting before the legislation before parliament), printing and publishing the legislation. This estimate is significantly higher than the cost estimated in UK DfT (2011) which notes that "*a combination of legal and technical resources as well as policy advisors are usually required to implement such a change, costing approximately £15,687 per amendment*".

In practice, the exact costs would depend on the specific changes agreed in the final version of the Directive and the regulatory model used in each country to implement the Directive (i.e. number of departments involved in transposition or implementing the Directive).

For the purposes of this impact assessment, we have assumed transposition costs of around €500,000 and €1 million. It is possible that the actual figures could to be closer to the lower range figure as 'Amending Directives' are often easier to transpose than 'New Directives' (i.e. where no directive previously existed), as well as the fact that Member States are conversant with the proposed changes (in line with the NLF).

Finally, in terms of benefits, as noted in Decision 796/2008, "*ensuring traceability of a product throughout the whole supply chain helps to make market surveillance simpler and more efficient. An efficient traceability system facilitates market surveillance authorities' task of tracing economic operators who made non-compliant products available on the market*". It is likely that the benefits accruing from better traceability would exceed the costs; effectively, it only requires the avoidance of one vehicle fatality per Member State for the benefits to exceed the costs.

Costs and Benefits to TS

None identified.

3.2.6 Innovation and Research

Option A1 – Baseline Scenario

There are no impacts on innovation and research under Option 1, although a long-term effect may be that manufacturers may have little incentive to invest in research in certain areas, if their products cannot be sold at a reasonable profit, due to an increased number of UADs and NCDs on the market.

Option A2 – Self-regulatory Initiative

None identified.

Option A3 – Regulatory Initiatives

Option A3 is unlikely to directly stimulate research and development, although it could encourage further development work in the RFID sector.

3.2.7 Consumers and Households

Option A1 – Baseline Scenario

Problems with vehicles impact not only on the financial situation of consumers, but also on their health and safety (including children). A key impact on consumers relates to the number of road accidents which result from UADs. Recalls reduce the number of accidents at least for two primary reasons: behavioural changes on the part of the driver (albeit short-term) and the reduction in the expected accident severity resulting from elimination of the defect (assuming the same crash occurred anyway) (Bae and Benitez-Silva (2010)). In practice, however, it is difficult to extrapolate the available data on recalls to develop robust quantitative EU-wide estimates on the impacts of recalls on accidents and safety. As noted by Bae and Benitez-Silva (2010), some of the reasons why there are relatively few studies of the effect of recalls on safety include:

- there is no direct link between recall, vehicle, and accident data;
- vehicles may have multiple defects and it is not always certain which defect caused the accident (especially as recalls are issued over time); and
- defects have different levels of risks and, as such, it is very difficult to measure potential risks accurately and compare them; etc.

Under Option A1, these problems will continue into the future.

Option A2 – Self-regulatory Initiative

Option A2 would improve the current situation, although the extent cannot be quantified.

Option A3 – Regulatory Initiatives

By reducing the number of NCDs and UADs on the market, Option A3 would improve the current situation, although the extent cannot be quantified.

3.2.8 Third Countries and International Relations

Option A1 – Baseline Scenario

In the long run, maintaining the current situation could affect the reputation of EU producers for safe products, making it harder for EU vehicle and part manufacturers to export their products to third countries. However, this appears unlikely to have a major impact, compared with other factors (such as relative labour costs) affecting trade in motor vehicles and replacement parts.

Option A2 – Self-regulatory Initiative

Option A2 should have no direct effect on EU trade policy and international relations.

Option A3 – Regulatory Initiatives

Option A3 should have no direct effect on EU trade policy and international relations.

3.3 Assessment of Social Impacts

Option A1 – Baseline Scenario

Option A1 is not expected to result in specific additional impacts in the employment and labour markets (i.e. new job creation, loss of jobs, etc.). The frequency of health risks or accidents as a result of faulty vehicles is however likely to continue into the future.

Also, the overall objective of protection of health and environment may not be fully achieved if UADs and NCDs can be placed on the EU market and no effective remedial actions can be taken, due to difficulties in tracing their origin and the economic operators responsible for their placing on the market.

Option A2 – Self-regulatory Initiative

Option A2 is not expected to result in specific impacts in the employment and labour markets (i.e. new job creation, loss of jobs, etc.). It could have impacts through reducing the share of UADs and NCDs on the market and as such contributing to reducing the number of accidents and the harm to the environment caused by them. However, this impact is expected to be small, because of the problems with compliance described in Section 3.2.1.

Option A3 – Regulatory Initiatives

Option A3 may help in reducing the share of UADs and NCDs on the market and as such contribute to reducing the number of accidents and the harm to the environment caused by them. For instance, improving the traceability of vehicles and automotive products could mean that higher tier suppliers will be more careful about who they

purchase their raw materials and products from, and the sellers of UADs and NCDs would be aware that they can be caught and therefore discouraged from placing such products on the market.

If there is a significant increase in the number of automotive suppliers requiring RFID tags (or other tracing technologies) on their products as a result of Option A3, it is possible that the suppliers of tracing technologies would need to expand their capacity to deal with an additional workload, thus creating additional jobs.

Bridge (2007) estimated that, in five years, more than 170,000 passive RFID readers will be deployed in Europe at 30,000 locations. These readers will process a total of 3 billion tags. These numbers are expected to grow significantly until 2022, when it is expected that more than 6 million readers will be operating at 450,000 locations, with 86 billion tags purchased annually. Assuming around 14,000 parts per vehicle multiplied by 10 million new cars per annum would suggest an additional 140 trillion RFID tags. Using a lower bound figure of around 1,800[21] would give 18 billion tags, which is four times the current estimated figure. This could therefore, be assumed to suggest a possible increase in employment of two to four times in the RFID sector, if this requirement was introduced.

Option A3 may also result in some minor additional job creation, e.g. to deal with additional roles/responsibilities of enforcement authorities; this is not expected to be significant overall.

3.4 Assessment of Environmental Impacts

Directive 2005/64/EC on the type-approval of motor vehicles with regard to their re-usability, recyclability and recoverability helps facilitate the recycling and recovery of component parts of end-of-life vehicles by obliging manufacturers to incorporate recycling from the vehicle design stage onwards. Manufacturers must design vehicles from the viewpoint of dismantling and recycling them, for example by using a large proportion of materials which are potentially able to be recycled and recovered.

As a result, manufacturers are now required to track their products from production to disposal and document that environmentally hazardous materials (heavy metals, arsenic, etc.) are disposed of properly. Parts traceability technologies are enabling the proper disposal of electronics by documenting any hazardous materials in the product, so when it reaches its end of life it can be disposed of properly or returned to the manufacturer for recycling and/or disposal.

To the extent that Options A2 and Option A3 contribute to parts traceability, they are also likely to result in positive environmental impacts.

[21] Number of parts in a car, not including "preassemblies" such as the engine, which alone contains thousands of parts (See http://www.csmonitor.com/2007/0619/p18s02-hfks.html)

3.5 Summary and Comparison of Options

Table 3.17 below provides a summary comparison of the policy options for addressing the traceability of products and the respective responsibilities of economic operators in the supply chain.

Table 3.17: Summary of Impacts: Problem Area A			
Impact	**Option A1 (Do Nothing)**	**Option A2 (Self-regulatory)**	**Option A3 (Regulatory)**
Impacts on Internal Market	Lack of clear responsibilities for economic operators and traceability of data (accounts for 7.5% to 10% of **UADs** on the EU market) results in **NCDs of €375 million** and **UADs of €3 billion** placed on the EU market annually	Increased clarity for economic operators and enforcement authorities in identifying UAD and NCD responsible parties. However, difficulty in ensuring compliance for the whole sector	Assuming that Option A3 is effective (i.e. 50% reduction) in addressing the problems identified; there would be a reduction of between **€188 million and €1.5 billion per year** of such devices on the market. It is anticipated that compliant automotive devices would be sold to replace this volume.
Costs to Firms	Costs will continue to be incurred by reputable economic operators due to continued distortion of market competitiveness	Main cost incurred by industry associations is developing the VA (**€8,000 to €338,000**) and undertaking awareness campaigns (**€6,000 to €21,000** – low estimate)	Costs to distributors and importers to ensure obligations are met (potentially requiring an EU representative – estimated costs range from **€125,000 to €90 million**) and costs to manufacturers of improving product traceability using RFID tags (low estimate of **€15 billion**)
Benefits to Firms	No benefits identified, other than to less scrupulous economic operators	Companies are likely to benefit from the clarity provided in terms of their roles and responsibilities	Assuming increased traceability requirements help some manufacturers to accurately link parts (subject to recall) and assembled vehicles, this could enable them to isolate the scope of a recall, improve customer service, reduce costs and potentially save lives

Table 3.17: Summary of Impacts: Problem Area A			
Impact	**Option A1 (Do Nothing)**	**Option A2 (Self-regulatory)**	**Option A3 (Regulatory)**
Costs to Authorities	No additional direct costs under baseline. However, potential losses relating to benefits accrued from alignment with the NLF and costs associated with more resources being devoted to post-market control efforts and interventions due to more NCDs encountered on the market	None identified, although national authorities may be involved in some of the discussions while the VA is being developed	Costs incurred for ensuring economic operators are satisfying their requirements (estimated to be between **€1.4 million and €10.1 million**). Also costs of amending national legislation
Benefits to Authorities	Avoids costs associated with any intervention, particularly those associated with an amendment of the current national legislation	None identified	
Costs to TS	None identified	None identified	None identified
Benefits for TS	None identified	None identified	None identified
Costs to Consumers	Consumers will continue to suffer from recalls, faults and potentially increased safety risk	None identified	None identified
Benefits to Consumers	None identified	Improvement of current situation, however, this is not quantifiable	Improvement of current situation, however, this is not quantifiable
Social Impacts	Continuation of the frequency of health risks and accidents resulting from faulty vehicles	Small reduction in the share of UADs and NCDs on the market, thus reducing the number of accidents and associated environmental impacts	Reduction in the share of UADs and NCDs on the market, thus reducing the number of accidents and associated environmental impacts. Additional job creation in the RFID sector
Environmental Impacts	Some of the current vehicle recall incidents result in undesirable environmental impacts, which would continue in the future	Increased traceability of parts is likely to result in positive environmental impacts	Increased traceability of parts is likely to result in positive environmental impacts

4. PROBLEM AREA B - RESPONSIBILITIES AND CO-OPERATION BETWEEN NATIONAL AUTHORITIES

4.1 Background

4.1.1 Significance of the Problem Area

The second problem area relates to the "responsibilities of and co-operation amongst the different national authorities within the Member States involved in enforcement of Directive 2007/46/EC in their territory". Over 50% of all respondents to the public consultation did not consider that the respective roles and responsibilities of the authorities involved in the enforcement of the current legal system are sufficiently clear. Both consumer organisations responding to the ex-post evaluation questionnaire also indicated this problem area to be 'highly' problematic.

A key recommendation of the ex-post evaluation of the Directive was that, in aiming to address the problem of UADs and NCDs on the market, the Commission should consider *"specifying the responsibilities of the national authorities (market surveillance authorities, border controls/custom authorities and technical services) that are involved in the enforcement of the Directive and the need for co-operation between these authorities*".

4.1.2 Defining the Specific Problems

As noted in the EC Roadmap (2011), Directive 2007/46/EC currently focuses on the procedures for type-approval and CoP and, as such, defines and refers mainly to approval authorities and the competent authorities for the assessment of TS. Other national authorities that are involved in the implementation and enforcement of the Directive (e.g. market surveillance authorities and border controls) are neither clearly defined nor their roles clearly explained. As noted in the roadmap, the lack of a clear definition downplays the contribution these organisations can make to effective enforcement of the legislation, particularly to addressing problems with NCDs and UADs and application of the procedures for safeguard measures and vehicle recalls.

Following on from the lack of clear delineation of roles, there are also no clear mechanisms and procedures established in the legislation for information exchange and co-operation between enforcement authorities, both at national level and EU level. This gap may hamper the development of an effective and uniform enforcement policy in the automotive sector across the EU.

4.1.3 Aim of Intervention

The aim of the intervention is to improve the enforcement of the current legal framework by:

c) clarifying the respective roles and responsibilities of enforcement authorities in the Member States; and

d) enhancing or establishing clear procedures for information exchange and co-operation amongst enforcement authorities in the Member States, both at national and cross border level.

Four possible policy options have been put forward in the EC Roadmap (2011):

- Option B1 (baseline scenario): do nothing;
- Option B2 (self-regulatory): undertaking awareness campaigns and/or voluntary agreements with and between enforcement authorities in the Member States;
- Option B3 (co-regulatory): joint actions by the Commission and the Member States; and
- Option B4 (regulatory): amending the existing technical harmonisation legislation relating to vehicles.

4.1.4 Defining the Policy Option

Option B1 – Baseline Scenario

Option B1 is the do nothing option and involves making no changes to the existing situation to improve enforcement of the current legal framework. The Directive will not be updated to be in line with the NLF and there will be no changes to the Directive's description of the responsibilities of different authorities involved in enforcement. Approval authorities[22] will remain the contact point for the approval authorities of other Member States regarding all issues relating to type-approval, as well as continuing to bear overall responsibility (except where delegated to a 'competent authority' or designated body acting on their behalf) for:

- the authorisation process, for issuing and if appropriate, withdrawing approval certificates;
- designating the technical services; and
- ensuring that the manufacturer meets his obligations regarding the conformity of production.

National authorities will also not be required to co-operate further amongst themselves or jointly with the Commission to improve the current situation. Rather, existing formal and informal channels and levels of communication and information exchange through various bodies such as RAPEX and ICSMS[23] (as well as PROSAFE) would be maintained.

[22] Defined as "*the authority of a Member State with competence for all aspects of the approval of a type of vehicle, system, component or separate technical unit or of the individual approval of a vehicle*".

[23] ICSMS is an internet-supported communication system for European market surveillance authorities to share and exchange information about products. It consists of a closed and a public area and the closed area is for the use of market surveillance bodies, customs authorities and the EU Commission and contains product information, test results, official measures taken, and so on.

Option B2 – Self-regulatory Initiative

Three key actions are foreseen under Option B2:

- Firstly, the various national bodies involved in enforcement of the Directive would sign up to a VA which clarifies their respective roles and responsibilities. In practice, this VA would mirror the roles and responsibilities set out in the NLF Regulation (see Table 4.1), but amended to be specific to enforcement roles and approaches for vehicles and vehicle devices. This VA would apply to the market surveillance organisations, national accreditation bodies and border control agencies in each of the 27 Member States (at least, around 81 signatories would be required).

- Secondly, the 27 national authorities would sign up to a VA which commits them to co-operate and exchange information between their market surveillance authorities and those of the other Member States and the Commission regarding their market surveillance programmes for motor vehicles and their parts and all issues relating to automotive products presenting risks. This would be in line with Article 24 of the NLF Regulation 765/2008. In order to achieve this, market surveillance authorities would agree to provide assistance to other market surveillance authorities by:
  - supplying information or documentation;
  - carrying out appropriate investigations or any other appropriate measure; and
  - participating in investigations initiated in other Member States.

- Finally, an awareness campaign would be launched with the aim of disseminating the terms of the VA (and effectively, promoting the NLF) to the organisations involved in enforcement of the Directive.

The VAs as described above do not foresee a body (or bodies) responsible for managing and monitoring the agreements. Rather, in line with the approach in the NLF, the Commission will be kept informed of information exchanged and would collect and organise such data on national market surveillance measures as will enable it to fulfil its obligations (Article 24(3)). It is also assumed that the Commission and/or the Member States (via the TAAM[24] or TAAEG[25]) would be responsible for developing the terms of the VA on the application of the NLF definitions to enforcement within the automotive industry (either by themselves or through sub-contracting an external body) and for developing and overseeing the awareness campaign.

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24 The European type-approval authorities meet regularly (in general twice a year, under the acronym TAAM) to discuss questions regarding the understanding and interpretation of the European Directives and the equivalent UNECE Regulations in view of ensuring their common application.

25 The Type-Approval Authorities Expert Group (TAAEG) is a consultative body composed of representatives of all national type-approval authorities. The aim of the TAAEG is to ensure uniform application of the relevant technical requirements within the EU type-approval system. This will involve several tasks, including monitoring the enforcement of EU legislation by national authorities, solving the issue of diverging views concerning type-approval in order to ensure mutual recognition and discussing the enhancement of market surveillance in the automotive sector (EC, 2009).

Table 4.1: Clarifying the Roles of Enforcement Authorities in line with the NLF		
Title	**Definition**	**Role**
Member State (General)		Member States shall inform the Commission of their **market surveillance authorities** and their areas of competence Each Member State shall appoint a single **national accreditation body**. Member States shall designate a **notifying authority**… but may decide that their tasks shall be carried out by a national accreditation body.
Market surveillance body	…shall mean an authority of a Member State responsible for carrying out market surveillance on its territory	'market surveillance' shall mean the activities carried out and measures taken by public authorities to ensure that products comply with the requirements set out in the relevant Community harmonisation legislation and do not endanger health, safety or any other aspect of public interest protection. Market surveillance authorities shall provide authorities in charge of external border controls with information on product categories in which a serious risk or non-compliance has been identified.
National accreditation body	…shall mean the sole body in a Member State that performs accreditation with authority derived from the State	A national accreditation body shall, when requested by a conformity assessment body, evaluate whether that conformity assessment body is competent to carry out a specific conformity assessment activity. Where it is found to be competent, the national accreditation body shall issue an accreditation certificate to that effect. National accreditation bodies shall monitor the conformity assessment bodies to which they have issued an accreditation certificate. Where a national accreditation body ascertains that a conformity assessment body which has received an accreditation certificate is no longer competent to carry out a specific conformity assessment activity or has committed a serious breach of its obligations, that accreditation body shall take all appropriate measures within a reasonable timeframe to restrict, suspend or withdraw the accreditation certificate. National accreditation bodies shall subject themselves to peer evaluation organised by the body recognised under Article 14 (European accreditation infrastructure). …'peer evaluation' shall mean a process for the assessment of a national accreditation body by other national accreditation bodies, carried out in accordance with the requirements of this Regulation, and, where applicable, additional sectoral technical specifications.
Notifying Authority		Member States shall designate a notifying authority that shall be responsible for setting up and carrying out the necessary procedures for the assessment and notification of conformity assessment bodies and the monitoring of notified bodies, including compliance with the provisions of the legislation.

Table 4.1: Clarifying the Roles of Enforcement Authorities in line with the NLF		
Title	**Definition**	**Role**
		Member States may decide that the assessment and monitoring referred to in paragraph 1 shall be carried out by a national accreditation body within the meaning of and in accordance with Regulation (EC) No 765/2008.
Conformity assessment body	…shall mean a body that performs conformity assessment activities including calibration, testing, certification and inspection; For the purposes of notification [i.e. becoming a notified body], a conformity assessment body shall meet the requirements laid down in the legislation.	'conformity assessment' shall mean the process demonstrating whether specified requirements relating to a product, process, service, system, person or body have been fulfilled;
Border Controls		Where in a Member State more than one authority is responsible for market surveillance or external border controls, those authorities shall cooperate with each other, by sharing information relevant to their functions and otherwise as appropriate. The authorities in charge of external border controls shall suspend release of a product for free circulation on the Community market when… the product presents a serious risk to health, safety, the environment or any other public interest,… is not accompanied by the written or electronic documentation required by the relevant Community harmonisation legislation or is not marked in accordance with that legislation, … or the CE marking has been affixed to the product in a false or misleading manner. The authorities in charge of external border controls shall immediately notify the market surveillance authorities of any such suspension. Where the market surveillance authorities find that a product presents a serious risk, they shall take measures to prohibit that product from being placed on the market and shall require the authorities in charge of external border controls to include an endorsement on the commercial invoice accompanying the product and on any other relevant accompanying document.
Source: NLF Regulation 765/2008		

Option B2 has been developed on the following basis:

- Using the NLF addresses the concerns of some national authorities that *"the roles and responsibilities* [of enforcement authorities] *should be clarified in the regulatory framework"* by providing a strong legal basis, which should ensure a higher likelihood of success. Using the NLF also ensures that national authorities benefit from a consistent regulatory framework.

- It recognises the views of national authorities that existing information and co-operation instruments (such as CIRCA, TAAEG, TAAM, etc.) provide good platforms for facilitating information exchange and co-operation between National Authorities (see Table 4.2). While the current focus is mainly on type-approval and CoP (rather than market surveillance), as noted by one national authority, these bodies are *"definitely a good start, but more needs to be done by all.*

- It recognises the view of around half of the national authorities responding to the IA questionnaire that it was not feasible and cost-effective to develop and enforce a VA (see Table 4.3). Using an existing structure to facilitate the actions should help to address these concerns.

Table 4.2: Do you Agree that Existing Information and Co-operation Instruments (such as CIRCA, TAAEG, TAAM etc.) provide Good Platforms for Facilitating Information Exchange and Co-operation Between National Authorities?

	Number of Responses	**% of Responses**
Yes	18	100%
No	0	0%
TOTAL	**18**	**100%**

Table 4.3: Do you Believe that it is Feasible and Cost-effective for National Authorities to Develop and Enforce a Voluntary Agreement which Clarifies the Roles and Responsibilities of Enforcement Authorities and Aims at Improving Enforcement of the Directive?

	Number of Responses	**% of Responses**
Yes	6	33%
No	8	44%
No Definitive Answer Given	4	22%
TOTAL	**18**	**100%**

Option B3 – Co-regulatory Initiatives

Option 3 involves joint action between the Commission and Member State authorities to improve the current enforcement situation in two key ways:

- by providing targeted training for national authorities; and
- by developing interpretation guidelines on the legal provisions on type-approval, conformity of production, recall of vehicles, safeguard measures and market surveillance.

It is expected that the interpretative guidance and training material will cover the roles and responsibilities of the various enforcement authorities, as this is fundamental to any training on how to appropriately enforce the legislation. In this regard, Option B3 is considered to provide effective clarification of the respective roles and responsibilities of the enforcement bodies (similar to Option B2) but without requiring the national bodies to be signatories to a VA. Similar to Option B2, it is anticipated that the Commission and/or TAAEG/TAAM would play a key role in developing and organising training programmes and the development of guidance.

Option B3 can either stand alone or complement Options B2 and B4 (as shown in Table 4.4 below). It is also underpinned by Article 25(2)(3) of Regulation 765/2008 (see Table 4.5) and is also in line with Article 24 which requires Member States to participate in European co-operation activities and provide mutual assistance.

Table 4.4: Comparison of Options B2, B3 and B4

	Option B2	Option B3	Option B4
Clarification of roles and responsibilities of enforcement bodies	Yes	Yes	Yes
Establishing clear procedures for information exchange and co-operation	Yes	No	Yes
Targeted training of enforcement authorities	No	Yes	No
Developing and providing interpretative Guidance	No	Yes	No

Table 4.5: Sharing of Resources under the NLF (Article 25 of Regulation 765/2008)

1. Market surveillance initiatives designed to share resources and expertise between the competent authorities of the Member States may be set up by the Commission or the Member States concerned. Such initiatives shall be coordinated by the Commission.

2. For the purposes of paragraph 1, the Commission shall, in cooperation with the Member States:

(a) develop and organise training programmes and exchanges of national officials; and
(b) develop, organise and set up programmes for the exchange of experience, information and best practice, programmes and actions for common projects, information campaigns, joint visit programmes and the consequent sharing of resources.

3. Member States shall ensure that their competent authorities participate fully in the activities referred to in paragraph 2, where appropriate.

Option B4 – Regulatory Initiatives

Option B4 involves amending the existing technical harmonisation legislation to clarify the roles and responsibilities of enforcement authorities in line with the NLF (see Table 4.1). It would also involve amending the existing technical harmonisation legislation to enhance information exchange and co-operation amongst national authorities.

Effectively, to comply with the NLF, Member States have to:

- ensure that they have the means, resources and the necessary authority;
- ensure co-ordination between authorities;
- draw up, organise and carry out national programmes;
- co-operate with other Member States;
- bring customs and market surveillance authorities closer together; and
- co-ordinate activities at national and European (EU and EEA) level.

Under Option B4, a high level of stringency in enforcement of the Directive would be realised either through better supervision or improved information exchange and co-operation at the EU level between:

- *notified bodies*, via a notified body coordination group as well as being informed by market surveillance authorities of products that do not comply with the legislative requirements and for which economic operators have been asked to take appropriate corrective action;
- *national accreditation bodies*, via the European Co-operation for Accreditation (the EA) (supervision), which will be responsible for peer evaluation of national accreditation bodies;
- *market surveillance authorities*, via the existing mechanisms such as RAPEX and ICSMS, TCMV, TAAEG and TAAM, as well as the proposed General information support system[26] (GISS) and information provided by border controls on products which have been suspended from circulation; and
- *border control agencies*, via communications between them and market surveillance bodies.

The difference between the current situation (Option B1) and the regulatory situation (as set out under the NLF) is shown in Figures 3.1 and 3.2 respectively.

[26] Article 23 of Regulation 765/2008 requires the European Commission to "*develop and maintain a general archiving and exchange of information system, using electronic means, on issues relating to market surveillance activities, programmes and related information on non-compliance with Community harmonisation legislation*". This information system will include information provided by Member States on products presenting a risk regarding, in particular, identification of risks, results of testing carried out, provisional restrictive measures taken, contacts with the economic operators concerned and justification for action or inaction.

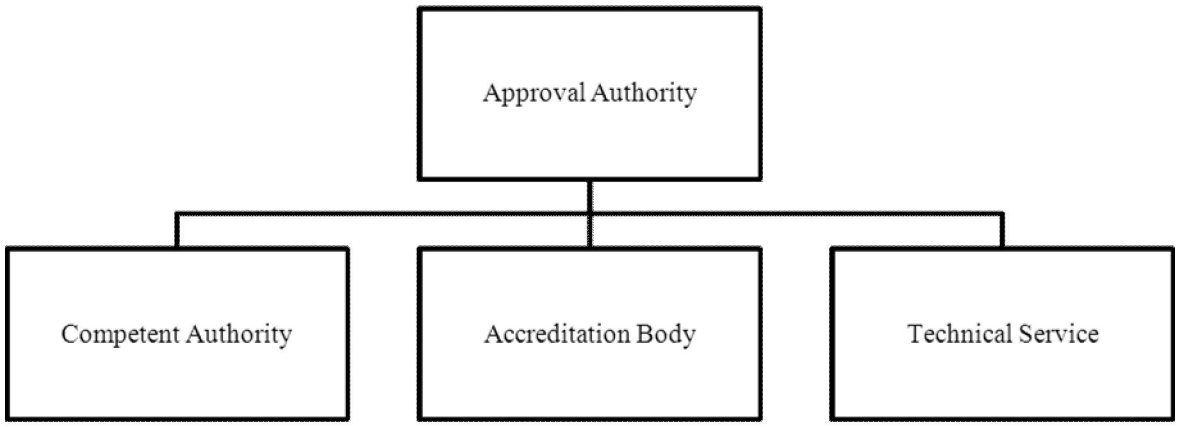

Figure 4.1: The Current Situation under Directive 2007/46/EC (Option B1)

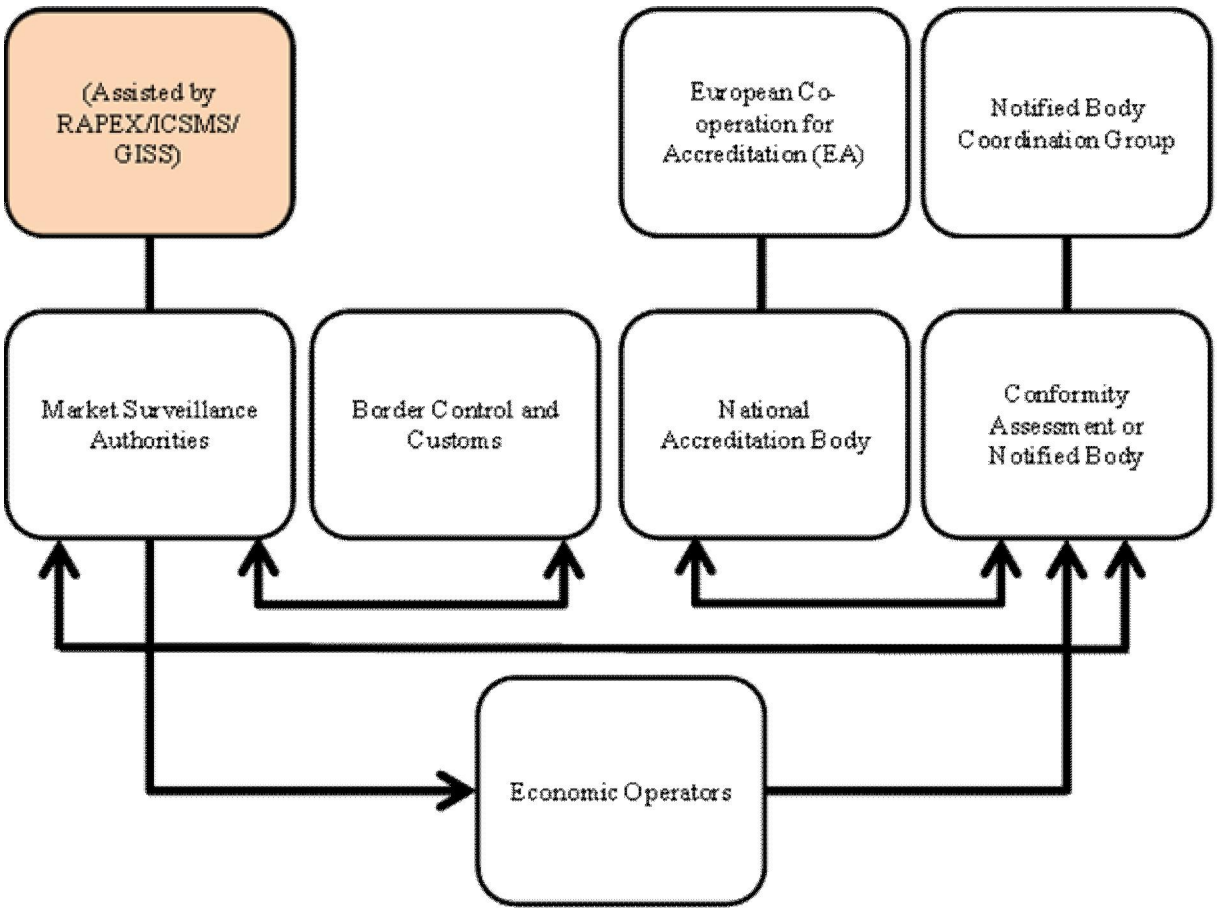

Figure 4.2: The Situation under the NLF

4.2 Assessment of Economic Impacts

4.2.1 Functioning of Internal Market and Competition

Option B1 – Baseline Scenario

In responding to the IA questionnaire, national authorities highlighted some problems with the current level of clarity regarding "*in which case the TAA* [Type-approval Authority] *is responsible and in which cases the market surveillance authority is responsible. Another problem is the right for both authorities to take samples by the dealers, etc.".* Another national authority highlighted the need for "*a harmonized doing* [approach] *of the Member State authorities"* and a general need for *"more clarity"* and *"legal certainty"* for enforcement authorities. Seven (of 18) national authorities noted that they are aware of major differences in how national authorities deal with devices on their markets and the overall enforcement of Directive 2007/46/EC. In view of these issues, maintaining the current situation could lead to an incoherent and/or inconsistent enforcement approach across the EU in taking effective and efficient actions against NCDs and UADs found on the EU market. This would benefit the less scrupulous economic operators, leading to an unfair distortion of competition for economic operators that are complying with the legislation.

Using the methodology set out in Section 2, an indication of the potential costs of a 'do nothing' option, in terms of the presence of NCDs and UADs on the European market, has been estimated in Table 4.6.

Table 4.6: Potential Costs of Option B1 – Value of NCDs and UADs Remaining on the EU Market

As shown in Table 2.3, UADs have been estimated to account for between €5 billion and €45 billion of automotive products present on the EU market, while NCDs have been estimated to account for between €2.5 billion and €30 billion (see Table 2.4). For the impact assessment, we have assumed that UADs account for up to **€30 billion** of automotive products present on the EU market and NCDs account for around **€5 billion** of automotive products present on the EU market (see Section 2.3.4).

Assuming that the lack of clear roles and responsibilities and clear mechanisms and procedures in the legislation for information exchange and co-operation between these authorities, accounts for between 2.5% and 20% of **UADs** on the EU market, Option B1 would result in **NCDs** of around **€125 million and UADs of around €6 billion** remaining on the EU market annually.

Option B2 – Self-regulatory Initiative

Under Option B2, the clarification of the roles and responsibilities of enforcement authorities is likely to benefit both enforcement authorities and economic operators in identifying the responsible party where a UAD or NCD is identified. This is confirmed from the responses to the IA questionnaire (see Table 4.7) which show that the majority of national authorities (16 of 18) believe that there are likely to be particular benefits from clarifying the roles and responsibilities of enforcement authorities.

Table 4.7: Are there likely to be Particular Benefits from Clarifying the Roles and Responsibilities of Enforcement Authorities, in Particular, Making Clear Reference to the Role of Market Surveillance Authorities?		
	Number of Responses	**% of Responses**
Yes	16	89%
No	2	11%
TOTAL	18	100%

However, with regard to information exchange and co-operation, it is not clear how far national authorities are prepared to go beyond existing actions. A few national authorities expressed the view, succinctly stated by one, that *"there are already several forums for exchanges between Member States"* – although, in practice, not all of these fora relate to market surveillance.

Even if the VA is signed and agreed, it is also not clear whether there would be a real increase in current levels of co-operation between Member States in product investigations. As noted by some Member States, such co-operation with other Member States has taken place in the past and would continue in the future only *"if circumstances made it beneficial"*. The website of one market surveillance authority[27] (though not involved in motor vehicles) also notes that it "*works in co-ordination with other market surveillance authorities (MSAs) both [national] and in Europe* and … *various informal and formal links are maintained, particularly the meetings held each year where representatives from the various European MSAs discuss live issues and agree collective action, including proactive work programmes*".

Some benefits would accrue for both authorities and economic operators from improved co-operation and information exchange; however, the scale of these benefits would depend on the extent of improvement compared to the current situation. For instance, it is clear that the majority of national authorities (15 of the 18) responding to the IA questionnaire, believe that co-ordinating communication and reporting with other Member States would be useful for addressing differences in dealing with non-compliant and/or unsafe products on their markets and the overall enforcement of Directive 2007/46/EC (see Table 4.8 below).

Table 4.8: Do you Believe that Co-ordinating Communication and Reporting with Other Member States would be Useful for Addressing any such Differences?		
	Number of Responses	**% of Responses**
Yes	15	83%
No	1	6%
No Definitive Answer Given	2	11%
TOTAL	18	100%

[27] http://www.hse.gov.uk/work-equipment-machinery/hse-role-market-surveillance-authority.htm

On the other hand, only eight of the 18 responding national authorities indicated that they would be willing to undertake co-ordinated testing of automotive devices between Member State authorities.

Based on the above, it is likely that while Option B2 may be effective in clarifying the roles and responsibilities of enforcement authorities, its impact in terms of ensuring appropriate level of communication and information exchange between enforcement authorities is uncertain. An awareness campaign targeted at Member States would be effective in promoting knowledge regarding the NLF; however, the additional benefit of this is unclear, as most authorities would be expected to be aware of the NLF already (particularly for the purposes of developing the National Market Surveillance Programmes).

The impact of Option B2 is therefore highly uncertain, although it may still result in a reduction in NCDs and UADs on the market. Adopting a conservative assumption that Option B2 results in only a 5% reduction in NCDs and UADs due to this high uncertainty, the value of the reduction in NCDs on the market would be around **€6.3 million per year** and the reduction in UADs around **€300 million per year**.

Option B3 – Co-regulatory Initiatives

Providing targeted training for national authorities and developing interpretation guidelines on the legal provisions may have a beneficial effect in ensuring that enforcement officers have the appropriate technical knowledge and awareness of the regulatory framework to enable them to effectively verify compliance with the Directive. As noted earlier, it is likely that the guidance and training material will cover the roles and responsibilities of the enforcement authorities (as this is fundamental to any training on how to appropriately enforce the legislation) and thus some of the benefits identified under Option B2 would also apply under Option B3. By enhancing implementation and enforcement of the Directive, such training and guidance would also contribute to the overall objective of enhancing the internal market for the automotive sector and lead to a more level playing field, ensuring that manufacturers of UADs and NCDs do not gain an unfair advantage over economic operators complying with the legislation.

Under Option B3, it is assumed that there will be a reduction in the number of NCDs and UADs on the market. The extent of these benefits would to some extent depend on whether Option B3 is implemented as a standalone option or used to complement Options B2 and B4 (as shown in Table 4.4 above). Assuming that Option B3 is implemented as a complementary option and, as such, is highly effective (i.e. 75% reduction) in addressing the problems relating to NCDs and UADs, it is estimated that there would be a reduction in NCDs on the market of around **€94 million per year** and a reduction in UADs of **€4.5 billion per year**. Alternatively, assuming that Option B3 implemented as a standalone option and/or is simply 'effective' (i.e. a 50% reduction), it will still generate a reduction in NCDs on the market of around **€63 million per year** and a reduction in UADs of **€3 billion per year**.

Option B4 – Regulatory Initiatives

Clarification of the roles and responsibilities of enforcement authorities under Option B4 is likely to bring about regulatory clarity for both enforcement authorities and economic operators. By ensuring coherence and consistency between Directive 2007/46/EC and the NLF, both national authorities and economic operators are likely to benefit from increased clarity in terms of the authorities they are dealing with (e.g. the notification of the market surveillance authorities would include their names and electronic address) and their areas of responsibility.

Under Option B4, better information exchange and co-operation amongst national authorities would contribute to reducing unfair competition from economic operators offering NCDs and UADs. Such economic operators would no longer be able to operate in Member States that are not up-to-date with the latest technical developments (e.g. new devices posing unverified risks) and approaches in market surveillance (e.g. where they are hindered by a lack of resources). In so doing, it would ensure a level playing field for all economic operators. Better information exchange and co-operation would also assist Member States in correctly applying (and enforcing) the Directive and reduce differences in the enforcement approaches across Member States, in so doing, enhance the functioning of the internal market.

There may also be positive impacts in terms of increasing cross border trade, as consumers increasingly recognise that automotive devices are subject to a common and high level of type-approval, verification of CoP and market surveillance, thereby strengthening the harmonisation of the internal market.

Assuming that Option B4 is effective (i.e. 50% reduction) in addressing the problems relating to NCDs and UADs, it is estimated that there would be a reduction in NCDs on the market of around **€63 million per year** and a reduction in UADs of **€3 billion per year**. Alternatively, assuming that the effectiveness of Option B4 is simply uncertain (i.e. a 15% reduction), it will still generate a reduction in NCDs on the market of around **€19 million per year** and a reduction in UADs of **€900 million per year** (as shown in the Table 4.9 below).

Table 4.9: Reduction in UADs Associated with Problem Area B

Policy Option	Likely Effectiveness	Estimated Annual Reduction (€ million)	
		Lower (NCDs)	Upper (UADs)
Baseline		€ 125	€ 6,000
Co-regulation	Highly Effective	€ 94	€ 4,500
Regulation	Effective	€ 63	€ 3,000
	Uncertain	€ 19	€ 900
	Highly Uncertain	€ 6.3	€ 300

4.2.2 Competitiveness

Option B1 – Baseline Scenario

Option B1 is unlikely to result in cross-border investment flows (including relocation of economic activity) or impact on trade barriers. However, it is possible that the global competitive position of EU firms may be compromised, if a perception is created of NCDs and/or UADs being present on the EU market. If EU vehicles and/or automotive parts gain a reputation for being unsafe, this could lead to an increase in imported automotive devices, with impacts for EU businesses. Conversely, if imported devices are seen as unsafe, because the regulatory regime covering the importers' country is considered to be less-stringent TS, EU manufacturers could benefit.

Option B2 – Self-regulatory Initiative

Option B3 is unlikely to result in either cross-border investment flows (including relocation of economic activity) or impact on trade barriers. Suppliers of NCDs and/or UADs would also be discouraged from bringing such devices to the EU, improving the competitive position of EU-based manufacturers.

Option B3 – Co-regulatory Initiatives

Option B3 is unlikely to result in either cross-border investment flows (including relocation of economic activity) or impact on trade barriers. By addressing the presence of NCDs and/or UADs on the market and protecting the reputation of the EU for safe, compliant and high quality automotive vehicles, the global competitive position of EU firms is likely to be enhanced. Suppliers of NCDs and/or UADs from third countries would also be discouraged from bringing such devices to the EU, improving the competitive position of EU-based manufacturers.

Option B4 – Regulatory Initiatives

Option B4 is unlikely to result in either cross-border investment flows (including relocation of economic activity) or impact on trade barriers. By addressing the presence of non-compliant devices on the market and protecting the reputation of the EU for safe, compliant and high quality automotive vehicles, the global competitive position of EU firms is likely to be enhanced.

4.2.3 Operating Costs and Conduct of Business/Small and Medium Enterprises

Option B1 – Baseline Scenario

Option B1 is not expected to result in additional costs to economic operators.

Option B2 – Self-regulatory Initiative

Option B2 is not expected to result in costs to economic operators.

Option B3 – Co-regulatory Initiatives

Option B3 is not expected to result in costs to compliant economic operators. This is because the guidelines essentially relate to clarifications of the existing situation, thus any costs arising are those which should have been incurred already as part of the baseline. If properly implemented, less scrupulous manufacturers and traders are likely to experience an increase in their operating costs (as they would now incur compliance costs).

A greater uniformity in the implementation of the Directive throughout the EU can also be expected, and this is likely to level operating costs for economic operators regardless of the Member State they are trading in. However, such benefits will not accrue if economic operators, national authorities and/or TS fail to comply with any interpretative guidance.

The main benefits to businesses of introducing guidelines will arise from increased regulatory clarity; the extent of benefits would obviously be directly linked to industry's need for clarification on the issues addressed in the guidance and training provided.

Option B4 – Regulatory Initiatives

Option B4 is not expected to result in costs to economic operators, other than those accruing to less scrupulous manufacturers, as under Option B3.

4.2.4 Administrative Burden on Businesses

Option B1 – Baseline Scenario

By definition[28], Option B1 does not place additional administrative obligations on economic operators and, as such, no additional administrative burden is incurred.

Option B2 – Self-regulatory Initiative

Option B2 does not place additional administrative obligations on economic operators and, as such, no additional administrative burden is incurred.

Option B3 – Co-regulatory Initiatives

Option B3 does not place additional administrative obligations on economic operators and, as such, no additional administrative burden is incurred.

[28] Administrative burden refers to "the cost of administrative activities that businesses conduct solely in order to comply with legal obligations" See http://ec.europa.eu/enterprise/policies/smart-regulation/glossary/index_en.htm

Option B4 – Regulatory Initiatives

Option B4 does not place any additional administrative burden on economic operators.

4.2.5 Public Authorities

Option B1 – Baseline Scenario

Costs and Benefits to the Commission

There will be no direct costs to the Commission from maintaining the status quo. Avoiding changes to the regulatory framework will avoid the administrative costs associated with any intervention, particularly those of a regulatory nature.

Costs and Benefits to Authorities

Avoiding changes to the regulatory framework will mean that national authorities face no administrative costs associated with any intervention, including those associated with an amendment of the current national legislation. The current level of costs associated with post-market controls will continue into the future.

National authorities would, however, lose the opportunity to benefit from alignment with the NLF (and by extension, other related legislation which is in the process of being updated to the NLF). The scale of these benefits cannot be quantified, but as shown in Table 4.10 below, around half of the respondents (9 of the 18) indicated that alignment of Directive 2007/46/EC with the New Legislative Framework would result in benefits for their organisation (see Table 4.10).

Table 4.10: Would Alignment of Directive 2007/46/EC with the NLF result in Benefits?

	Number of Responses	% of Responses
Yes	9	50%
No	8	44%
No Definitive Answer Given	1	6%
TOTAL	18	100%

Costs and Benefits to TS

There are no direct costs or benefits to TS from maintaining the status quo.

Option B2 – Self-regulatory Initiative

Costs and Benefits to the Commission

The Commission may incur some costs relating to drawing up the guidelines for applying the NLF definitions to the motor vehicle sector. These are expected to range between €10,000 and €20,000 based on typical consultancy fees (or the man-days required for Commission staff to develop these).

Costs and Benefits to Authorities

There will be some costs to national authorities under Option B2. However, as discussed earlier, it is difficult to predict the change likely to occur from the baseline to allow for a quantification of these costs. It is clear, however, that Member States would only incur any costs under Option 2 (e.g. from participating in investigations initiated in other Member States) where they are sure that the benefits are likely to outweigh the costs incurred. Lower and higher costs estimates for developing a voluntary agreement have been estimated and these are presented in the Table below.

Table 4.11: Costs to National Authorities for Developing Voluntary Agreement		
	Lower Estimate	**Upper Estimate***
No of Days/Organisations		
No of organisations involved in activities outlined below	27	81
No of days spent drafting the terms of the VA (staff time, including legal teams)	20	50
No of days spent consulting with internal staff on the draft terms of the self-regulatory initiative (staff time)	10	20
No of days spent meeting with other authorities to gain approval on the VA (staff time)	10	25
No of days spent meeting with other Member States to gain approval	5	8
Total Number of Days	**45**	**103**
Wage rate per hour for work done	€ 27	€ 30
Cost		
Drafting the terms of the VA (staff time, including legal teams)	€ 14,580	€ 121,500
Consulting with internal staff on the draft terms of the self-regulatory initiative (staff time)	€ 7,290	€ 48,600
Meetings with other authorities to gain approval on the VA (staff time)	€ 7,290	€ 60,750
Meetings with other Member States to gain approval	€ 3,645	€ 19,440
Total Cost	**€ 32,805**	**€ 250,290**
** Costs for the high scenario reflect the involvement other EU associations (10), or of national associations (27) in each of the major EU associations (~100).*		

Costs and Benefits to TS

There will be no costs to TS under Option B2.

Option B3 – Co-regulatory Initiatives

Costs to the Commission and National Authorities

The main **costs** associated with Option B3 relate to the preparation of guidance and delivery of training. The exact cost of this option would depend on the number of issues to be clarified in the guidance and the scope of the training exercise, amongst other factors.

For the purposes of the impact assessment, we have provided some indicative estimates of the likely costs of Option B3, based on the following assumptions:

- The guidance document and training materials will be developed and agreed at a meeting of either the TAAEG or TAAM.

- These meetings are typically attended by one or two representatives from each Member State (however, some Member States may not attend at all and others, in particular host nations, may send more attendees). These meetings are also attended by a representative of the European Commission. Overall, we have estimated that between **30 and 60 people would attend each meeting** (i.e. one or two representatives per Member State plus three to six other officials, including those from the European Commission).

- We have assumed that the duration and/or frequency of these meetings would need to increase to accommodate the workload associated with developing a training programme and guidance document. We, therefore, estimate that between **5 and 10 additional meeting days** are likely to be required to agree each topic[29] (effectively, either one or two days to agree five topics – or one day for 10 topics).

- For each topic to be agreed in the meeting, each participant spends another **two to four additional days developing or commenting on the actual guidance** and training material. This works out at between **60 and 240 days of work** to develop the guidance and training material (which is consistent with the likely range of days likely to be quoted by an external consultancy to undertake similar work). We have assumed a wage rate of between €27 and €33 per hour.

- We have also assumed a cost of **€500** to **€1,000 per person** (varying by country) for accommodation, travel and subsistence for each participant at the meeting[30]. These costs would also apply to participants attending the training.

- We have assuming a training exercise of one or two days attended by between **three and six representatives per country** (i.e. one or two representatives per market surveillance, border controls, approval authority/technical service).

The total estimated costs of developing the guidance and training material and delivering the training are estimated at between **€117,000 and €932,000**, as set out in Table 4.12 below. The actual costs would vary depending on the final decisions made regarding the content of these documents, as explained in Table 4.13 below.

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29 Five topics would be: type-approval, conformity of production, recall of vehicles, safeguard measures and market surveillance.

30 Information from the UK DfT (2011) indicates that the cost of a UK Government representative to attend regular meetings, such as EC and ECE meetings, to discuss and negotiate proposed changes and other issues are around £1,200, with £400 of this relating to Travel and Subsistence expenses. We assume the remaining £800 relates to the opportunity cost and this is not included here, as we assume that attending such meetings is within the remit of the current members of the TAAEG and TAAM and the travel and subsistence costs are in any case usually refunded for EC meetings.

Table 4.12: One-off Costs to the Commission and Member States under Policy Option B3			
	Low Estimate	**Central Estimate**	**High Estimate**
No of attendees to meeting	30	45	60
No of additional meeting days	5	8	10
Accommodation, travel and subsistence per person	€ 500	€ 750	€ 1,000
Total cost of attending meetings	**€ 75,000**	**€ 270,000**	**€ 600,000**
No of days spent to develop guidance	2	3	4
Wage rate per hour for work on guidance	€ 27	€ 30	€ 33
Total cost of developing guidance	€ 1,620	€ 4,050	€ 7,920
No of participants at training	81	108	162
No of days of training	1	2	2
Total cost of training	**€ 40,500**	**€ 162,000**	**€ 324,000**
Total Cost of Option B3	**€ 117,120**	**€ 436,050**	**€ 931,920**

Table 4.13: Factors affecting Final Cost of Guidance and Training

The exact costs of Option B3 would depend on the final arrangements agreed by the Commission and Member States, as regards which body will be responsible for developing the guidance and the format of the training.

In practice, the actual party incurring the costs would differ depending on which body is used to develop the materials. For instance, as regards:

- **Travel costs**: For the TAAEG meetings, the Commission reimburses the travel costs of participants attending the meetings in Brussels, while for the TAAM meetings, all participants have to bear their own travel costs. A representative of the European Commission also usually attends TAAM meetings and as these are usually hosted on a rotational basis by one of the type approval authorities across the Member States, the Commission itself incurs modest travel costs.

- **Accommodation costs**: For the TAAEG meetings, participants typically incur their own accommodation costs, although these meetings are typically one-day meetings and the costs are borne by the Member States. For the TAAM meetings, all participants have to bear their own lodging costs.

With regard to preparatory work, for TAAEG, the secretarial and administrative preparatory work is done by the Commission Services; while for the TAAM, this is done by the hosting Member State Type-Approval authority. Information exchange is also done through CIRCA (administered by the Commission Services).

The exact cost of providing targeted training would primarily depend on the form and extent of training delivery and the form of training to be provided, where this could include:

1. web based learning;
2. print materials;
3. training sessions and workshops (including possibly using TAAEG and TAAM meetings to train the trainers); and
4. short visits by officials to train officials in other Member States.

The specific costs would also depend on the target audience for the training (individuals with responsibility for particular aspects of enforcement in each Member State could be trained by their counterparts in better performing Member States). Member States receiving training would also incur

Table 4.13: Factors affecting Final Cost of Guidance and Training
costs associated with implementing any advice received, including changing the relevant procedures and processes, training in-house staff, etc. Those Member States whose approach is at significant odds with the advice given in the interpretative guidance may wish to amend their national legislation thus generating costs. It is not possible to quantify the extent of the costs likely to be incurred from changing operating procedures (or Member State legislation) since the actual content of the guidelines and training material is not known at present.

In terms of **benefits**, it is significant that in responding to the IA questionnaire, over 60% of national authorities (11 of 18) believe that enforcement of the current legislation can be improved by providing targeted training for national authorities. Around 70% of responding national authorities (13 of 18) also indicated that enforcement of the current legislation can be improved by developing interpretation guidelines on the legal provisions of Directive 2007/46/EC. Although it was noted while "*experience shows that guidelines assist both regulators and economic operators alike, when it comes to interpretation, one must always bear in mind that our courts have the last say"*.

The disagreeing national authorities noted that they "do not see a lack of interpretation guidelines" as "*the TAAM group already agree interpretations between the various approval authorities*", rather "*it is more a question of personal resources (administrations have less personnel each year)"*. In responding to the evaluation questionnaire, the majority of national authority respondents (75%) were in favour of joint actions by the Commission and the Member States as the most appropriate for addressing problems relating to the responsibilities of and co-operation amongst the different national authorities.

The main benefits from Option B3 are likely to accrue to national authorities with comparatively weaker structures and procedures, which would benefit from knowledge transfer leading to the improvement of their performance. The reduction of UADs and NCDs in the market is likely to also be experienced by the Member States that provide training. However, a Member State where enforcement of the current Directive presently lags behind because of inadequate resources allocated to the relevant authority are unlikely to experience the full range of benefits (in terms of reductions in NCDs and UADs) from the training and guidance.

Costs and Benefits to TS

If the interpretative guidance document leads to TS changing their operating procedures, this could result in costs for some TS. However, it could result in cost savings from improved efficiency and/or regulatory clarity.

Option B4 – Regulatory Initiatives

Costs and Benefits to the Commission

There will be no costs to the Commission under Option B4, apart from those associated with amending the legislation.

Costs and Benefits to Authorities

Member States may incur some costs relating to ensuring that they are in compliance with the NLF.

In responding to the IA questionnaire, half of the national authorities (nine) expected the costs arising from alignment with the NLF to exceed the benefits to them. Only four of the 18 (22%) national authorities responding to this question believe that the benefits from alignment (of Directive 2007/46/EC) with the New Legislative Framework are likely to outweigh any costs arising from this (see Table 4.14). One authority noted that, under the NLF, "*work with Technical Services on an accreditation basis is more complicated; accreditation and designation which used to be done by one authority in one action is now divided to two authorities accreditation body and type approval authority*". For these Member States, care would have to be taken to ensure that, in defining the respective roles and responsibilities of the different authorities involved, duplication of effort is minimised to avoid unnecessary costs.

Table 4.14: Are the Benefits from Alignment with the NLF likely to Outweigh any Costs Arising from this?

	Number of Responses	% of Responses
Yes	4	22%
No	9	50%
No Definitive Answer Given	5	28%
TOTAL	18	100%

Note:
The percentages presented in the table do not add up to 100% exactly due to rounding

National authorities may incur additional costs associated with ensuring better co-operation and information exchange with colleagues. These additional costs are unlikely to be high, as a number of national authorities already use (and the vast majority are aware of) the various means of information exchange available. These costs could further be limited by streamlining these procedures and by limiting them to what is acknowledged within the NLF as essential for the proper functioning of the internal market. Some costs may be incurred, however, if undertaking co-ordinated sampling and testing of automotive devices between Member State authorities is required.

The potential advantages of improved information exchange and collaboration (Option 4.2.2) include:

- importers and exporters being more likely to comply with the rules where they see EU-wide action, rather than uncoordinated actions in individual Member States;
- Member State authorities reacting more uniformly and quickly to any issues which arise (particularly technical and logistics-related);
- potential benefits from increased access to device testing information for Member States with resource limitations and avoidance of repeating the same

tests/investigations on the same device(s) by two or more national authorities (resulting in better allocation of resources).

Costs and Benefits to TS

There will be no costs to TS under Option B4.

4.2.6 Innovation and Research

Option B1 – Baseline Scenario

There are no direct impacts on innovation and research under Option B1.

Option B2 – Self-regulatory Initiative

There are no direct impacts on innovation and research under Option B2.

Option B3 – Co-regulatory Initiatives

There are no direct impacts on innovation and research under Option B3.

Option B4 – Regulatory Initiatives

There are no direct impacts on innovation and research under Option B4.

Co-operation between national authorities may, however, lead to more effective and efficient identification of areas of research (e.g. in the area of safety) which can be pursued by economic operators and other stakeholders. For instance, trends identified at EU-level can be investigated more quickly and possible solutions identified at the EU level, rather than a national level.

4.2.7 Consumers and Households

Option B1 – Baseline Scenario

Under Option B1 consumers, particularly those purchasing new cars (which account for 90% of all recalls), will continue to face costs associated with vehicle recalls and faults. Economic costs to consumers from a recall include:

- the increased safety risk associated with vehicles subject to recall;
- the fuel and time cost of driving to the dealership;
- the effect on the depreciation of the recalled vehicle;
- the social costs, including the inconvenience and worry associated with having a recalled vehicle; etc.

It is possible to develop some indicative costs of the time lost by consumers in driving to dealerships to get their vehicles re-fitted as a result of a vehicle recall under Option B1. The exact proportion of these vehicle recalls that could realistically be attributed

to the lack of clarity around the roles and responsibilities of enforcement authorities and weaknesses in information exchange and co-operation amongst national authorities (Option B1) is uncertain.

In Section 2, we estimated the proportion of NCDs and UADs (2.5% - 20%) which may be attributable to Problem Area B for the purposes of quantifying costs. Assuming this same percentage applies to vehicle recalls (where this includes non-safety related recalls), the time costs of recalls can be estimated. Assuming that between 50% and 75% of vehicles which are subject to a recall are driven back to the dealership or garage to be fixed, and that this involves a drive of one hour for a return trip (average driving distance of 15 minutes one-way) and a time cost of between €18/hour and €36/hour, the total cost relating to the inconvenience of driving to the dealership can be estimated at between **€810,000** and **€10 million**. This does not include other costs associated with the trip, e.g. fuel costs, risk of accident, environmental costs, etc.

Option B2 – Self-regulatory Initiative

Under Option B2, it is assumed that there would be a reduction in the number of automotive parts resulting in recalls and thereon the number of accidents on the road. Consumers are also likely to benefit from a reduced risk of purchasing unsafe, non-compliant or low quality vehicles and/or automotive devices on the internal market. Due to the voluntary nature of this option, the exact outcome (e.g. in terms of reductions in recalls) cannot be quantified.

Option B3 – Co-regulatory Initiatives

It is possible that some consumers would face higher costs for replacement parts, as low-cost UADs and NCDs would no longer be readily available on the EU market, although this will be counterbalanced by the health and safety benefits associated with compliant devices.

A higher proportion of consumers are also likely to benefit from a reduced risk of purchasing unsafe, non-compliant or low quality vehicles and/or automotive devices on the internal market. The costs associated with vehicle recalls are also likely to reduce.

Option B4 – Regulatory Initiatives

Under Option B4, consumers are likely to benefit from a reduced risk of purchasing unsafe, non-compliant or low quality vehicles and/or automotive devices on the internal market. The costs associated with vehicle recalls are also likely to reduce. While some of the costs to consumers can be quantified, others are more difficult to quantify. It is, however, possible to develop some indicative costs of the time lost by consumers in driving to dealerships to get their vehicles re-fitted as a result of a vehicle recall.

Non-compliant devices accounted for less than 5% of RAPEX notifications and it can be assumed that at least some of these parts would have been identified under Option B4. The exact proportion of these vehicle recalls which would be avoided under Option B4 is not known for certain, particularly for the recalls where the cause is 'not known'. However, assuming a 20 – 50% reduction in vehicle recalls due to defective devices and design flaws, the time costs avoided can be estimated at around **€540,000** to **€7.2 million per year**.

Table 4.15: Potential Annual Cost Savings (Time) to Consumers from Option B4		
	Lower Estimate	**Upper Estimate**
No of vehicle recalls	100	150
% of vehicle recalls due to PA3 (weakness in TS) - Option C1	2.5%	20%
No of vehicle recalls due to PA3 (weakness in TS) - Option C1	3	15
No of vehicles involved - Option C1 (assuming 30,000 per recall)	90,000	450,000
% of vehicles driven to dealerships - Option C1	50%	75%
No of vehicles driven to dealerships - Option C1	45,000	337,500
Time taken to drive to dealership	30 mins	1 hour
Time cost for drivers (per driver) - Option C1	€ 10	€ 40
Time cost for drivers (total) - Option C1	**€ 810,000**	**€ 10 million**
% of vehicle recalls which could be avoided under Option C3 (more robust TS checks)	20%	50%
No of vehicle recalls which could be avoided under Option C3 (more robust TS checks)	1	8
No of vehicles not recalled under Option C3 (assuming 30,000 per recall)	**30,000**	**450,000**
Time cost for drivers (per driver) - Option C1	€ 10	€ 40
Time cost for drivers (total) - Option C1	**€ 540,000**	**€ 7.2 million**
** Average wage costs under the SCM model were used as it is assumed that most drivers would take their cars to the dealers during the week and, as such, would lose an hour or more of work time*		

4.2.8 Third Countries and International Relations

Option B1 – Baseline Scenario

In the long run, maintaining the current situation could affect the reputation of EU producers for safe devices, making it harder for EU vehicle and part manufacturers to export their devices to third countries. However, this appears unlikely to have a major impact, compared with other factors (such as relative labour costs) affecting trade in vehicles and replacement parts.

Option B2 – Self-regulatory Initiative

Option B2 should have no direct effect on EU trade policy and international relations.

Option B3 – Co-regulatory Initiatives

Option B3 should have no direct effect on EU trade policy and international relations.

Option B4 – Regulatory Initiatives

Option B4 should have no direct effect on EU trade policy and international relations.

4.3 Assessment of Social Impacts

Option B1 – Baseline Scenario

UADs result in social impacts for various stakeholders. Vehicle or product recalls are the most tangible manifestation of such devices and a number of social impacts can be directly attributable to them.

Under Option B1, there would be no changes to the current enforcement situation and, as such, there is unlikely to be a reduction in the current frequency of health risks or accidents as a result of defective automotive parts and recalls. This would imply that the current risks to the health and safety of individuals from vehicle accidents (with the fatality risk increasing for specific groups, e.g. old people and children) would continue into the future. The inconvenience and worry for consumers associated with having a recalled vehicle and a reduction in customer satisfaction from such vehicles would also continue into the future. Also, the overall policy objective of protection of health and environment would not be fully achieved if UADs continue to be placed on the EU market.

Option B2 – Self-regulatory Initiative

Under Option B2, it is assumed that there would be a reduction in the number of automotive parts resulting in recalls and thereon the number of accidents on the road. Due to the voluntary nature of this option, the exact outcome (e.g. in terms of reductions in recalls and social impacts) cannot be quantified at present.

Option B3 – Co-regulatory Initiatives

Option B3 is likely to result in a reduction in the likelihood of fatal and non-fatal accidents/incidents as a result of faulty vehicles and/or automotive devices. The extent of this reduction would depend on the level of uptake and enforcement of the interpretation guidance and the extent of the targeted training. Due to the nature of this option, the exact outcome (e.g. in terms of reductions in recalls and social impacts) cannot be quantified at present, although this impact will be experienced by the Member States that provide training).

However, targeted training of officials would contribute to ensuring better implementation and enforcement of the automotive technical harmonisation legislation and thus contribute to achieving the social objective for a safer and healthier environment for the citizens. Providing targeted training for national authorities and developing interpretation guidelines on the legal provisions may be expected to have a beneficial impact in ensuring that enforcement officers have the appropriate technical knowledge and awareness of the regulatory framework to enable them to effectively verify compliance with the Directive (i.e. resulting in positive impacts in terms of job quality and raising job standards across the EU). National authorities with comparatively weaker structures and procedures are also likely to benefit from a knowledge transfer leading to the improvement of their performance (i.e. positive impacts with regard to how public institutions and administrations undertake their responsibilities).

Option B4 – Regulatory Initiatives

Under Option B4, it is assumed that clarifying the roles and responsibilities of enforcement authorities and enhancing information exchange and co-operation amongst national authorities is likely to result in a decrease in the number of automotive parts resulting in recalls and thereon the number of accidents on the road. While the exact impact of Option B3 cannot be known for certain, it is likely that a reduction in current recall rates under Option C3 would result in between 30,000 and 450,000 car owners no longer being affected by the risks, worry and inconvenience of a owning a recalled vehicle.

4.4 Assessment of Environmental Impacts

Option B1 – Baseline Scenario

It is considered that environmental impacts cannot be directly attributable to the identified problems arising from the responsibilities of and co-operation amongst the different national authorities within the Member States.

Other problem areas are more likely to have a more direct cause-effect relationship; for instance, the impact of testing and CoP by TS and more robust QA measures by manufacturers in reducing the number of recalls relating to engine, exhaust or emission-related faults. It is accepted, however, that market surveillance and other enforcement authorities can and do play a role in reducing the period of environmental exposure once these vehicles are identified.

Option B2 – Self-regulatory Initiative

There are no direct impacts on the environment under Option B2.

Option B3 – Co-regulatory Initiatives

There are no direct impacts on the environment under Option B3.

Option B4 – Regulatory Initiatives

There are no direct impacts on the environment under Option B4.

4.5 Summary and Comparison of Options

Table 4.16 below provides a summary comparison of the policy options for addressing the responsibilities of and co-operation amongst the different national authorities within the Member States.

Table 4.16: Summary of Impacts: Problem Area B				
Impact	**Option B1 (Do Nothing)**	**Option B2 (Self-regulatory)**	**Option B3 (Co-regulatory)**	**Option B4 (Regulatory)**
Impacts on Internal Market	Lack of clear responsibilities and procedures for information exchange and co-operation between authorities (accounts for 2.5% to 20% of **UADs** on the EU market) results in **NCDs of €125 million** and **UADs of €6 billion** placed on the EU market annually	Assuming Option B2 results in a reduction in NCDs and UADs the value of the reduction in NCDs on the market would be around **€6.3 million per year** and the reduction in UADs around **€300 million per year**, however the impact of Option 2 is highly uncertain	Assuming Option B3 is highly effective (i.e. 75% reduction) in addressing the problems relating to NCDs and UADs, it is estimated that there would be a reduction in NCDs and UADs on the market of around **€94 million per year** and **€4.5 billion per year** respectively	Assuming Option B4 is effective (i.e. 50% reduction) in addressing the problems relating to NCDs and UADs, it is estimated that there would be a reduction in NCDs and UADs on the market of around **€63 million per year** and **€3 billion per year** respectively
Costs to Firms	No additional costs expected for economic operators	No additional costs expected for economic operators.	No additional costs expected for compliant economic operators. Less scrupulous manufacturer/traders are likely to experience an increase in their operating costs (as they would now incur compliance costs)	No additional costs expected, , other than to less scrupulous economic operators
Benefits to Firms	No benefits identified, other than to less scrupulous economic operators	Increased regulatory clarity	Increased regulatory clarity	Increased regulatory clarity
Costs to Authorities	Current level of costs associated with post-market controls will continue into the future. National authorities would lose the opportunity to benefit from alignment with the NLF	National authorities are likely to incur costs of developing a VA (estimated to be between **€33,000 and €250,000**). The Commission may incur costs of producing guidelines for applying the NLF definitions to the motor vehicle sector (expected to range between **€10,000 and €20,000**)	The total estimated costs of developing the guidance and training material and delivering the training are estimated **between €117,000 and €932,000**	No costs of the Commission apart from those associated with amending the legislation. Member States may incur some costs to ensure that they comply with the NLF and better co-operation and information exchange with colleagues
Benefits to Authorities	Avoids costs associated with any intervention, particularly those associated with an amendment of the current national legislation.		National authorities with comparatively weaker structures and procedures are likely to benefit from knowledge transfer leading to improved performance	Improved information exchange and collaboration
Costs to TS	None identified	None identified	If the interpretative guidance document leads to TS changing their operating procedures, this could result in costs for some TS	None identified

Table 4.16: Summary of Impacts: Problem Area B				
Impact	**Option B1 (Do Nothing)**	**Option B2 (Self-regulatory)**	**Option B3 (Co-regulatory)**	**Option B4 (Regulatory)**
Benefits for TS	None identified	None identified	TS changing their operating procedures could result in cost savings from improved efficiency and/or regulatory clarity	None identified
Costs to Consumers	Consumers, particularly those purchasing new cars (account for 90% of all recalls), will continue to suffer from vehicle recalls and faults. Increased safety risks, fuel and time costs, impacts on vehicle depreciation are likely to continue under this option. Total cost relating to the inconvenience of driving to a dealership because of recalls is estimated to be between **€810,000 and €10 million**		Some consumers may face higher costs for replacement parts, as low cost UADs and NCDs would no longer be readily available on the EU market	Some consumers may face higher costs for replacement parts, as low cost UADs and NCDs would no longer be readily available on the EU market
Benefits to Consumers	None identified	Assumed to be a reduction in the number of parts resulting in recalls and thereon the number of accidents	Reduced risk of purchasing unsafe, non-compliant or low quality vehicles/automotive devices. Costs associated with vehicle recalls are also likely to reduce	Reduced risk of purchasing unsafe, non-compliant or low quality vehicles/automotive devices. Assuming a 20-50% reduction in vehicle recalls due to defective devices/design flaws, the time cost avoided are estimated to be **€540,000 to €7.2 million per year**
Social Impacts	Continuation of the frequency of health risks and accidents resulting from faulty vehicles. The inconvenience of customers with a recalled vehicle and a reduction in customer satisfaction would continue	Reduction in the number of recalls and thereon the number of accidents (cannot be quantified at present)	Reduction in the likelihood of accidents as a result of faulty vehicles and/or automotive devices (cannot be quantified at present)	Reduction in the number of recalls and thereon the number of accidents (cannot be quantified at present). It is likely that between 30,000 and 450,000 car owners would no longer be affected by the risk, worry and inconvenience of owning a recalled vehicle
Environmental Impacts	Not directly attributable to this problem area	None identified	None identified	None identified

5. PROBLEM AREA C – QUALITY AND PERFORMANCE OF TECHNICAL SERVICES

5.1 Background

5.1.1 Significance of the Problem Area

The third problem area relates to the "weaknesses in the quality of the type-approval and conformity assessment tasks carried out by TS". 60% of all respondents to the public consultation believe that the quality and performance of TS (involved in type-approval and verification of CoP) vary considerably and could be improved by strengthening the quality criteria in the current legal framework. Both consumer organisations and the majority of national authorities (8 of 11), responding to the ex-post evaluation questionnaire, also indicated the quality and performance of TS to be 'somewhat' or 'highly' problematic.

As noted in the ex-post evaluation report, the effectiveness of Directive 2007/46/EC relies significantly on the quality and performance of TS and, as such, a key recommendation of the ex-post evaluation of the Directive was that "*the Commission should consider proposing specific measures to improve the quality and performance of TS. Such specific measures should target problems relating to type-approval hopping, as well as aiming at a more uniform level of stringency in services provided by TS*".

5.1.2 Defining the Specific Problems

TS are a key player in the type-approval process and in the procedure for ensuring CoP. Two key issues are referred to in the EC Roadmap (2011):

- a need to reinforce the legal requirements applicable for the assessment and designation of TS (particularly those relating to their independence from economic pressures). This is important for maintaining confidence in the type-approval system and mutual recognition based on these type-approvals; and

- a need to address disparities in the level of quality and performance of TS. This is important as varying degrees of stringency and quality standards applied by TS hamper the proper implementation of the internal market legislation for vehicles and their devices.

With regard to the first problem, one issue may relate to how TS operate, described in Table 5.1 overleaf. ACEM (representing the motorcycle industry in Europe) notes that "*conflicts of interest are built into the enforcement system such that it may make it commercially unattractive to the TS to take a strong approach to their enforcement obligations*" (ACEM, 2010). ACEM notes that, because actual test work is often delegated (by economic operators) to TS and these TS are often in competition with each other, a TS that is involved in the testing as well as type-approval of a particular device may find itself in a dilemma where non-conformity is identified and reported,

and action is needed to rectify it. Indeed, if the TS is scrupulous in requiring the rectification, it may endanger future contracts with that customer (ACEM, 2010) and this could lead to significant commercial consequences in a highly competitive market. It is possible that, in some instances, this conflict of interest could lead to a lower level of stringency in type-approval testing and verification of CoP, with implications for the quality of the automotive devices on the EU market. It is therefore important to clarify and strengthen the requirements TS have to comply with to be entitled to perform type-approval testing and verification of CoP.

Table 5.1: How Technical Services Operate

In order to understand the specific problem, it is important to appreciate how TS operate.

Firstly, most TS are involved in the type-approval testing and verification of CoP of other products, as well as vehicles/vehicle devices. Based on responses to the impact assessment questionnaire (see Annex 14), examples of such products would include motorcycles, bicycles, light technical equipment, boilers, etc. In addition, some TS may be involved in the design, manufacture, supply installation, use or maintenance of the vehicles and/or devices they test. Around half of the responding TS to the IA questionnaire confirmed that they are aware of other TS that undertake these activities. Finally, some TS provide consultancy services to manufacturers and importers, while others may be involved in market surveillance.

A TS could, therefore, consist of a number of departments, including an engineering department which may be involved in the design or development of a product, a testing department that conducts product testing and a certification department which only becomes involved at the type-approval and verification of CoP stage. The range of activities carried out by TS, therefore, varies. For instance, one TS noted that "*as part of our organisation, we design small electrical components and test [these] but do not certify*" while another notes that "*a manufacturer can be a TS for some items*".

For the second problem, around half of the TS (4 of 8) and national authorities (6 of 11) responding to the evaluation questionnaire considered that the effectiveness of refusal or withdrawal of type-approval has been reduced by 'type-approval hopping' (i.e. economic operators selecting type-approval authorities who are more lenient over more stringent authorities) and 'selective selection of type-approval authority' (i.e. devices for which type-approval has been refused or withdrawn being presented to other services and/or authorities to obtain type-approval).

Economic operators fully recognise that type-approval hopping does occur, although there are differences in how it is perceived. For instance, OEMs or parts suppliers do not see type-approval hopping as a major problem. Rather, they consider that it is mostly linked to Member States failing to agree interpretations, due to lack of clarity in the regulations. The tyre industry, however, sees it as a more important issue, with some TS which are thought to be more lenient picked disproportionately by importers (Automotive Industry Roundtable, 2011). A number of the TS have also highlighted the need for "*more robust surveillance audits of the TS*", a "*test house for test houses*", "*COP of the TS itself*" and enforcement action by the Commission. These highlight a potential gap in the current enforcement area.

5.1.3 Aim of Intervention

The aim of the intervention is to:

a) clarify and strengthen the respective roles and responsibilities of TS, as well as the requirements they have to comply with to be entitled to perform type-approval testing and verification of CoP; and

b) achieve a uniform level of stringency in type-approval testing and verification of the CoP, including mechanisms for information exchange and co-operation between them.

Three possible policy options have been put forward in the roadmap:

- Option C1 (baseline scenario): do nothing;
- Option C2 (self-regulatory): undertake awareness campaigns and/or VAs with and between TS; and
- Option C3 (regulatory): amend the existing technical harmonisation legislation relating to vehicles.

5.1.4 Defining the Policy Option

Option C1 – Baseline Scenario

Option C1 is the do nothing option and involves making no changes to the existing situation regarding the quality and performance of TS. The Directive will not be updated to be in line with the NLF and there will be no changes to the Directive's description of the responsibilities and accountability of TS to improve the current situation. TS will not co-operate amongst themselves to address the identified problems relating to type-approval hopping or selective selection of type-approval authorities/TS.

Option C2 – Self-regulatory Initiative

Option C2 would comprise the around 250 TS across the EU-27 signing up to a VA which clarifies their respective roles and responsibilities and aims to achieve a uniform level of stringency in type-approval testing and verification of CoP. The VA would include mechanisms for information exchange and co-operation between them, as well as a body (or bodies) responsible for managing and monitoring the agreement. The awareness campaign would be aimed at disseminating the terms of the agreement to TS and economic operators.

In practice, this policy option is difficult to define further, due to the non-representative number of responses received from TS for the study, and unlikely to be effective for a number of reasons discussed below.

Similar to economic operators, TS work in a highly competitive environment. Any VA would have to be fully agreed and implemented by all players in the market if it is to have any impact in addressing the identified problems. This would require recognition and acceptance of the problem to be addressed.

Even though the eight responses to the evaluation questionnaire represent only a fraction of all TS, it is still instructive that the majority of TS (4 of 6 responding to the question) do not view the quality and performance of TS as problematic (see Table 5.2). Most respondents (3 of 5 responding to the question) also expect 'no change' in the importance of this problem area in future and a quarter (2 of 8) would favour a 'do nothing' option. While this could be due to intrinsic response bias (i.e. they may find it difficult to be wholly objective about a problem area relating to them), the lack of acceptance of a problem provides a significant obstacle to accepting a need for an intervention, let alone to developing a VA to achieve one.

Table 5.2: Views of TS in Response to Ex-post Evaluation Questionnaire

Current Situation – How problematic?		**Future Situation – Likely Scale of Change**	
Scale	**%**	**Scale**	**%**
Highly problematic	0%	Significantly increase	0%
Somewhat problematic	17%	Increase	40%
		No change	60%
Not an important problem	67%	Decrease	0%
Do not know	17%	Significantly decrease	0%
Total	**100%**	**Total**	**100%**
Response Count	**6**		**5**

Even if the existence of a problem was accepted, around half of the 33 TS responding to the IA questionnaire did not believe that it was feasible and cost-effective for TS to develop and enforce a VA. Respondents also highlighted that the TS that are already performing highly would be more likely to agree to this approach, while those struggling to comply would oppose it. In such a situation, there is little likelihood that any clarifications agreed as part of a VA will either be taken up by all TS, particularly those it is targeted at, or effectively enforced.

Table 5.3: Would it be Feasible and Cost-effective for TS to Develop and Enforce a VA which Clarifies and Strengthens the Requirements for TS to be Entitled to Perform Type-approval and Verification of CoP?

	Number of Responses	**% of Responses**
Yes	17	52%
No	13	39%
No Definitive Answer Given	3	9%
TOTAL	33	100%

Some TS also questioned what would happen to TS who do not agree to sign up to the VA, and who would supervise the VA. This highlights a need to have some form of sanctions and penalties, as well as an enforcement body or bodies, for a self-regulatory initiative to be effective. As there is no such designated body in existence, this could involve significant costs in setting one up.

Setting up an enforcement body raises a number of questions including its nature (one EU-wide or several national bodies), its scope of work (only enforcing the agreement or wider remit), its powers of intervention in Member States (especially for an EU-wide body), its interactions with national authorities (whether they defer to or are above them, especially for national bodies), its need for legal underpinning and source of funding (TS contributions or national authorities). All of these factors could affect both the cost and the effectiveness of a voluntary approach. For example, an EU-wide body would be better placed to ensure consistency of approach between TS in different Member States, but it could be more costly to operate and may be not be acceptable to Member States for legal and/or political reasons.

In conclusion, a self-regulatory option (involving a VA and awareness campaigns) will not be taken forward for further assessment as:

- there does not appear to be a common understanding amongst TS either that there is a problem to be addressed or what the solution might be;
- because of this, the willingness of TS to sign up to a VA is uncertain (especially for those which perceive they have nothing to gain);
- their ability to co-operate is also uncertain, given the large number of organisations to be covered and the lack of an existing body to develop and monitor an agreement;
- the supervision and enforcement of a VA raises a number of legal, commercial and organisational issues as well as requiring (a) new supervisory body(ies), which could incur significant costs; and
- the effectiveness of a VA in encouraging TS to behave appropriately, especially where financial pressures are involved, or addressing the underlying issues which lead to type-approval hopping and selective selection of TS by economic operators, is doubtful.

Alternative self-regulatory approaches could include encouraging TS to comply with the ISO 17065[31] standard (or other more relevant standards) which sets out requirements for bodies certifying products, processes and services and replaces ISO/IEC Guide 65:1996. Currently some national type-approval authorities insist on ISO accreditation (to ISO 17025[32] and ISO 17020[33], as relevant) as a condition for accreditation. Other type-approval bodies simply require an '*ISO 17025 equivalent operation without having full accreditation*'. There may be benefits associated with making the ISO standards mandatory in all Member States and removing the

[31] Conformity Assessment - Requirements For Bodies Certifying Products, Processes And Services, Target publication date: 31 July 2012 http://www.iso.org/iso/catalogue_detail.htm?csnumber=46568

[32] General requirements for the competence of testing and calibration laboratories. (http://www.iso.org/iso/catalogue_detail.htm?csnumber=39883)

[33] General criteria for the operation of various types of bodies performing inspection (http://www.iso.org/iso/catalogue_detail?csnumber=29342)

possibility of some TS operating without formal ISO accreditation. This would ensure uniform standards, and possibly stringency, across the operations of TS in the EU. The additional cost of a voluntary approach based on encouraging TS to adopt the standard would probably be minimal, the main additional cost being the audit costs of around €2,000 - €3,000 per year and possibly, costs of ensuring clear legal separation for some TS.

The key advantages of using the ISO standards are:

- they are voluntary, but can also be adopted or referred to in legislation;
- they have been developed by technical committees which comprise experts on loan from the industrial, technical and business sectors which have asked for the standards, and which subsequently put them to use – as well as others with relevant knowledge, such as representatives of government agencies, testing laboratories, consumer associations;
- uptake can be driven by the market (i.e. manufacturers and importers could ask for ISO certification prior to awarding contracts) providing an incentive for those TS that may be reluctant to sign up to a VA to agree to one; and
- they are reviewed at least every five years after their publication and thus their effectiveness can be monitored over time.

Alternatively, a standard code of conduct could be developed to which all TS would have to sign up, supplemented by a standard legal text which is to be inserted into the terms and conditions of all personnel involved in certification. The majority of TS responding to the IA questionnaire (70% or 23 of 33) believe that existing bodies (such as the TAAEG, TAAM etc.) could have a role in ensuring a uniform level of stringency in type-approval testing and verification of CoP and, as such, they could be involved in the development of these documents.

Option C3 – Regulatory Initiatives

The NLF sets out a number of requirements which TS have to comply with. Of these, Table 5.4 overleaf provides details on how to strengthen the requirements TS have to comply with to be entitled to perform type-approval testing and verification of CoP, taking into account the existing requirements under Directive 2007/46/EC.

Overall, there are two key strands:

- strengthening the **technical independence** of TS (e.g. they are not allowed to be the designer, manufacturer, supplier, installer, purchaser, owner, user or maintainer of the vehicles or devices tested); and
- strengthening the **financial independence** of TS (e.g. the remuneration of the top level management and assessment personnel is not to depend on the number of assessments carried out or on the results of those assessments).

Table 5.4: Clarifying, Strengthening and Updating the Roles And Responsibilities Of TS – Summary of Key Additional Requirements

3. A conformity assessment body shall be a third-party body independent of the organisation or the product it assesses. A body belonging to a business association or professional federation representing undertakings involved in the design, manufacturing, provision, assembly, use or maintenance of products which it assesses, may, on condition that its independence and the absence of any conflict of interest are demonstrated, be considered such a body.

4. A conformity assessment body, its top level management and the personnel responsible for carrying out the conformity assessment tasks shall not be the designer, manufacturer, supplier, installer, purchaser, owner, user or maintainer of the products which they assess, nor the authorised representative of any of those parties. This shall not preclude the use of assessed products that are necessary for the operations of the conformity assessment body or the use of such products for personal purposes.

A conformity assessment body, its top level management and the personnel responsible for carrying out the conformity assessment tasks shall not be directly involved in the design, manufacture or construction, the marketing, installation, use or maintenance of those products, or represent the parties engaged in those activities. They shall not engage in any activity that may conflict with their independence of judgment or integrity in relation to conformity assessment activities for which they are notified. This shall in particular apply to consultancy services.

Conformity assessment bodies shall ensure that the activities of their subsidiaries or subcontractors do not affect the confidentiality, objectivity or impartiality of their conformity assessment activities.

8. The impartiality of the conformity assessment bodies, their top level management and of the assessment personnel shall be guaranteed. The remuneration of the top level management and assessment personnel of a conformity assessment body shall not depend on the number of assessments carried out or on the results of those assessments.

Challenge to the Competence of TS

The Commission shall investigate all cases where it doubts, or doubt is brought to its attention, regarding the competence of a technical service or the continued fulfilment by a technical service of the requirements and responsibilities to which it is subject.

Where the Commission ascertains that a technical service does not meet or no longer meets the requirements for its notification, it shall inform the notifying Member State accordingly and request it to take the necessary corrective measures, including the withdrawal of the notification if necessary.

Source: NLF Decision (EC) 768/2008

5.2 Assessment of Economic Impacts

5.2.1 Functioning of Internal Market and Competition

Option C1 – Baseline Scenario

Maintaining the current situation could lead to an uneven playing field for reputable TS competing with TS that are perceived to be more co-operative or less stringent. As noted during the Automotive Industry Roundtable (2011), within certain sectors

(e.g. tyres), there is a view that some TS are 'known' to be more lenient, although concrete evidence is hard to obtain. Considering how competitive the market is, it is important that reputable TS are protected from less stringent competitors who may be increasing their customer base by adopting a more tolerant approach.

Maintaining the current situation could also lead to an increase in type-approval hopping and/or selective selection of type-approval authorities, which are likely to further undermine the internal market. Disparities in the level of quality and performance of TS are also likely to undermine confidence in the type-approval system and mutual recognition based on these type-approvals, thereby affecting the functioning of the internal market.

Unfortunately, it is difficult to obtain verifiable evidence relating to the financial impacts of less stringent TS and/or the extent of type-approval hopping. Firstly, there is no direct cause-effect link between lower prices charged by TS and the quality of service and while there are differences in prices charged by TS, no obvious differences in failure rates between TS can be identified. Secondly, less stringent operators may not always offer lower prices; they may in fact charge the same fee or higher but provide an implicit higher guarantee of passing in return for continued work or co-operation in the future. However, the methodology described in Chapter 2 can be used to provide an indication of the potential costs of this option (see Table 5.5 below).

Table 5.5: Potential Costs of Option C1 – UADs and NCDs

As shown in Table 2.3, UADs have been estimated to account for between €5 billion and €45 billion of automotive products present on the EU market, while NCDs have been estimated to account for between €2.5 billion and €30 billion (see Table 2.4). For the impact assessment, we have assumed that UADs account for up to **€30 billion** of automotive products present on the EU market and NCDs account for around **€5 billion** of automotive products present on the EU market (see Section 2.3.4).

Assuming that shortcomings in the quality and performance of TS accounts for between 5% and 25% of **UADs** on the EU market, Option B1 would result in NCDs of around **€250 million and UADs of around €7.5 billion** remaining on the EU market annually

Option C3 – Regulatory Initiatives

Reinforcing the legal requirements for the assessment and designation of TS by Member States' authorities should contribute to limiting the negative impacts arising from an unfair competitive advantage gained by economic operators who utilise TS applying inconsistent criteria and procedures. It is also likely to assist in reducing current distortions of competition between TS from type-approval hopping and selection of TS seen as less stringent by unscrupulous economic operators.

Under Option C3, it is assumed that there will be a reduction in the number of NCDs and UADs on the market. Assuming that Option C3 is effective (i.e. 50% reduction) in addressing the problems relating to NCDs and UADs, it is estimated that there would be a reduction in NCDs on the market of around **€125 million per year** and a reduction in UADs of **€3.8 billion per year**. Even assuming that the effectiveness of Option C3 is simply uncertain (i.e. a 15% reduction), it will still generate a reduction

in NCDs on the market of around **€38 million per year** and a reduction in UADs of **€1.1 billion per year** (as shown in Table 5.6 below). Note that this figure does not relate to profits or a sectoral loss of market share, as it is anticipated that compliant automotive devices would be sold to replace this volume. Effectively, manufacturers or importers of NCDs would either incur costs to become more compliant or would go out of business.

Table 5.6: Reduction in NCDs Associated with Problem Area C			
Policy Option	**Likely Effectiveness**	**Estimated Annual Reduction (€ million)**	
		Lower (NCDs)	**Upper (UADs)**
Baseline		€ 250	€ 7,500
	Highly Effective	€ 188	€ 5,625
Regulation	**Effective**	€ 125	€ 3,750
	Uncertain	€ 38	€ 1,125
	Highly Uncertain	€ 13	€ 375

5.2.2 Competitiveness

Option C1 – Baseline Scenario

Option C1 is unlikely to result in cross-border investment flows (including relocation of economic activity) or impact on trade barriers. However, it is possible that the global competitive position of EU firms may be compromised, if a perception is created of NCDs and UADs being present on the EU market. If EU vehicles and/or automotive parts gain a reputation for being unsafe, this could lead to an increase in imported automotive devices, with impacts for EU businesses. Conversely, if imported devices are seen as unsafe, because importers are more likely to use less-stringent TS, EU manufacturers could benefit.

Option C3 – Regulatory Initiatives

Option C3 is unlikely to result in either cross-border investment flows (including relocation of economic activity) or impact on trade barriers. By addressing the presence of NCDs and UADs on the market and protecting the reputation of the EU for safe, compliant and high quality automotive vehicles, the global competitive position of EU firms is likely to be enhanced.

5.2.3 Operating Costs and Conduct of Business/Small and Medium Enterprises

Option C1 – Baseline Scenario

Costs to Firms

As the do nothing option, Option 1 does not impose additional adjustment, compliance or transaction costs on businesses. An unfair competitive advantage would, however, continue to be gained by economic operators who utilise TS applying inconsistent criteria and procedures.

Vehicle manufacturers would also continue to incur costs relating to recalls, as there will be no change from the current situation. The exact proportion of vehicle recalls accounted for by inadequate performance of TS is not known. However, the review of the RAPEX notifications (for 2010) enables some judgement to be made of the likely cause of the notification. Although there are inherent uncertainties, if it is assumed (as set out in Section 2) that some 'defective products' are the result of weaknesses in the quality of the type-approval and conformity assessment tasks carried out by TS, this would suggest that between **5 and 30 vehicle recalls** (i.e. between 5% and 20% of all vehicle recalls) would continue to arise under Option C1.

Benefits to Firms

No benefits identified, other than to less scrupulous economic operators who would continue to benefit by avoiding the full costs of compliance, and less stringent TS, which would continue to benefit from the business of less scrupulous economic operators and would avoid the increased costs of more stringent operation.

Option C3 – Regulatory Initiatives

Costs to Firms

Reinforcing the legal requirements for in-house TS may result in costs for some manufacturers, for instance where TS incur significant additional costs to ensure impartiality (e.g. from physical separation; see discussion in Section 5.2.5, Costs and Benefits to TS).

Benefits to Firms

Clarifying the responsibilities of TS and ensuring that there is a uniform level of stringency in type-approval testing is likely to result in a reduction in the number of NCDs and UADs present on the EU market. Defective products account for around 50% of RAPEX notifications and vehicle recalls and it can be assumed that at least some of these parts may have been approved by less knowledgeable or less stringent TS. Under Option C3, it is assumed that strengthening the requirements TS have to comply with is likely to result in more robust checks being applied by TS and, therefore, a reduction in 'defective products' and 'design flaws' leading to recalls. Assuming a 20 - 50% reduction under Option C3 compared to Option C1 would mean that, across the EU, between **30,000 and 450,000 fewer vehicles per year** would have to be recalled. Assuming an average cost of recall of €100 - €250, this would mean cost savings of between **€3 million and €113 million**. The Table below sets out the potential cost savings associated with avoided recalls.

Table 5.7: Potential Annual Benefits through Avoided Vehicle Recalls from Option C3		
	Lower Estimate	**Upper Estimate**
Number of vehicle recalls per year	100	150
% of vehicle recalls due to PA3 (weakness in TS) - Option C1	5%	20%
No of vehicle recalls due to PA3 (weakness in TS) - Option C1	5	30
No of vehicles involved per recall	30,000	30,000
No of vehicles involved - Option C1	150,000	900,000
% of vehicle recalls which could be avoided under Option C3 (more robust TS checks)	20%	50%
No of vehicle recalls which could be avoided under Option C3 (more robust TS checks)	1	**5**
No of vehicles not recalled under Option C3 (assuming 30,000 per recall)	**30,000**	**450,000**
Average cost of recall per vehicle	€100	€250
Total costs avoided - Option C3	**€ 3 million**	**€ 113 million**

Scrupulous economic operators would also benefit from a level playing field, from a regulatory approach which limits the unfair competitive advantage gained by economic operators who utilise TS applying inconsistent criteria and procedures.

5.2.4 Administrative Burden on Businesses

Option C1 – Baseline Scenario

By definition, Option C1 does not place additional administrative obligations on economic operators and, as such, no additional administrative burden is incurred.

Option C3 – Regulatory Initiatives

Option C3 does not place any additional administrative burden on economic operators.

5.2.5 Public Authorities

Option C1 – Baseline Scenario

Costs and Benefits to the Commission

There will be no direct costs to the Commission from maintaining the status quo. Avoiding changes to the whole regulatory framework will avoid the administrative costs associated with any intervention, particularly those of a regulatory nature.

Costs and Benefits to Authorities

Avoiding changes to the regulatory framework will mean that national authorities face no administrative costs associated with any intervention, including those associated with an amendment of their current national legislation. The current level of costs associated with post-market controls will continue into the future.

Costs and Benefits to TS

There are no direct costs or benefits to TS from maintaining the status quo. They could, however, lose the opportunity to benefit from alignment with the NLF (and by extension, other related legislation which is in the process of being updated to the NLF). The scale of these benefits cannot be quantified, but as shown in the Table below, around 40% of the TS responding to the IA questionnaire indicated that alignment of Directive 2007/46/EC with other related legislation in the automotive area is likely to result in benefits or cost savings for their organisation.

Table 5.8: Is alignment of Directive 2007/46/EC with Other Related Legislation in the Automotive Area (e.g. Motorcycles) likely to Result in Benefits or Costs Savings for your Organisation?

	Number of Responses	% of Responses
Yes	13	39%
No	17	52%
No Definitive Answer Given	3	9%
TOTAL	33	100%

Option C3 – Regulatory Initiatives

Costs and Benefits to the Commission

Costs to the Commission under Option C3 would be those associated with updating the Directive.

Costs and Benefits to the Authorities

There may be costs associated with improved monitoring of compliance with the quality and performance criteria. The extent of these costs is uncertain, as Member States already undertake this task. However, assuming a small increase in inspection frequency of one or two additional inspections per year per TS, would give costs of around €4,800 per Member State (€30/hour x 8 hours x 10 TS x 2 additional inspections).

Costs and Benefits to TS

Strengthening the technical and economic independence of the TS is likely to result in costs for TS. The extent of these costs would depend on the interpretation and

enforcement of the requirements of the NLF, if these are incorporated within the existing Directive.

Using the following text from the NLF as an example, "*a technical service, its top level management and the personnel responsible for carrying out the conformity assessment tasks shall not be the designer, manufacturer, supplier, installer, purchaser, owner, user or maintainer of the products which they assess, nor the authorised representative of any of those parties*" and taking into account the description in Table 5.1 of how TS operate and the likely variations in interpretation of the provisions, there are three routes TS are likely to take in order to ensure they comply with the provisions of the NLF:

- *Legal Separation*: This would involve separating out the various functions TS carry out, such that **the certification function becomes a separate legal entity**. This approach focuses on the "***technical service*** *as a legal entity responsible for carrying out the conformity assessment*" and appears to be supported under the requirements of EN 45011 (which is expected to be replaced by ISO 17065[34]) (Pers. Communication). Legal separation would entail solicitors' costs, accountant fees and other associated costs for registering a new company name – which can be estimated at around **€20,000 per TS** as an average (though this will differ by size of company). The total **one-off cost** of legal separation would be around **€2 million**, associated with around 100 TS undertaking this action (this assumes that **40%** of TS would need to undertake this action).

- *Physical Separation*: This would combine *legal separation* with a **physical separation of the certification function from other functions** carried out by test houses. Physical separation assumes a strict interpretation of the "***technical service its top level management and the personnel***" and would result in potentially significant additional costs for a separate building (purchase or rent), equipment, testing equipment, etc. At a conservative estimate, this could cost **at least €300,000 per TS**. The total **one-off cost** of physical separation would be around **€3 million**, associated with around 100 TS undertaking this action (this assumes that **40%** of TS would need to undertake this action).

- *Personnel separation*: This approach, which could be considered best practice under the current situation, focuses on the "***personnel*** *responsible for carrying out the conformity assessment*" and involves a clear separation of staff. Every employee has a signed work contract which provides his/her job description and includes an impartiality statement. This is supplemented by the companies' code of conduct. Staff that have been involved in the design process are not allowed to engage in the certification process. In addition, personnel working in the certification function report directly to the Finance Director and CEO, meaning that management staff from either engineering or testing functions cannot exert an undue influence on certification operations. Personnel separation could imply some costs associated with an additional "checking step" to ensure there is no

[34] Conformity Assessment - Requirements For Bodies Certifying Products, Processes And Services, Target publication date: 31 July 2012 http://www.iso.org/iso/catalogue_detail.htm?csnumber=46568

conflict of interest and the technical and economic independence of TS is maintained. We estimate total **one-off costs** of **€150,000 - €1.5 million**[35], associated with around 200 TS undertaking this action (this assumes that **80%** of TS would need to undertake this action). Effectively, it is assumed that larger TS already have robust systems in place and, as such, these costs are more valid for SMEs. Also, although some costs will be incurred relating to updating contracts and codes of conduct, these are considered to be business as usual costs.

Table 5.9: Costs to TS of Ensuring Technical and Economic Independence			
	Legal Separation	**Physical Separation**	**Personnel Separation**
No. of companies	100	100	200
As % of total number of TS	40%	40%	80%
Cost per company	**€20,000**	**€300,000**	**€150 - €1,500**
Total cost	**€2 million**	**€3 million**	**€150,000 - €1.5 million**

The impacts of the costs outlined above are likely to more significant for SME TS than for larger organisations. Although, in practice, not all small/medium-sized TS would incur these costs (particularly under personnel separation); more likely, the main impacts would be felt by those that may currently be operating under a national system with less stringent supervision and thus benefiting from a less stringent regime. Indeed, one TS notes that the requirements of the NLF are already required to achieve accreditation in Austria and, as such, are already incorporated in their quality management system. For such TS, no further "checking steps" beyond those required in the QMS would be required (compliance with the requirements is checked by the accreditation body annually) and no costs will be incurred.

The **benefits for TS** would accrue mainly to organisations that are operating effectively, by reducing the competition from, and loss of business to, less stringent TS. Responsible TS would benefit, as it will become more difficult for those operating less stringently to gain market share by offering low quality services and applying the compliance requirements too leniently. More reliable performance in the type-approval procedures is also likely to lead to a subsequent reduction in NCDs and UADs encountered on the market.

Although these benefits have not been quantified, the findings from the impact assessment questionnaire indicate that the majority of TS (61% or 20 out of 33 respondents**)** believe that the quality of TS would be improved by strengthening their technical independence. 64% of respondents (21 of 33) also believed that the quality and performance of TS would be improved by strengthening their financial independence. One TS noted that updating the CoP for cars to be in line with the New Legislative Framework *"could increase our test sales"*.

[35] According to Annex 8, on average, around 40 staff typically test, inspect or certify between 100 and 1,000 vehicles and/or vehicle devices per year. Assuming an extra checking step takes an extra 15 minutes of time per job, the total costs can be derived by multiplying: €30 per hour * 0.25 hours * 100 projects * 200 TS

Companies would also benefit from the increased clarity provided by a regulatory approach, particularly as the requirements for TS are already underpinned by Directive 2007/46/EC. Some TS would also benefit from a consistent regulatory approach (based on the NLF) and set of requirements which apply to all the products within their portfolio (at least, for two- or three-wheel vehicles, quadricycles and motor vehicles). Around 80% of TS responding to the IA questionnaire indicated that they are involved in the type-approval testing and verification of CoP for other products apart from vehicles and/or vehicle devices and, as such, the benefits of such regulatory consistency are likely to apply to the majority of TS. Around 40% of TS also anticipate that alignment with the NLF would result in cost savings or benefits to them (see Table 5.8).

Note that although the majority of respondents to the IA questionnaire (52% or 17 of 33) do not support amending Directive 2007/46/EC as the most effective solution for ensuring a high quality and performance of TS, this does not appear to be because they prefer a voluntary approach. Instead, this appears to reflect a belief amongst some that existing approaches are sufficient. For instance, the majority of TS (70% or 23 of 33) believe that existing bodies (such as the TAAEG, TAAM etc.) could have a role in ensuring a uniform level of stringency in type-approval testing and verification of CoP. For other TS, it is considered that the most pressing need is for more robust surveillance audits and enforcement action against less stringent TS.

5.2.6 Innovation and Research

Option C1 – Baseline Scenario

There are no additional impacts on innovation and research under Option 1.

Option C3 – Regulatory Initiatives

There appear to be no direct impacts of Option C3 on innovation and research.

5.2.7 Consumers and Households

Option C1 – Baseline Scenario

Costs to Consumers

Problems with vehicles impact not only on the financial situation of consumers, but also on their health and safety (including children). A key impact on consumers relates to the number of road accidents which result from defective automotive devices. These costs will continue to be incurred under Option C1.

Using the information in Section 2, it is possible to develop some indicative costs of the time lost by consumers in driving to dealerships to get their vehicles re-fitted as a result of a vehicle recall as a result of less robust checks by TS, where these are assumed to manifest in defective products and design flaws.

Assuming that between 50% and 75% of the vehicles which are subject to a recall and relevant to Option C1 get driven back to the dealership or garage to be fixed, and that this involves a 1 hour drive (average driving distance of 15 minutes one-way and two return trips for delivery and collection) and a time cost of between €18/hour and €30/hour, the total cost relating to the inconvenience alone of driving to the dealership can be estimated at between **€1.4 million** and **€21 million**. This does not include other costs associated with the trip, e.g. fuel costs, risk of accident, environmental costs, etc.

Benefits to Consumers

There are no benefits to the consumer of retaining the status quo.

Option C3 – Regulatory Initiatives

Costs to Consumers

If cost increases incurred by TS are passed down to manufacturers and then consumers, it is possible that some consumers purchasing new vehicles may experience a minimal price increase. It is also possible that consumers would face higher costs for replacement parts, as low-cost, UADs and NCDs would no longer be readily available on the EU market – although this will be counterbalanced by the health and safety benefits (as well as better quality) associated with compliant devices.

Benefits to Consumers

Under Option C3, consumers are likely to benefit from a reduced risk of purchasing unsafe, non-compliant or low quality vehicles and/or automotive devices on the internal market. The costs associated with vehicle recalls are also likely to reduce. While some of the costs to consumers can be quantified, others are more difficult to quantify. It is, however, possible to develop some indicative costs of the time lost by consumers in driving to dealerships to get their vehicles re-fitted as a result of a vehicle recall.

The exact proportion of these vehicle recalls which would be avoided under Option C3 is not known for certain. However, assuming a 20 – 50% reduction in vehicle recalls under Option C3, the time costs avoided can be estimated at between **€540K** and **€13.5 million per year** (see Table below).

Table 5.10: Potential Annual Cost Savings (Time) to Consumers from Option C3		
	Lower Estimate	**Upper Estimate**
Number of vehicle recalls per year	100	150
% of vehicle recalls due to PA3 (weakness in TS) - Option C1	5%	20%
No of vehicle recalls due to PA3 (weakness in TS) - Option C1	5	30
No of vehicles involved - Option C1 (assuming 30,000 per recall)	150,000	900,000
% of vehicles driven to dealerships - Option C1	50%	75%
No of vehicles driven to dealerships - Option C1	75,000	675,000
Time taken to drive to dealership	30 mins	1 hour
Time cost for drivers (per driver) - Option C1	€ 10	€ 40
Time cost for drivers (total) - Option C1	**€ 1.4 million**	**€ 20 million**
% of vehicle recalls which could be avoided under Option C3 (more robust TS checks)	20%	50%
No of vehicle recalls which could be avoided under Option C3 (more robust TS checks)	1	15
No of vehicles not recalled under Option C3 (assuming 30,000 per recall)	**30,000**	**450,000**
Time cost for drivers (per driver) - Option C3	€ 10	€ 40
Time cost for drivers (total) - Option C3	**€ 540,000**	**€ 13.5 million**
** Average wage costs under the SCM model were used as it is assumed that most drivers would take their cars to the dealers during the week and, as such, would lose an hour or more of work time*		

5.2.8 Third Countries and International Relations

Option C1 – Baseline Scenario

In the long run, maintaining the current situation could affect the reputation of EU producers for safe vehicles and vehicle devices, making it harder for EU vehicle and part manufacturers to export their products to third countries. However, this appears unlikely to have a major impact, compared with other factors (such as relative labour costs) affecting trade in vehicles and replacement parts.

Option C3 – Regulatory Initiatives

Option C3 should have no direct effect on EU trade policy and international relations.

5.3 Assessment of Social Impacts

Option C1 – Baseline Scenario

NCDs and UADs result in social impacts for various stakeholders. Vehicle or product recalls are the most tangible manifestation of such devices and a number of social impacts can be directly attributable to them, including:

- increasing the risks to the health and safety of individuals from vehicle accidents (with the fatality risk increasing for specific groups, e.g. old people and children);
- increasing the inconvenience and worry for consumers associated with having a recalled vehicle and a reduction in customer satisfaction from such vehicles;
- effects on the health, safety and dignity of workers employed by companies recalling vehicles and/or parts (for instance, from an increased workload, work-related stress, bad publicity, fears for job security[36], etc.);
- impacts on the relationship between manufacturers and their customers (including brand-related effects) and between manufacturers and their supply chain (e.g. dealerships and suppliers who may be forced out of business); and
- job creation, for instance, lawyers (and insurance companies) may experience an increase in workflow associated with vehicle and product recalls etc.

Option C1 is unlikely to reduce the current frequency of health risks or accidents as a result of defective automotive parts and recalls. This would imply that the lives of consumers, workers and professionals would continue to be endangered. Also, the overall policy objective of protection of health and environment would not be fully achieved if UADs and NCDs continue to be placed on the EU market.

Option C3 – Regulatory Initiatives

Under Option C3, it is assumed that strengthening the requirements TS have to comply with to be entitled to perform type-approval testing and verification of CoP is likely to result in a decrease in the number of automotive parts resulting in recalls and therefore the number of accidents on the road. While the exact impact of Option C3 cannot be known for certain, it is likely that a reduction in current recall rates under Option C3 would result in between 30,000 and 450,000 car owners no longer being affected by the risks, worry and inconvenience of a owning a recalled vehicle.

[36] Recalls in 2010 and their expected impact on sales is generally accepted to have put tens of thousands of jobs in the vehicle supply sector across Asia, the US and Europe at risk. See http://wsws.org/articles/2010/feb2010/toyo-f12.shtml

5.4 Assessment of Environmental Impacts

Option C1 – Baseline Scenario

According to Which (2010), 21% of recalls in the UK over the last five years relate to engine, exhaust or emission-related faults; this statistic is assumed to be the same for the EU, based on comparisons of 2010 data for UK recalls and RAPEX notifications. It is assumed for quantification purposes that some of these faults (perhaps around half) are likely to lead to undesirable environmental consequences, particularly emissions of hazardous substances above set emission limits. Faults such as those relating to engine cut-out, stalling and failure restart are unlikely to impact on the environment.

The exact proportion of vehicle recalls for engine, exhaust or emission-related faults accounted for by Option C1 is not known. However, assuming that 50% of the recalls which impact on the environment are due to weaknesses in the quality of the type-approval and conformity assessment tasks carried out by TS, this would suggest that between three and six vehicle recalls affecting the environment would continue to arise under Option C1. This works out as around **180,000 to 270,000 vehicles per year** having undesirable environmental impacts under Option C1.

Option C3 – Regulatory Initiatives

Under Option C3, it is assumed that strengthening the requirements TS have to comply with is likely to result in more robust checks being applied by TS and, therefore, a reduction in 'defective products' leading to recalls. Assuming a 50% reduction under Option C3 compared to Option C1 would mean that, across the EU, between **90,000 and 120,000 fewer vehicles per year** would have undesirable environmental impacts under Option C3 (see Table below).

Table 5.11: Potential Environmental Impacts of Option C3

	Lower Estimate	Upper Estimate
No of vehicle recalls	**150**	**150**
No of vehicle recalls due to engine, exhaust or emission-related faults (assuming 20% all recalls)	30	30
Assumed % of recalls due to engine, exhaust or emission-related faults which result in undesirable environmental consequences	40%	60%
No of recalls due to engine, exhaust or emission-related faults which result in undesirable environmental consequences	12	18
No of above recalls which are due to a lack of robust checks by TS (Option C1) (Option C1) (assuming 50% of recalls)	6	9
No of vehicles involved in avoidable recalls (assuming 30,000 per recall)	**180,000**	**270,000**
No of vehicle recalls resulting in undesirable environmental consequences which could be avoided by more robust checks by TS under Option C3 – assuming 50% effectiveness	3	4
Reduction in number of vehicles with undesirable environmental consequences recalled under Option C3 (assuming 30,000 per recall)	**90,000**	**120,000**

5.5 Summary and Comparison of Options

Table 5.12 below provides a summary comparison of the policy options for addressing weaknesses in the quality of the type-approval and conformity assessment tasks carried out by TS.

Table 5.12: Summary of Impacts: Problem Area C		
Impact	**Option C1 (Do Nothing)**	**Option C3 (Regulatory)**
Impacts on Internal Market	Assuming that shortcomings in the quality and performance of TS accounts for between 5% and 25% of UADs on the EU market, would result in NCDs of **€250 million** and UADs of **€7.5 billion per year** remaining on the EU market	Assuming that Option C3 is effective (i.e. 50% reduction) in addressing the problems relating to TS, there would be a reduction of **€125 million and €3.8 billion per year** of NCDs and UADs on the market, respectively. It is anticipated that compliant automotive devices would be sold to replace this volume.
Costs to Firms	Assuming that 'defective products' and 'design flaws' are the result of weaknesses in the quality of the type-approval and CoP tasks carried out by TS, between **5 and 30 vehicle recalls per year** would continue to arise	Reinforcing the legal requirements for TS may result in costs being passed down to some manufacturers; the extent of which would vary from TS to TS and depend on the specific actions taken to ensure compliance
Benefits to Firms	No benefits identified, other than to less scrupulous economic operators	Option C3 is likely to result in more robust checks being applied by TS, leading to a reduction in 'defective products' and 'design flaws' leading to recalls. Assuming a 20-50% reduction would mean between **30,000 and 450,000 fewer vehicles per year** would not have to be recalled, resulting in cost savings of between **€3 and €113 million per year**.
Costs to Authorities	No additional costs under baseline	Some costs may be associated with updating the Directive national legislation and monitoring compliance of TS (**€4,800 per Member State**)
Benefits to Authorities	Avoid costs associated with any intervention, particularly those associated with an amendment of the current national legislation	
Costs to TS	Loss of benefits likely to accrue from a streamlined and consistent regulatory framework, aligned with the NLF.	Strengthening the technical and economic independence of the TS is likely to result in costs for TS. Total one-off costs estimated to range from **€150,000 to over €3 million**
Benefits for TS		Responsible TS would benefit, as it will become more difficult for those operating less stringently to gain market share

Table 5.12: Summary of Impacts: Problem Area C		
Impact	**Option C1 (Do Nothing)**	**Option C3 (Regulatory)**
Costs to Consumers	Consumers will continue to suffer from vehicle recalls and faults. Increased safety risks, fuel and time costs, impacts on vehicle depreciation are likely to continue under this option. Total cost relating to the inconvenience of driving to a dealership because of recalls is estimated to be between **€1.4 million and €21 million**	It is possible that some consumers purchasing new vehicles or parts may experience a minimal price increase from either cost pass down from TS or due to absence of unsafe automotive devices and NCDs.
Benefits to Consumers	None identified	Assuming a 20-50% reduction in vehicle recalls due to defective products and design flaws, the time costs avoided can be estimated at between **€540,000** and **€13.5 million per year**
Social Impacts	Vehicle or product recalls (where these are the result of unsafe devices or NCDs) result in risks to health and safety, inconvenience and worry, impacts on job security, etc. These social impacts would continue in the future	While the exact impact of Option C3 cannot be known for certain, it is likely that a reduction in recalls would result in 30,000 to 450,000 fewer car owners affected by the risks, worry and inconvenience of a owning a recalled vehicle
Environmental Impacts	Approximately **180,000 to 270,000** vehicles per year result in undesirable environmental impacts and this would continue in the future	A 50% reduction in vehicle recalls with undesirable environmental impacts – as a result of more robust checks by TS, is equivalent to between **90,000 and 120,000** fewer vehicles per year impacting on the environment

6. PROBLEM AREA D – POST-MARKET SAFEGUARD MEASURES AND RECALLS

6.1 Background

6.1.1 Significance of the Problem Area

The fourth area of attention relates to the "application of post-market safeguard measures and the recall of vehicles and components". The majority of respondents to the public consultation exercise did not know whether existing safeguard procedures are effective and can be improved. Although over 25% believe that the procedures for the recall of automotive products in the current legal system are sufficiently clear and effective, over 20% think they are not. Similarly, while both consumer organisations responding to the ex-post evaluation questionnaire indicated this problem area to be 'highly problematic', half of the national authorities (6 of 11) considered it 'not an important problem'. There is, therefore, considerable uncertainty over the significance of this problem area.

6.1.2 Defining the Specific Problems

Two separate issues have been identified under this problem area:

- a lack of clear definitions of roles and responsibilities of the various enforcement authorities involved in post-market safeguard procedures and recalls; and
- a possible need to simplify the current procedures for dealing with products presenting a risk at national level only.

With regard to the first issue, as noted in the EC Roadmap (2011), the post-market safeguard procedures and the information procedures for the recall of vehicles under Directive 2007/46/EC are currently specified in a general manner as obligations for Member States. The specific competences of the different national authorities that may be involved in these procedures are not clearly defined. This lack of a clear definition downplays the valuable contribution these organisations can make to an effective enforcement of the legislation, particularly in ensuring that any remedial action taken will guarantee an adequate solution to the safety, environmental or compliance problem encountered. In addition, in the light of the problems encountered with NCDs, the NLF Directive (Articles 27, 28 and 29) defines and specifies the respective roles and responsibilities of the border controls and market surveillance authorities and the co-operation between them. It is, therefore, necessary to clarify (and update) the role and responsibilities of the enforcement authorities involved in post-market safeguards and recalls.

With regard to the second issue, the NLF (Articles R31/R32 of Decision 768/2008) sets out a 'two-step approach' which provides for a simplified procedure for dealing with products presenting a risk at national level only, complemented by a more extended procedure at Community level, in case the measures taken at national level would give rise to objections from other Member States or the European Commission.

6.1.3 Aim of Intervention

The aim of the intervention is to:

a) specify the roles, responsibilities and interaction between the different authorities involved in post-market safeguard measures and recall actions – including clarifying the communication channels and procedures for (cross-border) information exchange and co-operation amongst national enforcement authorities; and

b) consider introducing a new two-step approach for safeguard measures in line with the principles of the NLF Decision 768/2008/EC, which means that not all cases would have to be dealt with under the comprehensive procedure at EU level.

Three possible policy options have been put forward in the roadmap:

- Option D1 (baseline scenario): do nothing;
- Option D2 (self-regulatory): undertake awareness campaigns and/or VAs with and between enforcement authorities; and
- Option D3 (regulatory): amend the existing technical harmonisation legislation relating to vehicles.

6.1.4 Defining the Policy Option

Option D1 – Baseline Scenario

Option D1 is the do nothing option and involves making no changes to the existing situation. The Directive would not be updated to be in line with the NLF and there would be no changes to the Directive's description of the responsibilities of enforcement authorities. There would also be no change in the enforcement approach for dealing with products posing a risk or non-compliance. As shown in Table 6.1 overleaf, under Option D1, the current requirements for Member States (or their approval authorities) to advise, notify and/or communicate to other Member States and the Commission of measures taken to address products posing a risk or not in compliance with the legislation will continue. In the case of recalls, the current requirements for the measures to be effectively implemented in the different Member States would also continue.

Table 6.1: Current Situation under Directive 2007/46/EC – Chapter XII – Safeguard Clauses

Article 29 - Vehicles, systems, components or separate technical units in compliance with this Directive

1. If a Member State finds that new vehicles, systems, components or separate technical units, albeit in compliance with the applicable requirements or properly marked, present a serious risk to road safety, or seriously harm the environment or public health, that Member State may, for a maximum period of six months, refuse to register such vehicles or to permit the sale or entry into service in its territory of such vehicles, components or separate technical units. **In such cases, the Member State concerned shall immediately notify the manufacturer, the other Member States and the Commission accordingly, stating the reasons on which its decision is based** and, in particular, whether it is the result of shortcomings in the relevant regulatory acts, or incorrect application of the relevant requirements.

Article 30 - Vehicles, systems, components or separate technical units not in conformity with this Directive

1. If a Member State which has granted an EC type-approval finds that new vehicles, systems, components or separate technical units accompanied by a certificate of conformity or bearing an approval mark do not conform to the type it has approved, it shall take the necessary measures, including, where necessary, the withdrawal of type-approval, to ensure that production vehicles, systems, components or separate technical units, as the case may be, are brought into conformity with the approved type. **The approval authority of that Member State shall advise the approval authorities of the other Member States of the measures taken**.

Article 32 – Recall of Vehicles

1. Where a manufacturer who has been granted an EC vehicle type-approval is obliged, in application of the provisions of a regulatory act or of Directive 2001/95/EC, to recall vehicles already sold, registered or put into service because one or more systems, components or separate technical units fitted to the vehicle, whether or not duly approved in accordance with this Directive, presents a serious risk to road safety, public health or environmental protection, he shall immediately inform the approval authority that granted the vehicle approval thereof.

2. The manufacturer shall propose to the approval authority a set of appropriate remedies to neutralise the risk referred to in paragraph 1. **The approval authority shall communicate the proposed measures to the authorities of the other Member States without delay. The competent authorities shall ensure that the measures are effectively implemented in their respective territories**.

Source: Directive 2007/46/EC

Option D2 – Self-regulatory Initiative

Option D2 would entail the 27 national authorities signing up to a VA which clarifies their respective roles and responsibilities in the areas of post-market safeguard measures and recall actions. This VA would mirror the definitions set out in the NLF Regulation, but amended to be specific to enforcement roles and approaches for vehicles and vehicle devices. In this regard, there are substantial similarities and overlap between Option D2 and Option B2 (with the latter covering the overall roles and responsibilities of enforcement authorities, including those relating to post-market safeguard measures and recall actions).

Option D2 could not be used to introduce a new two-step approach for safeguard measures, primarily because a VA cannot supersede legislation and is unlikely to have sufficient legal standing in the event of a recall.

For these reasons, Option D2 is not assessed in detail in the sections below. Any impacts relating to clarifying the roles and responsibilities of enforcement officers have been captured under Option B2 (and Option B4 for a regulatory initiative) and the double-counting of economic impacts needs to be avoided. The remaining discussion of **Option D3 therefore focuses on assessing the impacts of the 'two-step' approach**.

Option D3 – Regulatory Initiatives

Table 6.2 sets out the relevant sections from the NLF which implement the 'two-step approach'; it is assumed that under Option D3, this text will be incorporated in the relevant section of Directive 2007/46/EC.

Table 6.2: Products Presenting a Risk at National Level and the Safeguard Procedure

Procedure for Products Presenting a Risk at National Level

1. Where the market surveillance authorities of one Member State have taken action pursuant to Article 20 of Regulation (EC) No 765/2008, or where they have sufficient reason to believe that a product covered by this [Act] presents a risk to the health or safety of persons or to other aspects of the protection of public interests covered by this Regulation, the approval authorities shall carry out an evaluation in relation to the product concerned covering all the requirements laid down in this [Act]. The relevant economic operators shall cooperate fully with the market surveillance authorities.

Where, in the course of that evaluation, the market surveillance and/or approval authorities find that the product does not comply with the requirements laid down in this [Act], they shall without delay require the relevant economic operator to take all appropriate corrective action to bring the product into compliance with those requirements, to withdraw the product from the market, or to recall it within a reasonable period, commensurate with the nature of the risk. The market surveillance authorities shall inform the relevant notified body accordingly.

2. **Where the approval authorities consider that non-conformity is not restricted to their national territory, they shall inform the Commission and the other Member States of the results of the evaluation and the action required of the economic operator**.

Community Safeguard Procedure

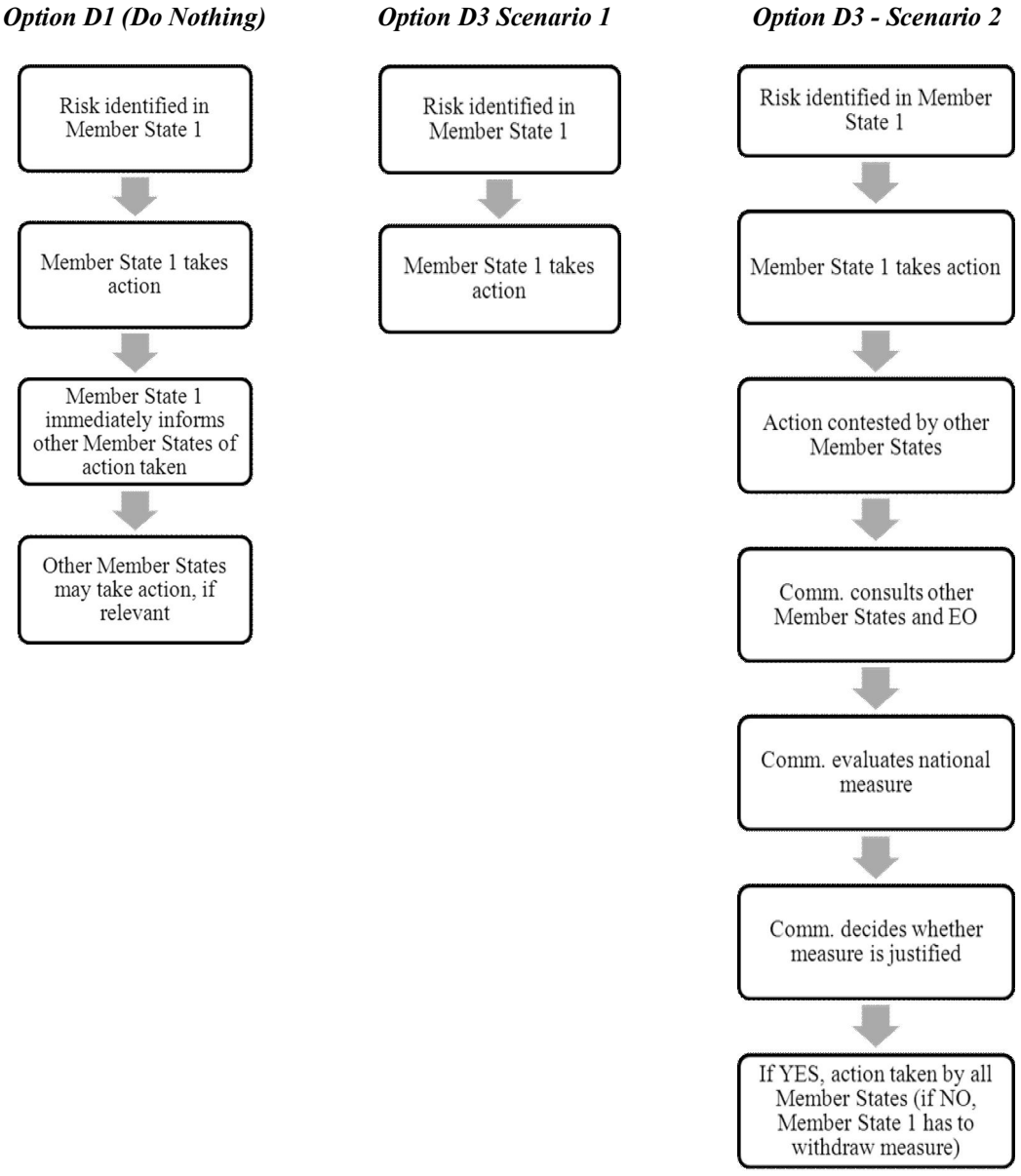
1. Where, during the procedure set out above, objections are raised against a measure taken by a Member State, or where the Commission considers a national measure to be contrary to the legislation of the Union, the Commission shall without delay evaluate the national measure after consulting Member States and the relevant economic operator or operators. On the basis of the results of that evaluation, the Commission shall decide whether the national measure is justified or not. The Commission shall address its decision to all Member States and to the relevant economic operator or operators.

2. If the national measure is considered justified, all Member States shall take the measures necessary to ensure that the non-compliant product is withdrawn from their market, and shall inform the Commission accordingly. If the national measure is considered unjustified, the Member State concerned shall withdraw the measure.

Source: Article R31 and R32 of Decision No. 768/2008/EC

Crucially, under Option D3, Member States (or their approval authorities) would only be required to inform the Commission and other Member States of actions taken where the approval authorities consider that non-conformity is not restricted to their national territory. An additional administrative step is also introduced where the measures taken at national level give rise to objections from other Member States or the European Commission. The Figure below summarises the key differences between Options D1 and D3.

Figure 6.1: Actions under Options D1 and D3 (Scenarios 1 and 2)



6.2 Assessment of Economic Impacts

6.2.1 Functioning of Internal Market and Competition

Option D1 – Baseline Scenario

Maintaining the current situation is unlikely to result in any additional negative impacts, in terms of the ability of stakeholders (economic operators, enforcement authorities) to take effective action in the event of automotive products posing risks and/or being recalled. As noted in Section 6.1.1, the majority of stakeholders either believe the current procedures are sufficiently clear and effective or do not foresee any possibility for improving the current situation.

Option D3 – Regulatory Initiatives

Option D3 is unlikely to result in a significant change from the current situation, particularly for Scenario 1, as Member States would continue to take measures to address risks identified on their national markets.

However, if there would be a significant number of challenges to measures taken at national level under Scenario 2 (because as one national authority noted, *"it is seldom the case that non-conformity is restricted to national territory"*), it is possible that this could cause confusion for economic operators, in turn affecting the functioning of the internal market. During the determination of whether a national measure is justified, it is likely that the product in question will continue to be sold and/used in other Member States, increasing the costs to economic operators if a final decision is made that the measure is justified and the risk of lawsuits being brought by economic operators against national authorities where a national measure is found to be unjustified and they have incurred costs as a result.

Option D3 also appears to run counter to the aim of improving information exchange and co-operation amongst national authorities. It could also hinder other Member States, particularly those with fewer resources, from fully applying and enforcing the Directive and, in so doing, fail to enhance the functioning of the internal market.

6.2.2 Competitiveness

Option D1 – Baseline Scenario

Option D1 is unlikely to result in cross-border investment flows (including relocation of economic activity) or impact on trade barriers.

Option D3 – Regulatory Initiatives

Option D1 is unlikely to result in cross-border investment flows (including relocation of economic activity) or impact on trade barriers.

It is, however, possible that in the longer term, some Member States could be perceived to be very strict or quick to apply a national procedure (more likely those with more resources), while others are considered to be less strict. Suppliers of NCDs and UADs could, therefore, be discouraged from placing such devices on some national markets. If this becomes the case, differences in the intra-EU trade flows, product recall patterns and device-related accidents could arise in the longer term.

6.2.3 Operating Costs and Conduct of Business/Small and Medium Enterprises

Option D1 – Baseline Scenario

Costs to Firms

As the do nothing option, Option 1 does not impose additional adjustment, compliance or transaction costs on businesses.

Benefits to Firms

No benefits identified.

Option D3 – Regulatory Initiatives

Costs to Firms

Under Scenario 1, no costs are anticipated for economic operators. However, under Scenario 2, if a national measure is considered unjustified and, as a result, the Member State concerned is required to withdraw the measure, this is likely to result in avoidable costs to economic operators. Even where a national measure is considered justified, the period of time during which the Commission is assessing this decision could give rise to opportunity costs, as companies delay taking action in the hope that the national measure will be withdrawn.

Benefits to Firms

None identified.

6.2.4 Administrative Burden on Businesses

Option D1 – Baseline Scenario

Option D1 does not place additional administrative obligations on economic operators and, as such, no additional administrative burden is incurred.

Option D3 – Regulatory Initiatives

Option D3 does not place any additional administrative burden on economic operators.

6.2.5 Public Authorities

Option D1 – Baseline Scenario

Costs and Benefits to the Commission

There will be no direct costs to the Commission from maintaining the status quo. Avoiding changes to the whole regulatory framework will avoid the administrative costs associated making regulatory changes.

Costs and Benefits to Authorities

Avoiding changes to the regulatory framework will mean that national authorities face no administrative costs associated with amending their current national legislation. The current level of costs associated with post-market safeguards and recalls will continue into the future.

Costs and Benefits to TS

There are no direct costs or benefits to TS from maintaining the status quo.

Option D3 – Regulatory Initiatives

Costs and Benefits to the Commission

Costs to the Commission under Option D3 would be those associated with updating the Directive.

Costs and Benefits to the Authorities

In theory, the two-step approach could result in a reduction in the administrative requirements for national authorities 'to advise, notify and/or communicate to other Member States and the Commission of measures taken…'. This view is confirmed by responses to the IA questionnaire, which show that over half of the national authorities support the simplified two-step approach for safeguard measures in line with the principles of the NLF (see Table 6.3 below). The general support appears to be based on the view of one authority that *"it seems sensible and would simplify matters"*.

Table 6.3: Do you Support the Simplified Approach (Outlined Above)?

	Number of Responses	% of Responses
Yes	12	67%
No	6	33%
TOTAL	18	100%

However, this would only apply under Scenario 1, where the national decisions will not be contested. The views of national authorities which did not support Option D3,

however, appear to highlight some of the concerns which would arise under Option D3 (Scenario 2).

Firstly, taking into account the free movement of goods across the EU, it is not straight-forward to determine that "*non-conformity is restricted to a national territory*". Consumers are likely and able to purchase automotive devices from anywhere in the EU online and are also able to use vehicles purchased in one country in another country. As indicated by one national authority *"if a product is sold in one Member State it is presumable that this product is on the market of another Member State too; but this depends on the way of the product into the EU market"* while another authority (which supported the measure) noted that "*it is seldom the case that non-conformity is restricted to national territory*".

Secondly, there is the possibility for abuse of the system by national authorities or economic operators. One national authority noted that *"we do not support the simplified approach, because we feel that in the concept of EU market (no borders), it is very difficult to be sure that dangerous products are sold or taken into service only in one Member State or that the products have not spread into different Member States in years. Also we believe that there is a possibility for producers to misuse their obligation by not telling the approval authority the exact number of products and Member States to which they have sold their products. By doing so, they can reduce the cost of recall in that Member State and* [other] *Member States do not know if products used in their territory are dangerous.*

Another authority noted that *"if there are serious risks identified, they should be communicated in the whole EU. The action taken by the National Authority can be independent. In* [the] *case when an authority is requiring a measure such as recall from an economic operator, there should be information for the other Member States but no possibility to challenge this decision, except for court"*.

In the evaluation report, one national authority indicated a potential problem of national authorities protecting manufacturers in their own Member State in order to protect the manufacturers' competitive advantage. This could become a concern if national authorities perceive challenges to national procedures as being done for less than transparent reasons.

An examination of detailed UK recall data for 2010 shows a significant correlation with the number of EU RAPEX notifications issued in 2010. This would indicate (in the absence of other comparable data) that there are unlikely to be differences in the number of recall actions for vehicles under a national procedure and, as such, no benefits likely to arise.

Finally, while it is possible that there may be isolated cases where a recall may be restricted to a national territory, this does not differ from the current situation, wherein specific product types (e.g. certain tyres) or vehicles fitting a given batch or serial number, registration, model, etc. may be recalled and all the products may be restricted to a certain geographic area. For instance, it is noticeable that for certain

premium vehicles which were subject to a recall notice in 2010, no vehicles were recalled in the UK. This may simply be because no units were sold to the UK market.

Overall, while any costs savings are likely to be minimal, the benefits associated with this action are very uncertain.

Costs and Benefits to TS

None identified.

6.2.6 Innovation and Research

Option D1 – Baseline Scenario

None identified.

Option D3 – Regulatory Initiatives

None identified.

6.2.7 Consumers and Households

Option D1 – Baseline Scenario

There are no additional costs or benefits to the consumer of retaining the status quo.

Option D3 – Regulatory Initiatives

There is a risk that, while national procedures may benefit consumers in the Member State using them, e.g. due to quicker processing times, any additional benefit is likely to be marginal; i.e. it assumes the current process is inefficient, which is not supported by the views from stakeholders. In addition, consumers in other Member States may be exposed to risks from vehicles and/or devices which have been addressed in one Member State, but not others.

6.2.8 Third Countries and International Relations

Option D1 – Baseline Scenario

None identified.

Option D3 – Regulatory Initiatives

Option D3 should have no direct effect on EU trade policy and international relations.

6.3 Assessment of Social Impacts

Option D1 – Baseline Scenario

Under Option D1, there would be no changes to the current enforcement situation and, as such, no additional social impacts.

Option D3 – Regulatory Initiatives

It is considered that social impacts cannot be directly attributable to Option D3, as there would be no change in the number of automotive parts resulting in recalls and/or the number of accidents on the road, as a result of the two-step approach.

6.4 Assessment of Environmental Impacts

Option D1 – Baseline Scenario

It is considered that environmental impacts cannot be directly attributable to Option D1.

Option D3 – Regulatory Initiatives

There are no direct impacts on the environment under Option D3.

6.5 Summary and Comparison of Options

Table 6.4 below provides a summary comparison of the policy options for addressing weaknesses in the quality of the type-approval and conformity assessment tasks carried out by TS.

Table 6.4: Summary of Impacts: Problem Area D		
Impact	**Option A1 (Do Nothing)**	**Option A3 (Regulatory)**
Impacts on Internal Market	Unlikely to result in any additional negative impacts, in terms of the ability of stakeholders to take effective action in the event of products posing risks and/or being recalled	Scenario 1: no significant change compared to the current situation. Scenario 2: if there are challenges to national procedures, this could cause confusion for economic operators and the risk of lawsuits being brought where national measures are found to be unjustified, in turn affecting the functioning of the internal market.
Costs to Firms	No additional adjustment, compliance or transaction costs on businesses	Scenario 1: no costs anticipated for economic operators. Scenario 2: costs will be incurred where national measure are considered to be unjustified, and even where a national measure is considered justified, the period of time during which the Commission is assessing this decision could give rise to opportunity costs.
Benefits to Firms	None identified	None identified
Costs to Authorities	Current level of costs associated with post-market safeguards and recalls will continue into the future	Scenario 1: no additional costs identified. Scenario 2: cost savings are likely to be minimal
Benefits to Authorities	Avoid costs associated with any intervention, particularly those associated with an amendment of the current national legislation	Scenario 1: reduction in administrative requirements for national authorities Scenario 2: benefits are very uncertain
Costs to TS	None identified	None identified
Benefits for TS	None identified	None identified
Costs to Consumers	None identified	Consumers in some Member States may be exposed to risks from vehicles/devices addressed in one Member State, but not in others
Benefits to Consumers	None identified	National procedures may benefit consumers in the Member State using them (i.e. quicker processing times)
Social Impacts	No change from the current situation	Social impacts not directly attributable to Option D3 as there would be no change in the number of parts resulting in recalls and/or number of accidents on the road
Environmental Impacts	Not directly attributable to Option D1	None identified

7. PROBLEM AREA E – VERIFICATION OF PROCEDURES FOR ENSURING CONFORMITY OF PRODUCTION

7.1 Background

7.1.1 Significance of the Problem Area

The fifth area of attention relates to "the verification procedures for ensuring conformity of production". As noted in the EC Roadmap (2001), by aiming to ensure that all vehicles produced based on an approved type comply with the applicable requirements in practice, the procedures for ensuring CoP constitute a very important connecting link between the ex-ante type approval procedure and the ex-post market surveillance activities.

Less than 30% of all respondents to the public consultation indicated that the current procedures for ensuring CoP are effective, while 40% believe that the involvement of the authorities is too weak. Over half of the TS (four of six) and national authorities (six of 11) responding to the evaluation questionnaire considered this problem area to be 'somewhat' problematic and likely to increase in the future.

7.1.2 Defining the Specific Problems

Currently, Directive 2007/46/EC requires the approval authority that grants an EC-type approval to verify (by means of checks given in the Directive) that adequate procedures are in place to ensure that production conforms to the approved type. An initial assessment of CoP systems is also to be performed prior to granting the EC type approval. Subsequently, the type approval authority should verify continued conformity at specified intervals, but may also verify the conformity control methods applied in each production facility at any time. Where these arrangements are not being applied correctly, the Member State is required to take the necessary measures, including withdrawal of the type-approval, to ensure that the CoP procedure is followed correctly.

The NLF Decision 768/2008/EC sets out certain requirements for the verification of CoP. These provisions cover the assessment of quality management systems (QMS) for production, and product-related controls through inspection and testing, under surveillance by the relevant authorities. In practice, Decision 768/2008/EC relates to products that do not have a particular system for type approval (which is not the case for the automotive industry). It may, however, be useful in some instances, for instance, an external charging system for an Electric Vehicle is not subject to the vehicle type approval process; but as a unit with mains power, the unit must be CE marked to confirm compliance with the Low Voltage Directive for physical safety features and EMC. The NLF Decision 768/2008 comes is relevant in this context.

In this context, it is important to consider whether the provisions relating to CoP in the NLF can be adopted for the purposes of improving current CoP practices.

7.1.3 Aim of Intervention

The aim of the intervention is to ensure that the CoP procedures are tailored in such a way that they contribute effectively to reducing the likelihood of NCDs and UADs being placed on the market and the need for post-market actions to remedy the problems associated with such products.

Three possible policy options have been put forward in the roadmap:

- Option E1 (baseline scenario): do nothing;
- Option D2 (self-regulatory): undertake awareness campaigns and/or VAs with and between enforcement authorities, TS and economic operators; and
- Option E3 (regulatory): amend the existing technical harmonisation legislation relating to vehicles.

7.1.4 Defining the Policy Option

Option E1 – Baseline Scenario

Option E1 is the do nothing option and involves neither making changes to the existing situation nor updating the Directive to be in line with the NLF as regards the verification procedures for ensuring CoP.

Option E2 – Self-regulatory Initiative

As noted in the roadmap, Option E2 would involve awareness campaigns and/or VAs between the different stakeholders (manufacturers, TS and type-approval authorities in the Member States) involved in the CoP to clarify and agree on the quality criteria and procedures to be applied for verifying and ensuring the CoP.

The quality criteria and procedures to be considered will be those set out in the NLF Directive (Module D of Decision 768/2008). Under Option E2, the role and responsibilities of manufacturers, type-approval authorities and TS in ensuring the CoP would also be clarified (e.g. to clarify that TS are responsible for CoP). In this regard, there are substantial overlaps with Options A2, B2 and C2. Under Option E2, basing the provisions on the NLF will provide a clear legal base for the proposed self-regulatory approach and, in theory, this approach would be likely to result in a consistent regulatory framework and possibly result in a reduction in the number of NCDs on the EU market.

However, Options A2, B2 and C2 already consider the possibilities for introducing a VA amongst economic operators, enforcement authorities and TS respectively. Some of the key points made in relation these Options also apply to Option E2, including:

- **Agreement**: For economic operators, the viability of this option would depend on industry representatives (e.g. ACEA, ETRMA, CLEPA, FIGIEFA) being able to reach a mutually satisfactory agreement on how to improve CoP. This is likely to

pose considerable difficulties, considering that the approval and/or co-operation of over 100,000 economic operators in the automotive sector would be required.

- **VA Coverage**: Secondly, the proportion of small firms that are not members of these associations is high so these firms would not necessarily be able to participate in a VA.

- **Enforcement**: Even if the approval of all participants is obtained and the VA is signed, it is still uncertain whether the automotive sector will be able to adequately enforce any voluntary rules on all economic players on the market, bearing in mind that an increasing share of automotive products entering the EU market come from third countries. The global nature of the automotive industry, with some European manufacturers moving abroad to low-cost bases, means that it is also geographically difficult to monitor compliance with the VA and/or establish where the imports are coming from.

- **Compliance**: Non-compliant manufacturers are likely to ignore any VA and awareness campaigns will have little or no effect on those operators deliberately ignoring, or cutting corners on complying with, the rules. Therefore, this approach is unlikely to increase compliance rates. Where the industry is unable to enforce a VA, it is possible that an even more uneven playing field could result in the market, between economic operators complying and bound by the VA and those flouting it. Also, because guidelines agreed within a VA are by definition 'non-legally binding', there is no certainty that the responsibilities will indeed be taken up by economic operators.

- **Uncertainty of outcome**: Due to the voluntary nature of this option, the exact outcome (e.g. in terms of reductions in recalls and social impacts) cannot be quantified.

- **Representative Views**: For TS, this policy option is difficult to define further due to the non-representative number of responses received from TS for the study.

- **Willingness to develop VA**: While around half of TS accept that current CoP procedures can be improved, it is still the case that a significant proportion did not believe that it was feasible and cost-effective for TS to develop and enforce a VA. As noted earlier, it is possible that the TS that are already performing highly would be more likely to agree to this approach, while those struggling to comply would oppose it. In such a situation, there is little likelihood that any clarifications agreed as part of a VA will be taken up by TS, particularly those it is targeted at, or effectively enforced.

- **Enforcement amongst TS**: Some TS also questioned what would happen to TS who do not agree to sign up to the VA, and who would supervise the VA. This highlights a need to have some form of sanctions and penalties, as well as an enforcement body or bodies, for a self-regulatory initiative to be effective.

- **Concerns of national authorities**: Only a third of national authorities believe that it is feasible and cost-effective for them to develop and enforce a VA. In particular, as noted by one respondent "*experience shows that voluntary agreements are not that effective in the long term*", while another noted that they "*don't think that the voluntary agreement will assure the enforcement of the Directive*".

In conclusion, a self-regulatory option (involving a VA and awareness campaigns) will not be taken forward for further assessment as:

- It seems unlikely that sufficient coverage of TS and economic operators will be achieved, given the large number of signatories and organisations to be covered and the lack of an existing body to develop and monitor an agreement;

- the effectiveness of a VA in encouraging TS and economic operators to behave appropriately, especially where financial pressures are involved, or addressing the underlying issues affecting CoP, is doubtful; and

- considering the effort and cost involved in setting up such a VA (including supervision and enforcement mechanisms), and the fundamental uncertainty associated with the outcome, it is not clear that the costs of this approach would be greater than the benefits. This takes into account that some of these benefits would already accrue under Options B3/B4 and C3 which would set out clearly the roles and responsibilities of enforcement authorities involved in post-market safeguards and the double-counting of economic impacts needs to be avoided.

Option E2 could also not be used to introduce a new or revised approach to CoP, primarily because a VA cannot supersede the current requirements in Directive 2007/46/EC and is unlikely to have sufficient legal standing in the event of recall.

Option E3 – Regulatory Initiatives

As noted in the EC Roadmap (2011), this option would envisage amending the existing Directive through the application of the principles and provisions of the NLF related to the verification of conformity during the production stage.

A comparison of the current provisions under Directive 2007/46/EC indicates that the requirements on QMS for production in the NLF are broadly similar to those in Directive 2007/47/EC. While the former may appear to be more formalised and more detailed, it is not the case that they introduce new requirements which are not currently met by manufacturers in complying with either ISO standards (or similar) or industry best practice.

For instance, under the NLF, the quality assurance system of the manufacturer has to be assessed by the notified bodies (equivalent to TS) based on the detailed quality assurance system documentation to be approved by that authority or appointed body. The documentation to be submitted is likely to be similar to that submitted under the "initial assessment" (where this refers to the assessment of quality management

systems) under Directive 2007/46/EC. Overall, a comparison of both regulatory requirements for this study would suggest that the conformity assessment procedures set out in Module D of the NLF are similar to Annex X of Directive 2007/46/EC which is based on three elements (initial assessment, product conformity arrangements and continued verification arrangements).

At the Automobile Roundtable (2010) with economic operators, OEMs/vehicle manufacturers also indicated that the requirements in the Directive form the minimum standards which have to be met. OEMs/vehicle manufacturers have their own detailed quality management systems which cover not only their direct suppliers but the suppliers' suppliers, and include inspection of facilities right down the supply chain across the globe. This is driven by liability concerns rather than legislation.

In this context, there are three key aspects of the NLF provisions which differ significantly from the current situation:

- firstly, they differ in relation to **scope of manufacturers to influence the choice of body responsible for ensuring CoP**. Under Directive 2007/46/EC, the type approval authority that issues the EC type approval is responsible for ensuring CoP (although it can delegate the initial assessment to other bodies, including TS[37]). In the NLF, the responsibility for ensuring CoP is clearly placed on notified bodies (equivalent to TS) and, more importantly, manufacturers choose the technical service which they wish to assess their compliance[38] (see Figure 6.1 and 6.2);

- secondly, **the quality assurance system of the manufacturer has to be assessed by the notified bodies** (equivalent to TS) – and this may necessitate some organisational changes for Member States; and

- thirdly, the manufacturer is required to **keep the declaration of conformity for each product model at the disposal of the national authorities for 10 years after the product has been placed on the market**. The NLF requires that the manufacturer's application to the technical service (or notified body) for initial assessment is kept for 10 years, any changes to it are kept for at least 10 years, audit reports by the technical service (or notified body) (when they audit the manufacturer) shall be kept for at least 10 years, and reports from unexpected visits are also to be kept for at least 10 years.

[37] The Directive defines the 'manufacturer' as "*the person or body who is responsible to the approval authority for all aspects of the type-approval or authorisation process and for ensuring conformity of production*" and the approval authority as "*the authority of a Member State with competence for… ensuring that the manufacturer meets his obligations regarding the conformity of production*".

[38] Module D of Decision 768/2008/EC states that "*the manufacturer shall lodge an application for assessment of his quality system with the notified body of his choice, for the products concerned*".

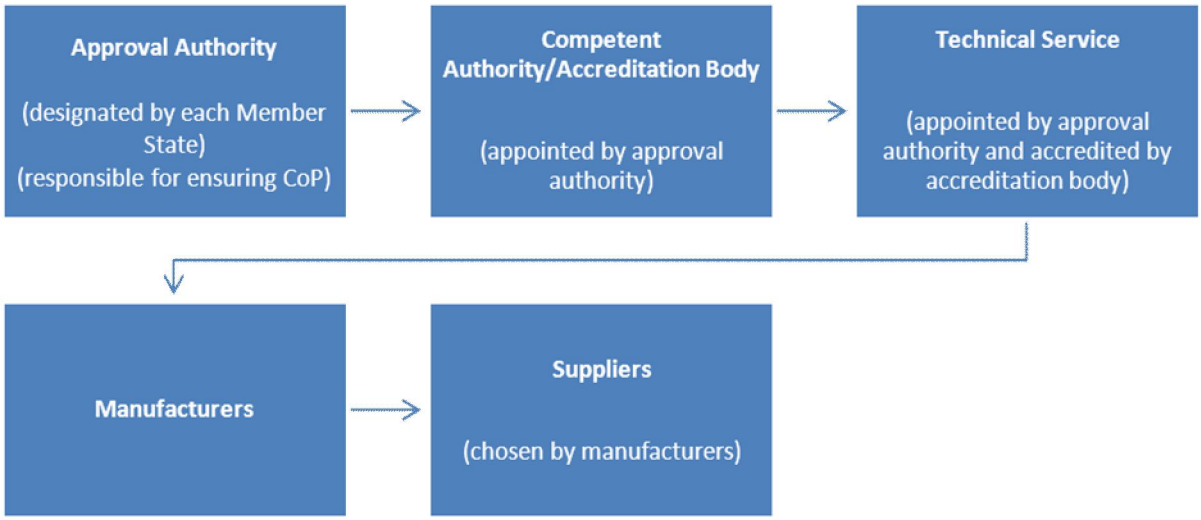


Figure 7.1: The Current Situation under Directive 2007/46/EC

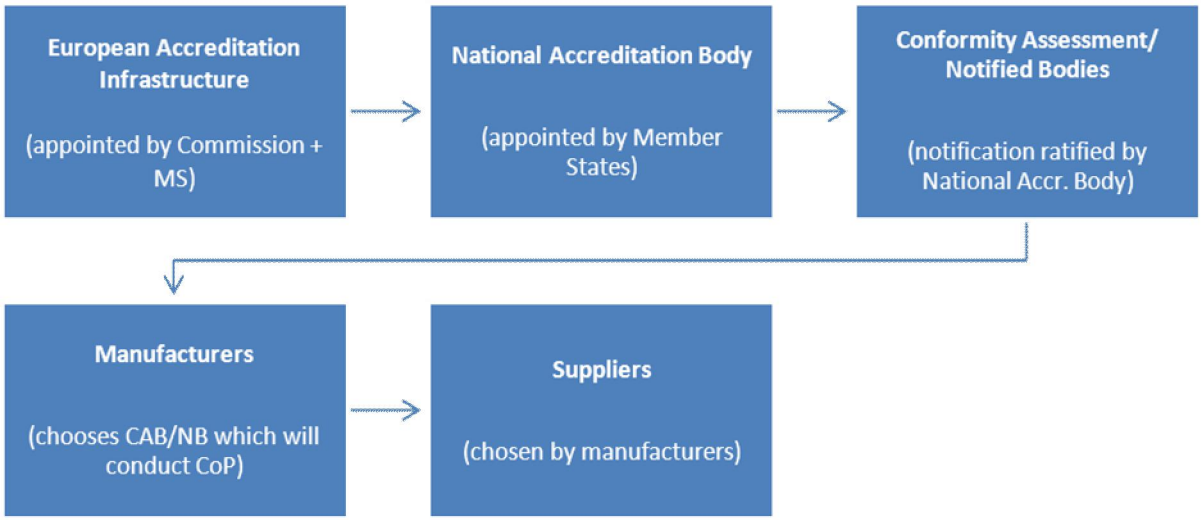


Figure 7.2: The Situation under the NLF

Overall, it is assumed that, Option E3 does not represent a significant change from the current requirements and, as such, is likely to ensure consistency and coherence between Directive 2007/47/EC and the principles and provisions of the NLF.

7.2 Assessment of Economic Impacts

7.2.1 Functioning of Internal Market and Competition

Option E1 – Baseline Scenario

Maintaining the current situation could lead to an uneven playing field for reputable economic operators competing with others that gain an unfair advantage from weaker CoP procedures implemented by enforcement authorities. These less scrupulous economic operators are also likely to use less stringent TS, thereby creating unfair competition amongst TS. In this regard, the impacts of options A1 and C1 also apply to this option.

The methodology described in Section 2 can be used to provide an indication of the potential costs of this option (see Table 7.1)

Table 7.1: Potential Costs of Option E1 – NCDs and UADs

As shown in Table 2.3, UADs have been estimated to account for between €5 billion and €45 billion of automotive products present on the EU market, while NCDs have been estimated to account for between €2.5 billion and €30 billion (see Table 2.4). For the impact assessment, we have assumed that UADs account for up to **€30 billion** of automotive products present on the EU market and NCDs account for around **€5 billion** of automotive products present on the EU market (see Section 2.3.4).

Assuming that weaknesses in CoP account for between 7.5% and 10% of **UADs** on the EU market, Option B1 would result in **NCDs of around €500 million** and **UADs of around €4.5 billion** remaining on the EU market annually.

Option E3 – Regulatory Initiatives

Optimising the ex-ante efforts of authorities and economic operators in ensuring CoP is likely to mean that there should be fewer UADs and NCDs placed on the market. Economic operators would benefit from reduced requirements to remedy problems associated with their vehicles and/or automotive products. This Option would also improve the coherence and consistency of the existing technical harmonisation legislation with the NLF (Decision 768/2008/EC and Regulation 765/2008/EC) and eliminate the current distortions of competition due to the inconsistent criteria and procedures and thereby strengthen the harmonisation of the internal market. Consumers would also increasingly recognise that automotive products are subject to a common and high level of type-approval, verification of conformity of production and market surveillance, thereby strengthening the harmonisation of the internal market.

Under Option E3, it is assumed that there will be a reduction in the number of NCDs and UADs on the market. Assuming that Option E3 is effective (i.e. 50% reduction) in addressing the problems relating to NCDs and UADs, it is estimated that there would be a reduction in NCDs on the market of around **€250 million per year** and a reduction in UADs of **€2.2 billion per year**. Even assuming that the effectiveness of Option E3 is simply uncertain (i.e. a 15% reduction), it will still generate a reduction

in NCDs on the market of around **€75 million per year** and a reduction in UADs of **€675 billion per year** (as shown in the Table below). Note that this figure does not relate to profits or a sectoral loss of market share, as it is anticipated that compliant automotive devices would be sold to replace this volume. Effectively, manufacturers or importers of NCDs would either incur costs to become more compliant or would go out of business.

Table 7.2: Reduction in NCDs/UADs Associated with Problem Area E			
Policy Option	**Likely Effectiveness**	**Estimated Annual Value of NCDs/UADs on the EU Market (€ million)**	
		Lower (NCDs)	**Upper (UADs)**
Baseline		€ 500	€ 4,500
	Highly Effective	€ 375	€ 3,375
Regulation	**Effective**	€ 250	€ 2,250
	Uncertain	€ 75	€ 675
	Highly Uncertain	€ 25	€ 225

7.2.2 Competitiveness

Option E1 – Baseline Scenario

Option E1 is unlikely to result in cross-border investment flows (including relocation of economic activity) or impact on trade barriers.

Option E3 – Regulatory Initiatives

Option E3 is unlikely to result in cross-border investment flows (including relocation of economic activity) or impact on trade barriers.

7.2.3 Operating Costs and Conduct of Business/Small and Medium Enterprises

Option E1 – Baseline Scenario

Costs to Firms

As the do nothing option, Option 1 does not impose additional adjustment, compliance or transaction costs on businesses. Existing costs associated with NCDs and UADs would, however, continue into the future.

Benefits to Firms

No benefits identified.

Option E3 – Regulatory Initiatives

Costs to Firms

Optimising the ex-ante efforts of authorities and economic operators in ensuring conformity of production may result in some costs for economic operators. However, as this option aims at achieving consistency and coherence with the principles and provisions of the NLF, it is expected that it will not result into any substantially different economic or social impacts than those already identified for the introduction of the NLF.

SMEs could be affected, if they do not have robust systems at present. While the vast majority of vehicle manufacturers are likely to have robust QA structures in place already, this may not be the case for manufacturers of other vehicle parts. In this case, costs would be incurred to improve QA structures; however, the scale of these costs cannot be estimated because of the lack of information on the current QA systems in place.

The requirements to keep data for 10 years may also pose challenges to some companies, particularly small firms. As noted in UK DfT (2011), with regard to market surveillance responsibilities, requirements to keep approval information and conformity certificates available to authorities for 10 years may not result in changes for larger operations. The impact on smaller companies is unclear, although it might be reasonably expected to lead to increased costs.

Benefits to Firms

Companies are likely to prefer the possibility of choosing the TS themselves to the current position. This is not necessarily because of the perceived stringency of the TS in carrying out activities. Instead, it may be a question of logistics (not overloading a single TS, which could lead to delays for the manufacturer) and because different TS have expertise on particular types of products.

Unfortunately, the NLF has only been in place for a short time and it is not possible to draw on experience with the NLF to deduce the benefits to economic operators that could arise from Option E3.

The strengthening of ex-ante verification procedures should also result in a reduction in costs and administrative burdens linked to safeguard measures and recall procedures. However, there is currently no basis for determining the scale of such benefits.

Having a more robust QA system in place could also benefit economic operators by increasing the efficiency of production and reducing waste by helping to ensure that fewer poor-quality products are produced.

7.2.4 Administrative Burden on Businesses

Option E1 – Baseline Scenario

Option E1 does not place additional administrative obligations on economic operators and, as such, no additional administrative burden is incurred.

Option E3 – Regulatory Initiatives

There may be a possible additional administrative burden arising from strengthening the verification and approval procedure for quality management systems. For most companies with QMS, the requirements under Option E3 are unlikely to exceed current requirements for most companies. However, for those companies currently without QMS, the additional administrative requirements could be significant. No information is available on the number of companies without QMS at present to allow for a reasonable quantification of the impacts.

7.2.5 Public Authorities

Option E1 – Baseline Scenario

Costs and Benefits to the Commission

There will be no direct costs to the Commission from maintaining the status quo. Avoiding changes to the whole regulatory framework will avoid the administrative costs associated making regulatory changes.

Costs and Benefits to Authorities

Avoiding changes to the regulatory framework will mean that national authorities face no administrative costs associated with amending their current national legislation. The current level of costs associated with post-market safeguards and recalls will continue into the future.

Costs and Benefits to TS

There are no direct costs or benefits to TS from maintaining the status quo.

Option E3 – Regulatory Initiatives

Costs and Benefits to the Commission

The key direct costs to the Commission under Option E3 would be those associated with updating the Directive.

Costs and Benefits to the Authorities

The strengthening of ex-ante verification procedures should also result in an overall benefit for authorities, as these are more formalised and harmonised, compared to the current situation.

Costs and Benefits to TS

None identified.

7.2.6 Innovation and Research

Option E1 – Baseline Scenario

None identified.

Option E3 – Regulatory Initiatives

None identified.

7.2.7 Consumers and Households

Costs to Consumers

Problems with vehicles impact not only on the financial situation of consumers, but also on their health and safety (including children). A key impact on consumers relates to the number of road accidents which result from defective automotive devices. These costs will continue to be incurred under Option E1.

Using the same methodology as in Section 3, it is possible to develop some indicative costs of the time lost by consumers in driving to dealerships to get their vehicles re-fitted as a result of a vehicle recall as a result of less robust production processes/QA, where these result in recalls.

Assuming that between 50% and 80% of the vehicles which are subject to a recall and relevant to Option E1 get driven back to the dealership or garage to be fixed, and that this involves a drive of between 30 minutes and 1 hour for a return trip (average driving distance of 15 minutes one-way) and a time cost of between €20/hour and €40/hour, the total cost relating to the inconvenience alone of driving to the dealership can be estimated at between **€1.7 million** and **€21.6 million**. This does not include other costs associated with the trip, e.g. fuel costs, risk of accident, environmental costs, etc.

Benefits to Consumers

There are no benefits to the consumer of retaining the status quo.

Option E3 – Regulatory Initiatives

Costs to Consumers

If cost increases incurred by manufacturers re passed down to consumers, it is possible that some consumers purchasing new vehicles may experience a minimal price increase. It is also possible that consumers would face higher costs for replacement parts, as low-cost, UADs and NCDs would no longer be readily available on the EU market – although this will be counterbalanced by the health and safety benefits associated with compliant devices.

Benefits to Consumers

Under Option E3, consumers are likely to benefit from a reduced risk of purchasing unsafe, non-compliant or low quality vehicles and/or automotive devices on the internal market. The costs associated with vehicle recalls are also likely to reduce. While some of the costs to consumers can be quantified, others are more difficult to quantify. It is, however, possible to develop some indicative costs of the time lost by consumers in driving to dealerships to get their vehicles re-fitted as a result of a vehicle recall.

Production/QA faults account for around 15% of RAPEX notifications; faults of an 'unknown cause' account for around 10% of all recalls and it can be assumed that at least some of these parts may have been identified by better QMS and CoP verification. When defective products are identified, the vehicles carrying these parts have to be recalled, which imposes considerable costs on consumers. The exact proportion of these vehicle recalls which would be avoided under Option E3 is not known for certain. However, assuming a 30 – 50% reduction in vehicle recalls due to defective products and design flaws, the time costs avoided can be estimated at between **€900,000** and **€13 million per year** (see Table 7.3 below).

Table 7.3: Potential Annual Cost Savings (Time) to Consumers from Option C3

	Lower Estimate	**Upper Estimate**
Current number of vehicle recalls	**150**	**150**
% of vehicle recalls due to defective products and design flaws	7.5%	15%
No of vehicle recalls due to defective products and design flaws	11	23
No of vehicles involved in recalls	337,500	675,000
% of vehicles driven to dealerships	50	80%
No of vehicles driven to dealerships	168,750	540,000
Time taken to drive to dealerships	30 mins	1 hour
Time cost for drivers (per hour)	€ 10	€ 30
Time cost for drivers	**€1.7 million**	**€21.6 mil**
% of vehicle recalls which could be avoided by more robust checks by TS under Option C3	30%	50%
No of vehicle recalls which could be avoided under Option C3	3	11
No of vehicles not recalled under Option C3	**90,000**	**330,000**
Time costs avoided	**€900,000**	**€13.2 mil**

** Average wage costs under the SCM model were used as it is assumed that most drivers would take their cars to the dealers during the week and, as such, would lose an hour or more of work time*

7.2.8 Third Countries and International Relations

Option E1 – Baseline Scenario

None identified.

Option E3 – Regulatory Initiatives

Option E3 should have no direct effect on EU trade policy and international relations.

7.3 Assessment of Social Impacts

Option E1 – Baseline Scenario

Under Option E1, there would be no changes to the current enforcement situation and, as such, no additional social impacts.

Option E3 – Regulatory Initiatives

Under Option E3, it is assumed that strengthening the CoP procedures is likely to result in a decrease in the number of automotive parts resulting in recalls and thereon the number of accidents on the road. While the exact impact of Option E3 cannot be known for certain, even a 2% reduction in current recall rates is likely to result in 30,000 fewer individuals and/or families affected by the risks, worry and inconvenience of a owning a recalled vehicle.

7.4 Assessment of Environmental Impacts

Option E1 – Baseline Scenario

According to Which (2010), 21% of recalls in the UK over the last five years relate to engine, exhaust or emission-related faults; this statistic is assumed to be the same for the EU, based on comparisons of 2010 data for UK recalls and RAPEX notifications. It is assumed for quantification purposes that some of these faults (around half (±10%)) are likely to lead to undesirable environmental consequences, particularly emissions of hazardous substances above emission limits. Faults such as those relating to engine cut-out, stalling and failure restart are unlikely to impact on the environment.

The exact proportion of these vehicle recalls accounted for by inadequate verification of CoP is not known. However, the review of the RAPEX notifications (for 2010) indicates that around 15% of vehicle recalls are caused by 'production/QA' faults. If it is assumed that 'production/QA faults' are the result of weaknesses in the CoP, this would suggest that between three and six vehicle recalls affecting the environment would continue to arise under Option E1. This works out as around **60,000 to 90,000 vehicles per year** having undesirable environmental impacts under Option E1.

Option E3 – Regulatory Initiatives

Under Option E3, it is assumed that strengthening the CoP requirements is likely to result in more robust checks being applied by TS and, therefore, a reduction in 'production/QA faults' leading to recalls. Assuming a 50% reduction (or effectiveness) under Option C3 compared to Option C1 would mean that, across the EU, around **30,000 fewer vehicles per year** would have undesirable environmental impacts under Option C3 (see Table 7.4 below).

Table 7.4: Potential Environmental Impacts of Option E3

	Lower Estimate	**Upper Estimate**
No of vehicle recalls	**150**	**150**
No of vehicle recalls due to engine, exhaust or emission-related faults (assuming 20% of all recalls)	30	30
Assumed % of recalls due to engine, exhaust or emission-related faults which result in undesirable environmental consequences	40%	60%
No of recalls due to engine, exhaust or emission-related faults which result in undesirable environmental consequences	12	18
No of above recalls which are due to a lack of robust production/QA processes (Option E1) (assuming 15% of all recalls)	2	3
No of vehicles involved in avoidable recalls (30,000 per recall)	**60,000**	**90,000**
No of vehicle recalls resulting in undesirable environmental consequences which could be avoided by more robust checks by QA checks under Option E3 – assuming 50% effectiveness	1	1
Reduction in number of vehicles with undesirable environmental consequences recalled under Option E3	**30,000**	**30,000**

7.5 Summary and Comparison of Options

Table 7.5 below provides a summary comparison of the policy options for addressing weaknesses in the quality of the type-approval and conformity assessment tasks carried out by TS.

Table 7.5: Summary of Impacts: Problem Area E

Impact	**Option E1 (Do Nothing)**	**Option E3 (Regulatory)**
Impacts on Internal Market	Assuming weaknesses in CoP account for between 7.5% and 10% of UADs on the EU market, would result in NCDs of **€500 million** and UADs of **€4.5 billion per year** remaining on the EU market	Assuming Option E3 is effective (i.e. 50% reduction) in addressing the problems identified; there would be a reduction of between **€250 million and €2.2 billion per year** of NCDs and UADs on the market, respectively. It is anticipated that compliant automotive devices would be sold to replace this volume
Costs to Firms	No additional costs, however, existing costs associated with NCDs and UADs would continue into the future	Potential increase in costs (particularly for SMEs) of improving QA structures and for keeping data for 10 years

Table 7.5: Summary of Impacts: Problem Area E		
Impact	**Option E1 (Do Nothing)**	**Option E3 (Regulatory)**
Benefits to Firms	None identified	Strengthening of ex-ante verification procedures should also result in a reduction in costs and administrative burdens linked to safeguard measures and recall procedures. A more robust QA system could benefit economic operators by increasing production efficiency and reducing waste by ensuring fewer poor-quality products are produced
Costs to Authorities	The current level of costs associated with post-market safeguards and recalls will continue into the future	Possible impact for authorities in terms of manufacturers being able to choose their own TS
Benefits to Authorities	Avoid costs associated with any intervention, particularly those associated with an amendment of the current national legislation	Strengthening of ex-ante verification procedures should result in overall benefits for authorities, as these are more formalised and harmonised, compared to the current situation
Costs to TS	None identified	None identified
Benefits for TS	None identified	None identified
Costs to Consumers	Vehicle or product recalls (where these are the result of unsafe devices or NCDs) result in risks to health and safety, inconvenience and worry, impacts on job security, etc. These social impacts would continue in the future	It is possible that some consumers purchasing new vehicles or parts may experience a minimal price increase from either cost pass down from TS or due to absence of unsafe automotive devices and NCDs.
Benefits to Consumers	None identified	Assuming a 30-50% reduction in vehicle recalls due to defective products and design flaws, the time costs avoided can be estimated at between **€900,000** and **€13 million per year**
Social Impacts	No change from the current situation	Assumed that strengthening the CoP procedures is likely to result in a decrease in the number of automotive parts resulting in recalls and thereon the number of accidents on the road
Environmental Impacts	Approximately **60,000 to 90,000** vehicles per year result in undesirable environmental impacts and this would continue in the future	A 50% reduction in vehicle recalls with undesirable environmental impacts is equivalent to around 3**0,000** fewer vehicles per year would have undesirable environmental impacts

8. COMPARISON OF OPTIONS

8.1 Comparison of the Policy Options

The policy options which have been considered in the previous sections are aimed at strengthening the implementation and enforcement framework for Directive 2007/46/EC, which can contribute to safeguarding and enhancing the competitiveness of economic operators who are already respecting the applicable rules. By ensuring effective market surveillance and enforcement procedures, it will become more difficult for economic operators to place products on the market which are unsafe (UADs), including those which do not comply with the regulatory requirements (NCDs).

The presence of UADs and NCDs on the market can endanger the health and safety of their users, as well as that of other road users, and may also be to the detriment of the environment. Such products may also result in a distortion of competition, as economic operators in the automotive industry that respect the rules may lose market share to less scrupulous competitors placing UADs and NCDs on the market. Similarly, TS that are enforcing the rules robustly may lose economically compared with those that are less stringent. UADs and NCDs generate undesirable societal costs and reduce the effectiveness of the measures put in place to achieve the overall policy objective for a cleaner and safer environment for EU citizens.

The 'do nothing' option will result in these problems remaining unsolved. Indeed, changes in the automotive market, which is increasingly international, may increase the difficulties of implementation and enforcement.

The self-regulatory initiatives are likely to have some effect in terms of reducing the share of UADs and/or NCDs on the market and their set-up costs are likely to be relatively low. However, the outcome of voluntary agreements is uncertain, due to a lack of common understanding of the problem areas and/or potential solutions amongst stakeholders, especially where there are many players involved (e.g. for economic operators). They may also be difficult to enforce, either because there is no existing body which could take this role (in the case of TS, for example) or because not all players are members of existing bodies (e.g. many SME economic operators are not members of industry associations). They are therefore likely to be less effective than direct regulatory action.

Amending the WVTA Directive is likely to be more effective in achieving a level playing field for economic operators and can be expected to have an overall positive economic impact in the long term, although the initial set-up costs are likely to be higher than for self-regulatory initiatives. The social benefits of the regulatory initiatives are also likely to be larger than for the other options envisaged, simply by providing an enforceable framework. Co-regulatory initiatives can also play a role in supporting the regulatory initiatives, for instance, by providing training to enforcement authorities, which would improve the enforcement of Directive 2007/46/EC.

Table 8.6 at the end of this section, provides a comparison of the policy options, based on the analysis detailed in Sections 3 to 7 of this report, against four key operational objectives:

- the potential *effectiveness*, in terms of addressing the problems, problem area(s) and/or enhancing enforcement of Directive 2007/46/EC;
- the potential *efficiency* (or cost-effectiveness), in terms of the costs likely to be incurred in relation to the potential reduction in NCDs and UADs on the market;
- the *coherence* of the policy options, in terms of the extent to which the proposed intervention contributes to and/or mutually reinforces the existing Directive and the NLF, rather than duplicate or conflict with one these; and
- a *cost-benefit analysis*, based on the impact assessment.

The policy option which ranks best for each problem area is shaded in Table 8.6.

Table 8.1 below also assess the main policy options (do nothing, self-regulation, co-regulation and regulation) against the general and specific objectives of the intervention.

Table 8.1: Assessing the Policy Options Against the Objectives of the Intervention

Objectives	**Do Nothing**	**Self Regulation**	**Co-regulation**	**Regulation**
General Objectives				
To safeguard and strengthen the internal market for motor vehicles by ensuring that all necessary mechanisms are in place for an effective and uniform implementation and enforcement of the automotive product framework legislation		+	+	++
To ensure a high level of safety and environmental protection, by ensuring that vehicles and vehicle-related devices which are placed on the EU market fulfil the applicable requirements		+	++	++
To ensure that a level playing field is maintained for the economic operators involved		0	+	++
Avoiding imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings	++	++	++	+
Specific Objectives				
Reduce the number of non-compliant motor vehicles and systems, components and separate technical units intended for such vehicles on the EU market	0	+	+	++
Ensure effective and uniform action against NCDs across the EU market and equal treatment of economic operators in the implementation and enforcement process	0	0	++	++
Ensure the reliability and high quality of type-approval of motor vehicles and the conformity of their production	0	+	+	++

Grading Scale: Highly Satisfactory (++), Satisfactory (+), Neutral (0), Unsatisfactory (-), Highly Unsatisfactory (--)

8.2 Preferred Combination of Policy Options

Given the overlap between the problem areas, a combination of policy options is likely to be the most effective in addressing the problems of implementation and enforcement. Table 8.2 summarises the preferred combination of policy options, based on the analysis in Sections 3 to 7 of this report.

Table 8.2: Preferred Combination of Policy Options

- Amending the Directive to incorporate key elements of the NLF related to clarification of responsibilities (Options A3 and B4), product traceability and company traceability (Option A3), the technical and financial independence of Technical Services (Option C3) and the verification of conformity during the production stage (Option E3);
- Maintaining the existing requirements in the Directive regarding post-safeguard measures and recalls (Option D1);
- Amending the existing technical harmonisation legislation to enhance information exchange and cooperation amongst national authorities (Option B4); and
- Joint action between the Commission and Member State Authorities to improve enforcement through targeted training for national authorities and developing interpretation guidelines on the legal provisions on type approval, conformity of production, recall of vehicles, safeguard measures and market surveillance (Option B3).

This combination of policy options could reduce the value of the market taken up by UADs and NCDs by between **€656 million and €12 billion per year**. The impacts of each of the preferred policy options on the proportion of NCDs and UADs on the market, compared with that of the separate policy options, is summarised in Table 8.3 below.

Addressing the problems of NCDs and UADs on the market will also result in benefits for vehicle owners, in the form of reductions in the costs associated with recalls. The impacts of the relevant preferred policy options on numbers of recalls and associated costs are shown in Table 8.4.

Table 8.3: Comparison of Impacts of Preferred Policy Options on the value of NCDs and UADs on the EU Market (€ million)						
Policy Option 1: Do Nothing						
	Option A1	**Option B1**	**Option C1**	**Option D1**	**Option E1**	**TOTAL**
NCDs on the market	375	125	250		500	**1 250**
UADs on the market	3 000	6 000	7 500		4 500	**21 000**
Policy Option 2: Self-regulatory Initiatives						
	Option A2	**Option B2**	**Option C2**	**Option D2**	**Option E2**	**TOTAL**
Reduction in NCDs		6				**6**
Reduction in UADs		300				**300**
Policy Option 3: Co-regulatory Initiatives						
		Option B3				
Reduction in NCDs		94				**94**
Reduction in UADs		4 500				**4 500**
Policy Option 4: Regulatory Initiatives						
	Option A3	**Option B4**	**Option C3**	**Option D3**	**Option E3**	
Reduction in NCDs	188	63	125		250	**625**
Reduction in UADs	1 500	3 000	3 750		2 250	**10 500**
Preferred Combination of Options						
	Option A3	***Option B3 & B4**	**Option C3**	**Option D3**	**Option E3**	
Reduction in NCDs	188	94	125		250	**656**
Reduction in UADs	1 500	4 500	3 750		2 250	**12 000**
* In this context, Option B3 is implemented as a complementary option to Option B4 and provides additional or benefits by reducing NCDs and UADs by €31 million and €1.5 billion respectively						

Table 8.4: Potential Reductions in Time Costs of Recalls for Vehicle Owners under Relevant Policy Options				
	Number of Recalls		**Time Cost for Drivers**	
	Lower Range	**Upper Range**	**Lower Estimate (€,000)**	**Upper Estimate (€,000)**
Current Number of Recalls per year	**100**	**150**	**54 000**	**135 000**
No of vehicle recalls and costs which could be avoided under Option B3	1	8	540	7 200
No of vehicle recalls and costs which could be avoided under Option C3	1	15	540	13 500
No of vehicle recalls and costs which could be avoided under Option E3	2	15	1 080	13 500
Total no. and costs avoided per year under preferred combination of options	**4**	**38**	**2 160**	**34 200**

The benefits of the preferred policy options, as shown in Tables 8.3 and 8.4, can be compared with the costs, which are summarised in Table 8.5.

Table 8.5: Summary of Costs of Implementing the Preferred Options (€ million)			
	Lower Estimate	**Central Estimate**	**Upper Estimate**
Indicative Costs to Non-EU Importers of Having an EU Representative – Option A3	0.1	3.0	90.0
Indicative costs of additional surveillance – Option A3/Option B3	1.4		10.1
Indicative costs of transposition into national legislation	13.5		27.0
Total Cost of Option B3 of developing the guidance and training material and delivering the training	0.1	0.4	0.9
Total cost of Ensuring Technical and Economic Independence – Option C3	0.1	2.0	> 3.0
Overall Costs of Implementing the Preferred Options	15.2	n/a	131.0

In most cases, the costs of the options are at least an order of magnitude lower than the benefits, in the range of **€15 million to €131 million**. However, this would not be the cases under Option A3, should RFID tags be required for all vehicle parts. In this case, the costs could increase by up to €105 billion under a worst case estimate. Such an approach would clearly not be feasible; we have therefore excluded this from the table.

The overall cost benefit ratio of the package would be highly positive, with future benefits exceeding the costs to stakeholders of implementation. It is also in line with the preferences of stakeholders who participated in the study.

8.3 Task 3.6: Monitoring and Evaluation

In order to identify the key indicators for monitoring progress and achievement of the aims of the intervention, it is important to bear in mind that any changes resulting from revisions to the WVTA Directive, voluntary action and/or joint action are likely to affect consumers, the automotive industry and regulators. The indicators have, therefore, been chosen to reflect not only the regulatory intent of the intervention but also potentially negative consequences of the intervention, which may indicate a failure (e.g. an increase in court cases after introduction of a VA).

The key indicators are as follows:

- changes in the views of/complaints from consumers received by enforcement authorities relating to vehicles and vehicle components;
- changes in the number/percentage of UADs and NCDs present on the EU market (e.g. compared with existing surveys);
- changes in the number/percentage of "removal notes", "warning letters" or other similar regulatory action taken by EU authorities against both intra-EU and extra-

EU manufacturers/importers (i.e. taking into account increased traceability requirements for automotive products);

- changes in trends in RAPEX notifications for vehicles; and
- changes in trends in recalls of motor vehicles.

A reasonable timeline to review the selected indicators for monitoring and evaluation (taking into account the nature and effect of the preferred policy options) would be in five years after the revised Directive has come into force.

Table 8.6: Summary of Impacts of the Policy Options Assessed				
Problem Area	**Do Nothing Option**	**Self-regulatory Option**	**Co-regulatory Option**	**Regulatory Option**
Problem Area A: traceability of products and responsibilities of economic operators	***Option A1 – NEUTRAL (0)*** • **Effectiveness**: no change from current situation - does not clarify the responsibilities of economic operators nor address issues relating to traceability and proper enforcement of Directive • **Efficiency**: no change from current situation - current level of NCDs and/or UADs **(€375 m - €4.5 bn)** likely to continue into the future and responsible economic operators will continue to be disadvantaged in competing with less scrupulous economic operators • **Coherence**: does not increase coherence of WVTA Directive with NLF. Also, risk of MS taking additional measures at the national level to counter NCDs and UADs and thus risk of increased regulatory fragmentation • **Cost-Benefit Comparison**: costs incurred by stakeholders (consumers, manufacturers) due to NCDs and UADs on the market will continue into the future	***Option A2 – NEUTRAL (0)*** • **Effectiveness**: Neutral (0); provides **clarity** regarding the responsibilities of economic operators; however, VA and/or awareness campaign are unlikely to impact on less scrupulous economic operators. Coverage and enforcement of industry-wide VA is also uncertain • **Efficiency**: Neutral (0); while cost of setting up a VA may be low; it is unclear that any costs incurred would be justified by the results in terms of actual reductions in NCDs and UADs – or in terms of impacts on less scrupulous operators deliberately ignoring the rules • **Coherence**: Satisfactory (+);consistent with the NLF, assuming that the responsibilities of economic operators are based on the NLF • **Cost-Benefit Comparison**: Unsatisfactory (-); the outcome and benefits are highly uncertain and, as such, any costs incurred (even if relatively low) are likely to exceed the benefits		***Option A3 – SATISFACTORY (+)*** • **Effectiveness**: Highly Satisfactory (++); increased **legal clarity** for economic operators regarding their responsibilities. Clear rules on traceability which will be implemented and enforced universally are likely to assist enforcement authorities • **Efficiency**: Satisfactory (+); level of NCDs and/or UADs likely to reduce by up to **€281 million and €3.4 billion** respectively. Responsible operators will also be less disadvantaged in competing with less scrupulous economic operators (although if RFID is implemented, there is a possibility of disproportionate impacts on certain parts or sectors) • **Coherence**: Satisfactory (+); consistent with the NLF and reinforces the WVTA Directive • **Cost-Benefit Comparison**: Neutral (0); future benefits to all stakeholders are likely to balance out costs incurred by all stakeholders

Table 8.6: Summary of Impacts of the Policy Options Assessed				
Problem Area	**Do Nothing Option**	**Self-regulatory Option**	**Co-regulatory Option**	**Regulatory Option**
Problem Area B: Lack of clarity in responsibilities and cooperation of enforcement authorities	***Option B 1 – NEUTRAL (0)*** • **Effectiveness**: no change from current situation - does not clarify the responsibilities of enforcement authorities nor address issues relating to information exchange and co-operation between them • **Efficiency**: no change from current situation - current level of NCDs and/or UADs **(€125 m - €6 bn)** likely to continue into the future • **Coherence**: does not increase coherence of WVTA Directive with NLF. Also, inconsistent level of market surveillance across MS will continue • **Cost-Benefit Comparison**: costs incurred by stakeholders (consumers, manufacturers) due to NCDs and UADs on the market will continue into the future	***Option B2 - SATISFACTORY (+)*** • **Effectiveness**: Satisfactory (+); provides **clarity** regarding the responsibilities of enforcement authorities; however, the extent to which actual actions taken go beyond the current situation is doubtful • **Efficiency**: Satisfactory (+); likely to result in a reduction in NCDs and UADs on the market • **Coherence**: Satisfactory (+); consistent with NLF and information exchange to be underpinned by NLF and existing structures • **Cost-Benefit Comparison**: Neutral/Satisfactory (0/+) ; costs to authorities likely to be balanced by benefits to economic operators and authorities (e.g. from increased communication)	***Option B3 – SATISFACTORY/ HIGHLY SATISFACTORY (+/++)*** • **Effectiveness**: Satisfactory (+); training would improve enforcement capabilities, while guidelines provide more clarity; however, effectiveness as a stand-alone measure is far less than when combined with B2 or B4 • **Efficiency**: Highly Satisfactory (++); assuming overlaps with B2/B4, level of NCDs and/or UADs is likely to reduce by up to **€94 million and €6.8 billion** respectively • **Coherence**: Satisfactory (+); consistent with the NLF and reinforces the WVTA Directive • **Cost-Benefit Comparison**: Highly Satisfactory (+); benefits to stakeholders likely to significantly costs of training and developing guidance • ***Preferred by national authorities for information exchange and co-operation***	***Option B4 - SATISFACTORY/ HIGHLY SATISFACTORY (+/++)*** • **Effectiveness**: Highly Satisfactory (++); increased **legal clarity** for enforcement bodies regarding their responsibilities. Clear rules on information exchange and co-operation likely to assist enforcement authorities • **Efficiency**: Satisfactory (+); level of NCDs and/or UADs likely to reduce by up to **€63 million and €3 billion** respectively • **Coherence**: Highly Satisfactory (++); consistent with the NLF and reinforces the WVTA Directive. Also, ensures consistency in regulatory requirements for authorities overlooking other products covered by NLF • **Cost-Benefit Comparison**: Satisfactory (+); costs incurred by authorities likely to be exceeded by benefits to other stakeholders in terms of safety • ***Preferred by National Authorities for addressing their roles and responsibilities***

Table 8.6: Summary of Impacts of the Policy Options Assessed				
Problem Area	**Do Nothing Option**	**Self-regulatory Option**	**Co-regulatory Option**	**Regulatory Option**
Problem Area C: weaknesses in the quality of type approval and Conformity of Production tasks carried out by Technical Services	***Option C1 – Do Nothing*** • **Effectiveness**: no change from current situation - does not address disparities in the level of quality and performance of TS • **Efficiency**: no change from current situation - current level of NCDs and/or UADs **(€250 m - €7.5 bn)** likely to continue into the future and responsible TS will continue to be disadvantaged in competing with less stringent TS • **Coherence**: does not increase coherence of WVTA Directive with NLF. Also, TS with other products in their portfolio would not benefit from consistent regulatory requirements set out under the NLF • **Cost-Benefit Comparison**: costs incurred by stakeholders (consumers, manufacturers) due to NCDs and UADs on the market will continue into the future	***Option C2 – UNSATISFACTORY (-)*** • **Effectiveness**: Unsatisfactory (-); effectiveness of a VA in encouraging TS to behave appropriately, especially where financial pressures are involved is doubtful • **Efficiency**: Unsatisfactory (-); difficult to agree and enforce a VA across numerous TS and need for enforcement body raises a number of legal, commercial and organisational issues and increases costs • **Coherence**: Neutral (-); • **Cost-Benefit Comparison**: Unsatisfactory (-); the outcome and benefits are highly uncertain and, as such, any costs incurred (even if relatively low) are likely to exceed the benefits		***Option C3 – HIGHLY SATISFACTORY (++)*** • **Effectiveness**: Highly Satisfactory (++); increased **legal clarity** for technical services regarding the requirements they have to comply with. • **Efficiency**: Satisfactory (+); level of NCDs and/or UADs likely to reduce by up to **€125 million and €5.6 billion** respectively. For TS undertaking certification and other functions, some costs may be incurred in order to ensure personnel, legal or physical separation • **Coherence**: Highly Satisfactory (++); consistent with the NLF and reinforces the WVTA Directive. Also, ensures consistency in regulatory requirements for TS with other products in portfolio which have to comply with NLF • **Cost-Benefit Comparison**: Highly Satisfactory (++);costs incurred by TS are likely to be greatly exceeded by benefits to other stakeholders in terms of safety

Table 8.6: Summary of Impacts of the Policy Options Assessed				
Problem Area	**Do Nothing Option**	**Self-regulatory Option**	**Co-regulatory Option**	**Regulatory Option**
Problem Area D: post-safeguard measures and recalls	***Option D1 – NEUTRAL (0)*** • **Effectiveness**: no change from current situation – there is some uncertainty over the significance of this problem area and Options B2, B3 and B4 already address one of the key issues relating to the responsibilities of authorities involved in post-market safeguard measures and recalls • **Efficiency**: no change from current situation and no direct impact on level of NCDs and/or UADs on market • **Coherence**: no change from current situation and does not increase coherence of WVTA Directive with NLF • **Cost-Benefit Comparison**: no change from current situation	***Option D2 - UNSATISFACTORY (-)*** • **Effectiveness**: Unsatisfactory (-); as VA cannot supersede legislation which specifies post-market safeguard measures		***Option D3 - UNSATISFACTORY (-)*** • **Effectiveness**: Unsatisfactory (-) as no change from current practice under Scenario 1, while under Scenario 2, overall process would be less inefficient • **Efficiency**: Unsatisfactory (-); no impact on level of NCDs and/or UADs; however, economic operators and authorities would incur additional costs from challenging en being challenged on national procedures • **Coherence**: Neutral (0); in line with NLF, however, not consistent with aim for better information exchange between national authorities • **Cost-Benefit Comparison**: Unsatisfactory (-); costs e.g. to consumers and economic operators are likely to exceed any benefits

Table 8.6: Summary of Impacts of the Policy Options Assessed				
Problem Area	**Do Nothing Option**	**Self-regulatory Option**	**Co-regulatory Option**	**Regulatory Option**
Problem Area E: weak links in procedures for ensuring conformity of production	***Option E1 – NEUTRAL (0)*** • **Effectiveness**: no change from current situation • **Efficiency**: no change from current situation - current level of NCDs and/or UADs **(€500 m - €6.8 bn)** likely to continue into the future • **Coherence**: no change from current situation and does not increase coherence of WVTA Directive with NLF • **Cost-Benefit Comparison**: costs incurred by stakeholders (consumers, manufacturers) due to NCDs and UADs on the market will continue into the future	***Option E2 - UNSATISFACTORY (-)*** • Difficult to agree and enforce a VA across numerous economic operators and TS and need for enforcement body raises a number of legal, commercial and organisational issues and increases costs • Also, Options A2, A3, B2, B3 and B4 already address the key responsibilities of economic operators, enforcement authorities and technical services		***Option E3 – NEUTRAL/ SATISFACTORY (0/+)*** • **Effectiveness**: Neutral (0); no significant change from current approach • **Efficiency**: Neutral (0); formalises current best practice but may imply some costs for a few companies • **Coherence**: Satisfactory (+); improves consistency and coherence of WVTA Directive with NLF • **Cost-Benefit Comparison**: Neutral (0); future benefits to all stakeholders are likely to balance out costs incurred by economic operators
Grading: Highly Satisfactory (++), Satisfactory (+), Neutral (0), Unsatisfactory (-), Highly Unsatisfactory (--)				

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