



VERA2
Video Enforcement for Road Authorities



European Commission DGTREN – Competitive and Sustainable Growth Programme

Final Report



September 2004

Document Control

Project Number: GMA1-2002-72815	Deliverable Number: FR
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Deliverable Type:	REPORT	Delivery Date:	09/04
Title of Deliverable:	Final Report		
Contributing Workpackage:	All		
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Abstract:

VERA2 has addressed the practicalities of cross-border enforcement in Europe. It has examined the legal basis for cross-border enforcement aligning much of its work with the Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties. This has resulted in draft text for a future Directive on Cross-Border Enforcement which, if enacted, will provide a basis for resolving many of the legal, organisational and technical issues. In support of this draft Directive, VERA2 has developed the concept of a cross border data exchange network for enforcement. The concept, known as *eNFORCE*, comprises a 'network' of agencies and organisations competent in carrying out the responsibilities associated with cross-border enforcement and a data exchange service. The project has also examined opportunities to harmonise aspects of enforcement equipment type approval across Europe. This has resulted in a draft Annex to the Measuring Instruments Directive specifically addressing the common aspects of enforcement equipment type approval.

This Deliverable is the VERA2 Final Report. It describes the work VERA2 has undertaken and provides an overview of the project's results. It also provides some ideas on how the VERA2 results could be implemented and identifies some next steps.

Keywords: Cross-border enforcement, *eNFORCE* Network, Directive on Cross-Border Enforcement, enforcement data dictionary, enforcement data exchange, type approval

Peer Review Summary

Issue	Date	Distribution	Comments
1	02/07/04	VERA2 Participants	First draft outline for review
2	31/07/04	VERA2 Participants	First complete draft for review
3	16/09/04	VERA2 Participants	Second version for review
4	27/09/04	European Commission	Final version for submission

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EXECUTIVE SUMMARY

The current situation

In 2000, there were over 40,000 people killed and 1.7 million people injured on roads in Europe¹. Improving compliance with road traffic laws is seen as one approach to help reduce the number of casualties.

When education and engineering do not have the desired impact on compliance, enforcement is the ultimate sanction. The deterrent effect of penalties imposed through the enforcement process aims to change driver behaviour and ultimately, achieve a greater degree of compliance.

Role of cross-border enforcement

As international cross-border traffic continues to grow, enforcement agencies have to deal with an increasing number of road traffic violations committed by drivers of vehicles registered in other countries. In its first four months of operation, approximately 25% of the violations recorded by the French national speed enforcement system (which started in 2003) were committed by vehicles registered outside France. Ensuring that these drivers are successfully prosecuted is a very real issue for Member States and for the European Union.

Cross-border enforcement aims to ensure that enforcement of road traffic laws and the penalties for violating them are applied equally to everyone using the roads regardless of where they live, work or are recognised to have citizenship.

There is a wide variation in the way that “cross-border” violations are dealt with by European Member States. A small number of Member States have established bilateral agreements, which allow them to cooperate in enforcing violations.

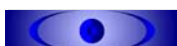
However, this is not typical. The majority of Member States have no formal, defined way to deal with violations carried out by non-resident violators. The inevitable consequence is that in these cases, these violations are largely ignored!

VERA

The European Commission Fourth Framework Project TR4027 VERA (Video Enforcement for Road Authorities) examined opportunities to harmonise enforcement across the EU. Through the active involvement of its twenty-eight participants and through extensive liaison with other key actors in the enforcement sector, the project defined what have become known as the ‘VERA Principle for Cross-Border Enforcement’.

This Principle states that:

¹ White Paper – European Transport Policy for 2010: Time to Decide, Part 3, European Commission, September 2001



In order to invoke the enforcement of penalty for a violation across Member States' borders, all legal processes (including appeals) have to be concluded in the Member State where the violation took place. If, once these processes are complete, the penalty incurred cannot be enacted on the vehicle owner/driver responsible, the power to enforce the penalty can be delegated to the Member State where the vehicle owner/driver is resident.

VERA2

Building on the results of VERA, VERA2 has addressed the practicalities of cross-border enforcement in Europe. It has examined the legal basis for cross-border enforcement aligning much of its work with the Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties². This has resulted in draft text for a future Directive on Cross-Border Enforcement which if enacted, would provide a basis for resolving many of the legal, organisational and technical issues.

In support of this draft Directive, VERA2 has developed the concept of a cross border data exchange network for enforcement originally proposed in the first VERA project. *eNFORCE*, as the concept has been renamed, comprises:

- a 'network' of authorities and organisations in participating Member Countries who are competent to carry out the responsibilities associated with cross-border enforcement
- a data exchange service allowing members of this network to exchange data relevant to the enforcement process

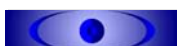
VERA2 has developed organisational models for the *eNFORCE* Network and has developed an enforcement data dictionary and a demonstration data exchange service to highlight what the concept could provide. VERA2 has also defined an implementation path for *eNFORCE* and the draft Directive.

VERA2 has also examined cross-border aspects of enforcement equipment type approval. It examined the potential to harmonise technical aspects of type approval on the basis of the VERA Principle of Cross-Border Enforcement (where possible) on the basis of the Measuring Instruments Directive (MID) as a common European legal framework and existing European and international standards. The project has prepared its recommendations in the form of a draft Annex to the Measuring Instruments Directive known as Annex MI-DiMES (Digital Image Enforcement Systems).

Finally, VERA2 has identified further key issues of importance fundamental to establishing effective, efficient and above all, fair cross-border enforcement across Europe. These are:

- Improving the identification of vehicle nationality from the vehicle registration plate
- Improving access to Owner/Driver Information
- Cross-border enforcement of non-financial penalties.

² Draft Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties, Document No. 16321/03, The Council of the European Union, 19 December 2003



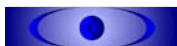
The way ahead?

The European Commission have recognised the importance of cross-border enforcement in its Recommendation on Enforcement. VERA2 has identified:

- what is stopping cross-border enforcement from happening
- key operational and technical issues which need to be resolved
- the differences between Member States approach to cross-border enforcement
- a strategic, Directive-driven approach to ensuring that all Member States participate and cooperate in cross-border enforcement
- a potential solution to cross-border enforcement and to EU type approval.

This recognises that Member States need to do more to improve their approach to enforcement and to embrace best practices and new technologies. Even for Member States considered to be at the forefront of enforcement policy and operations, there is still considerable scope for continuous improvement.

Work needs to be done to develop a practical framework within which operational staff can utilise best practice, technology, intelligence-led policing, human factors, and problem solving to better deliver cross-border enforcement and ultimately, meet the requirements of the Commission's Recommendation on Enforcement.



1 INTRODUCTION

1.1 Improving road safety in Europe

In 2000, there were around 41,000 deaths and 1.7 million people injured on roads in Europe. The European Commission is committed to reducing this number of deaths - its White Paper on European Transport Policy³, set the goal of halving the number of road accident victims across the European Union by 2010.

In the same document, The Commission also laid the foundations for a targeted action programme containing measures to be implemented by help achieve this casualty reduction goal. The resulting Road Safety Action Plan⁴ highlighted improvements in driver behaviour through greater compliance with the existing legislation as one of its main themes. When strategies to improve compliance, such as driver education or re-engineering of the road infrastructure, do not have a significant enough impact on driver behaviour, the fair and efficient enforcement of road traffic laws becomes necessary.



Evidence of the Commission's commitment to using enforcement as a final means to improve driver behaviour and therefore reduce casualty statistics came in 2003 when, as part of its Recommendation on Enforcement⁵, it aimed to reduce:

“...the number of deaths and injuries on the roads in the European Union, through the implementation of national enforcement plans of the Member States which contain measures of best practice in enforcement and information of the public in the field of speeding, drink-driving and non-use of seat belts.”

1.2 Fair and equal treatment for all

For enforcement to work, it has to be an effective deterrent for **all** drivers. Road traffic laws must apply to everyone using the roads no matter where they live, work or are recognised to have citizenship. The enforcement of these laws and the penalties for violating them must also be applied equally to everyone using the roads.

This fundamental principle of fair and equal treatment is enshrined in Article 1 of the Treaty on European Union which states that:

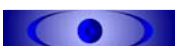
“Its (the Union's) task shall be to organise, in a manner demonstrating consistency and solidarity, relations between the Member States and between their peoples”⁶

³ “Time to Decide” – The European Commission's White Paper on European Transport Policy for 2010, 12 September 2001

⁴ European Commission Road Safety Action Plan, 2 June 2003

⁵ European Commission's Recommendation on Enforcement in the Field of Road Safety, Commission Document 2004/345/EC, 21 October 2003

⁶ Treaty on European Union, Article 1: Common Provisions – Official Journal C 340, 10.11.1997, pp. 145-172



The reality of enforcement in the majority of European Union States is, however, rather different. National enforcement regimes typically deal very effectively with drivers whose vehicles are registered in the State where they commit a violation. However, authorities in the majority of Member States find it difficult to enforce drivers of vehicles registered in other States who commit violations within their jurisdictions for a number of reasons as follows:

- There is no consistent legal basis and consistent approach to cross-border enforcement across the EU. In cases where agreements between Member States addressing cross-border enforcement have been drawn up, many have yet to be implemented whereas those that have, have often been found to be operationally impractical
- Identifying, locating and notifying a driver who resides in another State or whose vehicle is registered in another State is at best difficult and in many cases, impossible across the EU-25
- The level and application of penalties also differs significantly from one State to another
- A lack of harmonization between Member States means that the evidence of a violation captured by enforcement systems certified in one State may not be accepted by courts in another State, as the equipment will not be certified there.

This situation, where the decision to prosecute drivers committing the same violation on the same road is often made on the basis of the Member State in which their vehicle is registered, is in complete contradiction to the fundamentals of fairness and equal treatment expressed in Article 1 of the Treaty.

As well as being unequal and unfair, this situation causes authorities in Member States real problems. For example, during the first six months of operation, the 100 cameras deployed as part of the initial phase of the French automated speed enforcement programme recorded 500,000 certified violations; 140,000 of these were committed in vehicles not registered in France⁷. As things stand at the moment, few of these 140,000 violators will ever be prosecuted.



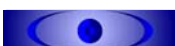
1.3 A vision for cross-border enforcement

The vision

A vision for enforcement of road traffic laws by public authorities in Europe by 2010 could comprise:

- Every Member State having a coherent enforcement strategy that recognises the needs of both national and trans-national road users within its national boundaries, within the European Union and beyond.

⁷ Impact of automated speed enforcement programme in France, Annie Canel, VERA2 WP3/4/6 Workshop, Lille, 20-21 April 2004



- Each national enforcement strategy being consistent and complimentary with those of neighbouring States ensuring that from the travellers' perspective, enforcement is carried out seamlessly across borders.
- Enforcement authorities committed to enforcing road traffic laws for the sole purpose of casualty reduction.
- All equipment used to enforce road traffic laws being type approved by recognised bodies and being subject to regular inspection and re-calibration where necessary.
- National enforcement processes structured such that all elements of the enforcement chain are carried out in a fair, ethical, cost-and resource-effective manner.
- When offences are committed, all drivers being treated in a fair and equitable manner regardless of where the offence takes place, regardless of where the vehicle is registered and regardless of which Member State the driver/owner legally resides in.
- Where offences are committed by drivers in vehicles registered in another State, enforcement authorities in Member States cooperating to ensure that all elements of the enforcement chain are also carried out in a cost-and resource-effective manner and that both national and relevant EU legislation are respected.
- Member States sharing knowledge and best practice with a view to the mutual improvement of all aspects of road traffic law enforcement.

Such a vision, if realised, would provide a platform from which the Commission's safety goals could be achieved and which would ensure that all drivers are treated in a fair and equal manner.

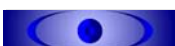
1.4 VERA

The European Commission Fourth Framework Project TR4027 VERA (Video Enforcement for Road Authorities) was established in 1998 to examine opportunities to harmonise enforcement across the EU. Through the active involvement of its twenty-eight participants and through extensive liaison with other key actors in the enforcement sector, the project defined what have become known as the 'VERA Principle for Cross-Border Enforcement'. This Principle states that:

In order to invoke the enforcement of penalty for a violation across Member States' borders, all legal processes (including appeals) have to be concluded in the Member State where the violation took place. If, once these processes are complete, the penalty incurred cannot be enacted on the vehicle owner/driver responsible, the power to enforce the penalty can be delegated to the Member State where the vehicle owner/driver is resident.

VERA concluded that realising this premise would not be straightforward; it would require consensus-building and harmonisation in a number of areas including:

- Short-term actions to agree how these fundamental principles should be implemented and operated, to ensure confidence that a record of a violation is a true reflection of



what actually took place and that it contains all relevant data describing that violation, and to establish an organisational framework within which the emerging procedures for cross-border enforcement can be applied, monitored and maintained as necessary

- In the medium- and longer-term, efforts need to focus on automating access to National Vehicle Registers, establishing a common European vehicle classification system, and harmonising the penalties for specific violations.

1.5 VERA2 – Taking the VERA recommendations forward

VERA provided a solid foundation on which to build but, as stated earlier, it was a start. VERA2 was designed to enable the adoption of the VERA principles by implementing the short-term actions. This emphasis on VERA2 as an enabling project was reflected in its mission statement:

"To provide the necessary tools to enable the establishment of pan-European cross-border enforcement through the implementation of the short-term VERA actions thereby ensuring that the enforcement of road traffic laws can be applied fairly and equitably to **all** European citizens."

The objectives of VERA2 were kept deliberately simple and are designed to address the short-term actions that the project is designed to implement. The objectives were:

- 1 To reach a common agreement on what data is required to fully define a violation and to develop and test a common format for exchanging this data between Member States
- 2 To establish the basis of an operational framework within which cross-border enforcement can be implemented, monitored and maintained
- 3 To develop a common basis for the type approval of enforcement equipment throughout Europe
- 4 To draft and agree a Memorandum of Understanding (MoU) defining how cross border enforcement should be conducted within the context of the organisational framework

In response to these objectives, VERA2 developed the tools necessary to establish pan-European cross-border enforcement in line with the VERA Principle. The tools developed were:

- text for a **draft Directive on cross-border enforcement in Europe**
- a framework within which cross-border enforcement can take place in an effective and efficient manner. Known as **eNFORCE**, this framework will comprise a Network of agencies and organisations with a commitment of cross-border enforcement and an Electronic Data Exchange Service (EDES). In their basic incarnation, these tools will:
 - support an agency trying to establish the identity and location of a violator



- present a violator with details of the violation they have committed, the alternative courses of action open to them in response the violation and the consequences of their subsequent action or inaction in a manner they can understand
- where a violator avoids the penalty, it will provide the means to electronically ‘delegate’ the power to enforce the penalty to an agency in the country where the violator lives, works or is a citizen.
- recommendations on the harmonisation of different aspects of enforcement equipment **type approval** across Europe using the Measurement Instrument Directive.

1.6 Purpose and structure of this report

This report summarises the conclusion and recommendations of the VERA2 project. Section 2 of this report describes the VERA2 draft Directive on Cross-Border Enforcement. Section 3 describes the organisational and technical aspects of the *eNFORCE* concept and Section 4 outlines options for its implementation. Section 5 addresses European type approval of cross-border enforcement equipment and process and Section 6 outlines some areas where improvements to enforcement operations could be made. Finally, Section 7 summarises the main conclusions of VERA2.



2 VERA2 DRAFT DIRECTIVE ON CROSS-BORDER ENFORCEMENT

2.1 The principle of cross-border enforcement in Europe

Perhaps the most important short-term recommendation made by the VERA project was to agree the fundamental principles of cross-border enforcement and build consensus as to how they should be implemented and operated.

As discussed in Section 1.4, the VERA Principle of cross-border enforcement was established during the first VERA project. Since 1998 when VERA finished its work, the basic premise of this Principle has been independently supported by other agreements developed by European Union bodies.

Schengen draft Treaty on cross-border enforcement

In 1999, the Schengen Community prepared a draft Treaty addressing cross-border enforcement. This draft Treaty provided a blueprint for facilitating cross-border enforcement. It adopted the same approach as that recommended by VERA insofar as recognising that the only step in the enforcement chain that can be delegated to a second country (the 'foreign' violator's country of residence) is that of enforcing the payment. However, this draft Treaty was not ratified due to privacy concerns.

Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties

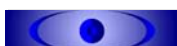
Also, in 1999, The European Council endorsed the concept of mutual recognition which was intended to become the cornerstone of judicial cooperation in both civil and criminal matters within the Union. In 2000, The Council adopted a programme of measures designed to implement this concept across Europe.

As part of this programme, the European Commission Directorate General of Justice and Internal Affairs (DGJAI) developed a Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties⁸ (commonly referred to as COPEN 24⁹); which relates to the addressing the mutual recognition of financial penalties across Member States borders. This addresses a broad range of offences including "conduct which infringes road traffic regulations".

COPEN 24 is based on the same premise as the VERA Principle. It has been a significant development in the context of implementing the Principle as it gives a legal basis for the cross-border enforcement. COPEN 24 also introduced terminology that has been adopted (and expanded) by VERA2. The Member State where an offence takes place and, in accordance

⁸ Draft Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties, Document No. 16321/03, The Council of the European Union, 19 December 2003

⁹ Superseded by COPEN 24 on 2 April 2004 on which the VERA2 recommendations are based



with the VERA Principle, where that offence is therefore subject to legal proceedings is called the Issuing State. The Member State where the offender resides, has citizenship or is employed is called the Executing State.

Given the direct and indirect support for the VERA Principle of cross-border enforcement since 1998, the first recommendation made by VERA2 is therefore:

VERA2 Recommendation 1

Cross-border enforcement should be established on the basis of the VERA Principle(s) and Article 1 of the European Treaty.

The Principle is illustrated diagrammatically in Figure 1.

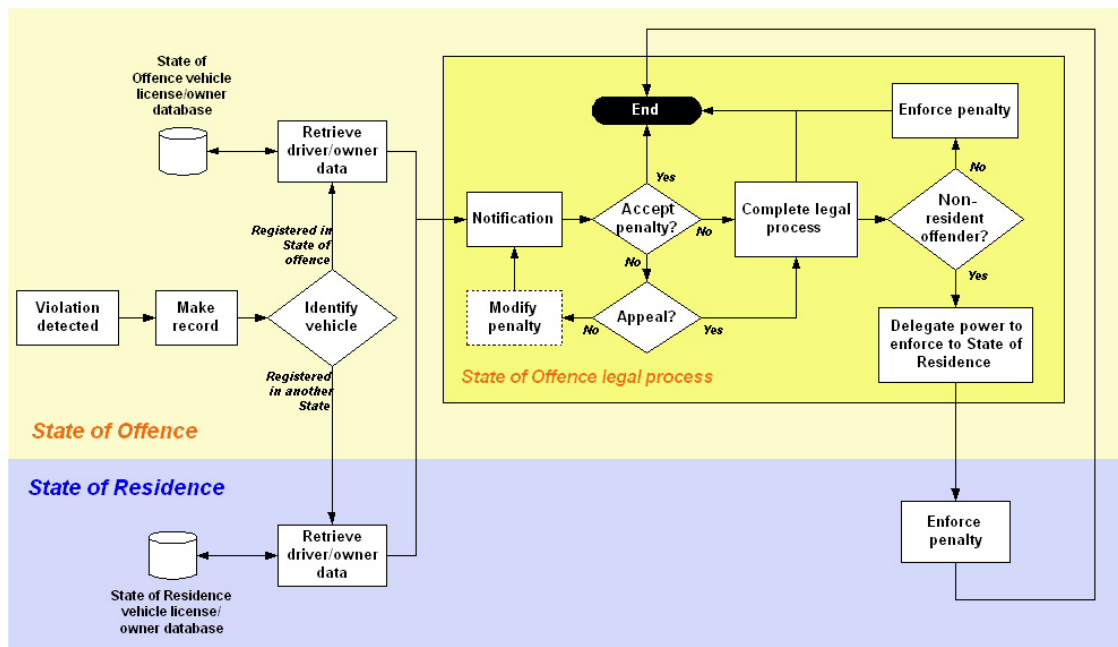
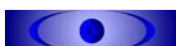


Figure 1 Overview of the VERA Principle of cross-border enforcement

2.2 The need for an agreement

Having established the basis for cross-border enforcement, some form of agreement is required to:

- clearly define which parts of the enforcement chain can be conducted by the Member State in which a violation takes place
- which parts need to be delegated to the Member State where the vehicle is registered
- the responsibilities of the authorities in each Member State as part of this process
- how different agencies responsible for enforcement within each Member State will interact with others at a European level.



Regardless of what form any such agreement would take, it needs to be agreed and implemented by all Member States.

2.3 Rationale for a Directive

The form of agreement originally conceived as being the most suitable for cross-border enforcement was a Memorandum of Understanding (MoU). However, during the course of the project, and with the guidance of the European Commission, it was decided that a Directive would be more suitable for the following reasons:

- A Directive could potentially be drafted, agreed and implemented more efficiently and quickly than a MoU
- It would not be possible for the VERA 2 consortium to commit their national governments to sign a MoU. Therefore, a more practical approach would be for the European Commission to endorse the results of VERA 2 and take them to Member States in the form of a Directive
- The need for a Directive on cross-border enforcement had been included in the European Commission workprogramme during the course of VERA2.

It was concluded that a Directive under the First Pillar of EU legislation would be most suitable. The First Pillar focuses on The Community dimension and comprises arrangements relating to Union citizenship, Community policies and economic and monetary union for example.

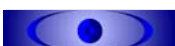
Cross-border enforcement of road traffic laws was considered to fall within this Pillar as it deals entirely with European transport policy. A Directive under this Pillar also has the advantage that it can be agreed by the qualified majority voting procedure rather than requiring an outright majority.

VERA2 Recommendation 2

To ensure that all citizens can be treated in a fair and equal manner, all Member States should conduct cross-border enforcement in accordance with the VERA Principle(s) and Article 1 of the European Treaty (VERA2 Recommendation 1). This can best be achieved through a Directive on cross-border enforcement prepared under the First Pillar of the European Union (Justice and Home Affairs). Non-Member States should be encouraged to participate.

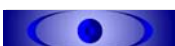
The draft Directive is described in detail in VERA2 Deliverable D6-1¹⁰. A summary of the key points of each of the articles in the draft Directive are presented below.

¹⁰ Draft text for a EU Framework Directive on Cross Border Enforcement, VERA2 Deliverable 6-1, July 2004



Article No.	Key points
Section I – Scope and definitions	
1	<p>The Directive applies to the following offences committed by non-residents:</p> <ul style="list-style-type: none"> • offences committed under national road traffic law • offences arising from the non-payment of fees, tolls or taxes charged for the use of a road, tunnel, bridge or crossing. <p>in accordance with the legislation of the State where the offence has been committed (referred to as the “State of Offence”).</p>
2	<p>The Directive also addresses “administrative decisions” made by administrative authorities legally allowed to impose penalties for certain types of offence in a number of Member States.</p>
3	<p>Legal documents in the State of Offence shall have the same legal status in the State where the offender resides, works or is a citizen (referred to as the “State of Residence”).</p>
Section II – General provisions	
4	<p>The Directive applies to both natural and legal persons.</p> <p>The State of Offence shall prosecute any non-resident offender who commits one of the offences listed in Article 1 within their territory as though they were a resident.</p> <p>The State of Offence shall notify the non-resident offender of the proceedings against them in their own language at their address in the State of Residence. The notification must include information on:</p> <ul style="list-style-type: none"> • how to present their defence in person • how to appeal against proceedings • ways to make payment of any penalty due. <p>Once a judgment or administrative decision becomes final and enforceable in the State of Offence, that State shall act according to the EU Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties¹¹ (known as the Framework Decision) to have the financial penalty enforced by the State of Residence.</p> <p>The State of Residence shall make its best endeavours to enforce the penalty on the non-resident offender.</p>
5	<p>The natural or legal person identified as the registered keeper or owner of the vehicle shall be regarded as the offender. This will not apply if, by law of the State of Offence, the registered owner or keeper is:</p> <ul style="list-style-type: none"> • entitled to identify another natural or legal person as the offender • able to provide proof that the vehicle, registered in his or her name, has been sold, stolen or transferred.
6	<p>The State of Residence may refuse to enforce a penalty if:</p> <ul style="list-style-type: none"> • the statutory time limit for the legal process has expired in the State of Offence • it deems it likely that enforcing that penalty would violate the fundamentals of its legal system or would be incompatible with the principles governing the application of its own law • it decides that any of the reasons for non-recognition and non-execution specified in Article 4 of the Framework Decision are applicable. <p>Any decision not to enforce a penalty together with reasons for refusal shall be reported to the State of Offence.</p>

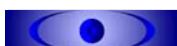
¹¹ Council Framework Decision on the application of the principle of mutual recognition to financial penalties, COPEN 24



Article No.	Key points
7	<p>Every State shall give their full assistance to any State of Offence that, for enforcement purposes, makes a request for:</p> <ul style="list-style-type: none"> • The data of a vehicle that has been identified in relation to a violation in the State of Offence but is not registered in that State • The name and address of the registered owner or keeper of a vehicle that has been identified in relation to a violation in the State of Offence • The name and address of an offender, who resides, is a citizen or has income or property outside the State of Offence • The details of the driver's license of the offender.
Section III – EU approved communication and information exchange facility	
8	<p>Agencies in the State of Offence and State of Residence shall use a EU-approved, efficient communication and information exchange facility to exchange all data relating to the enforcement of non-resident offenders.</p> <p>All agencies shall maintain an auditable record of all communications and actions taken in response to this Directive or the Framework Decision.</p>
9	<p>The communication and information exchange facility should be used by different agencies for data exchange at various points in the enforcement chain. It may also be used by operators of tolled facilities in respect of enforcing offences relating to the non-payment of fees, tolls or taxes charged for the use of a road, tunnel, bridge or crossing by non-residents.</p>
10	<p>In accordance with the Framework Decision, the State of Offence can include its costs part of the penalty to be paid.</p> <p>Any State shall retain any monies paid to it by an offender unless agreed otherwise.</p> <p>In the specific case of offences relating to the non-payment of fees, tolls or taxes, the value of the original fee that should have been paid will be returned to the operator of the tolled facility unless agreed otherwise.</p>
Section IV – The Cross-Border Enforcement Committee	
11	<p>The Commission shall establish a Cross-Border Enforcement Committee to assist it in addressing technical, operational and organisational issues relating to the implementation of this Directive.</p>
Section V – Final provisions	
12	<p>Member States will be required to introduce laws, regulations and administrative provisions necessary to comply with this Directive within two years after this Directive has entered into force.</p>
13	<p>Non-member States can choose to accede to this Directive once it has entered into force.</p>
14	<p>A State can adopt new rules with regard to the implementation of this Directive by submitting a declaration to the European Commission.</p>
15	<p>A State can extend the application of this Directive to any territories for whose international relations it is responsible by submitting a declaration to the European Commission.</p>
16	<p>The European Commission shall notify the Member States and any State that has acceded to this Directive, of:</p> <ul style="list-style-type: none"> • the date of entry into force of this Directive • receipt of instruments of ratification, acceptance or accession • new signatories to the Directive.
17	<p>This Directive shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.</p>



Article No.	Key points
18	Signatures of the Presidents of the European Parliament and the European Council.



3 THE *eNFORCE* NETWORK

3.1 The concept of an 'enforcement network'

The first VERA project concluded that cross-border enforcement needs to be operated in a coordinated, managed manner. As part of its recommendations, it proposed the establishment of a cross border data exchange network for enforcement.

This recommendation is considered to be of such fundamental importance to the future of cross-border enforcement in Europe that it has formed the basis for much of what has been accomplished in VERA2. The importance of this network and its role in relation to ensuring and facilitating the fair and equal treatment of all citizens has increased during the course of the VERA2 project – the need to establish this network is therefore re-emphasised and strengthened in VERA2 Recommendation 3.

VERA2 Recommendation 3

Implementing and conducting cross-border enforcement in a fair and efficient manner needs to be carefully managed and structured. This can best be facilitated through a formal network of agencies and organisations committed to ensuring that violators of road traffic legislation will be made to pay all penalties due regardless of where the violation was committed or where the violator lives, work or are recognised to have citizenship.

Further rationale behind this Recommendation is provided in VERA2 Deliverable D4-1.¹²

3.2 Developing the concept of the 'network'

The outline concept of a network proposed in the VERA project as the European Enforcement Network has been developed in detail as part of VERA2. Now called *eNFORCE*, it is proposed as a formal network of agencies and organisations responsible for coordinating and managing the 'operation' of cross-border enforcement as well as monitoring its progress and ensure the robustness of the services it supports.



VERA2 Recommendation 4

The VERA2 Consortium has expanded the concept of the formal network for managing and structuring cross-border enforcement. It has developed outline plans for *eNFORCE* - a network of authorities competent to carry out cross-border enforcement supported by an enforcement data exchange service. VERA2 recommends that this is the best way to implement cross-border enforcement across Europe.

The formal role of *eNFORCE* has been encapsulated in the following mission statement:

¹² VERA2 Deliverable D4-1, Organisational Models to Support Cross Border Enforcement, September 2004



The role of *eNFORCE* is to contribute to achieving compliance with road safety and security legislation. It will achieve this by establishing a network of agencies and organisations and data exchange network that can provide the tools to support and enable cross border enforcement, in an efficient and cost effective way.

eNFORCE's aim is to ensure that the deterrent effect of a violation penalty is maximised, by providing tools to support the pursuit and prosecution of violators who do not pay and who would otherwise escape enforcement by nature of their not residing or working in the country where the violation was committed. This is to be achieved in a way that is equitable to residents of that country.

As suggested in the mission statement, the *eNFORCE* concept comprises two key elements:

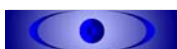
- A **'network' of agencies and organisations** (known as *eNFORCE* Authorities) in participating States who are certified as being competent to:
 - delegate the power to enforce a financial penalty (in the case of an Issuing State)
 - enforce a delegated financial penalty (in the case of an Executing State)

In the case of criminal offences, the *eNFORCE* Authority will typically be a public-sector organisation. In the case of civil offences, the *eNFORCE* Authority may be a public- or private-sector organisation. *eNFORCE* is therefore designed to be used by both public- and private-sector organisations
- A **data exchange service** which *eNFORCE* Authorities use to exchange all data necessary to delegate the power to enforce a financial penalty and to enforce a delegated financial penalty.

3.3 *eNFORCE* Network of authorities and organisations

The philosophy driving the organisation and operation of the Network will be fundamental to ensuring that the aims and objectives as outlined in the mission statement can be delivered. The consortium took the view that its ideas on this philosophy need to be clearly defined to ensure that whoever is responsible for delivering *eNFORCE* in the future fully understands its origins, its raison d'être and the spirit in which it was conceived.

The organisational philosophy behind the *eNFORCE* concept is:



The *eNFORCE* Network of authorities and organisations will operate in a way that is seen to deliver fair and equitable treatment to all citizens in the areas within which it operates. The *eNFORCE* Network will operate to the highest ethical standards and will do so in a way that is both open and accountable to its members, Member States and the citizens of the countries within which it operates. The Network will contribute to achieving compliance with road safety and security legislation in order to maximise the deterrent effect of the violation penalty and will operate on a non-profit basis.

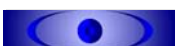
eNFORCE will provide a service to its members that is user focussed and aimed at supporting its members in delivering their aims of safety and security in an efficient and cost effective way.

Summary of key functions

The organisational and operational philosophy behind the *eNFORCE* concept was developed on the basis that 'form follows function' – a clear definition of the functions must be established before a suitable form can be defined. Two levels of functions were defined as follows:

- ***eNFORCE* Core functions** (ie those functions which *eNFORCE* must provide if it is to start delivering on its aims and objectives and exchange of the data prescribed by the Framework Decision Certificate¹³):
 - providing a mechanism of secure violation data exchange between its members
 - Providing a translation facility for violation notices and penalty certificates from the language the violation took place into the language of the violator
 - Providing a facility to electronically exchange the penalty certificate as identified by the Framework Decision on the Mutual Recognition of Financial Penalties and the VERA2 Directive when agreed.
 - Providing the notification of arrival, completion or return of that certificate
 - Dealing with any money that the penalty certificate may attract
 - Collecting statistics as required for the Enforcement Recommendations
 - Providing performance data on the *eNFORCE* Network and its members
- ***eNFORCE PLUS* functions**
 - Providing a linkage to the Registration Databases of its members
 - Providing a linkage to the driver information from Registration Authorities
 - Compiling an intelligence facility to meet the Enforcement Recommendations on repeat offenders
 - Providing the possibility for additional functions as agreed and required by its members.

¹³ Draft Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties, Document No. 16321/03, The Council of the European Union, 19 December 2003



The *eNFORCE* Plus functions represent those functions that, while not essential to providing the Core functionality, provide added-value which will help *eNFORCE* become a more viable and attractive proposition to users and will provide them with a complete cross-border enforcement 'service'.

VERA2 Recommendation 5

To be an effective and viable operational tool, *eNFORCE* needs to provide additional services in addition to the exchange of data required by the Framework Decision on the Mutual Recognition of Financial Penalties. VERA2 recommends that additional functionality be added in the future. This could include:

- other data exchange and statistical requirements of the European Commission's Recommendation on Enforcement
- the recovery of financial penalties in respect of other violations listed in the Framework Decision on the Mutual Recognition of Financial Penalties
- the recovery of administrative charges relating to cross-border enforcement as allowed by the Framework Decision.

This is described in more detail in VERA2 Deliverable D4-1¹⁴.

Organisational Models

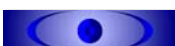
On the basis of these two sets of functions, the following organisational models were considered:

- Public funding by the European Commission or national governments
- A Not-for-Profit/Self-Funding organisation
- A Public Private Partnership arrangement with either shared funding or a leaseback arrangement. The private entity would seek to make a profit
- A completely privately funded system where *eNFORCE* services are provided to law enforcement agencies and/or private companies via a private company at a profit.

Each of these models was reviewed from a management, operational, administrative and users perspective. It was concluded that a not for profit organisation set up to provide a country independent and new approach to cross border enforcement would be the most appropriate model. This funding method would seek to match the investment and operating costs incurred by *eNFORCE* with revenue generated from members of the organisation. Revenue could either be collected in the form of membership fees and/or by receiving a percentage of the revenue generated by increased payment of fines.

Implementing the not for profit model in the form of a Trust was considered to be the most appropriate organisational form. This organisation would have three distinct levels as follows:

¹⁴ VERA2 Deliverable D4-1, Organisational Models to Support Cross Border Enforcement, September 2004



- **eNFORCE Board** – responsible for strategic direction and including representatives of users
- **eNFORCE Operations Group** – responsible for managing eNFORCE operations and carry out day-to-day activities associated with eNFORCE functions. It would report directly to the eNFORCE Board. Any excess monies covenanted to eNFORCE Trust
- **eNFORCE Trust** - a 'charity-like' organisation to hold any excess monies generated by eNFORCE and allocate them to road safety initiatives in the form of grants/awards or for inwards investment and improvement of eNFORCE. The Trust would also hold the Intellectual Property Rights over eNFORCE concept ensuring that the principles of the organisational philosophy are maintained in the future.

Figure 2 shows a potential business model for a 'non-profit-distributing' trust is shown below.

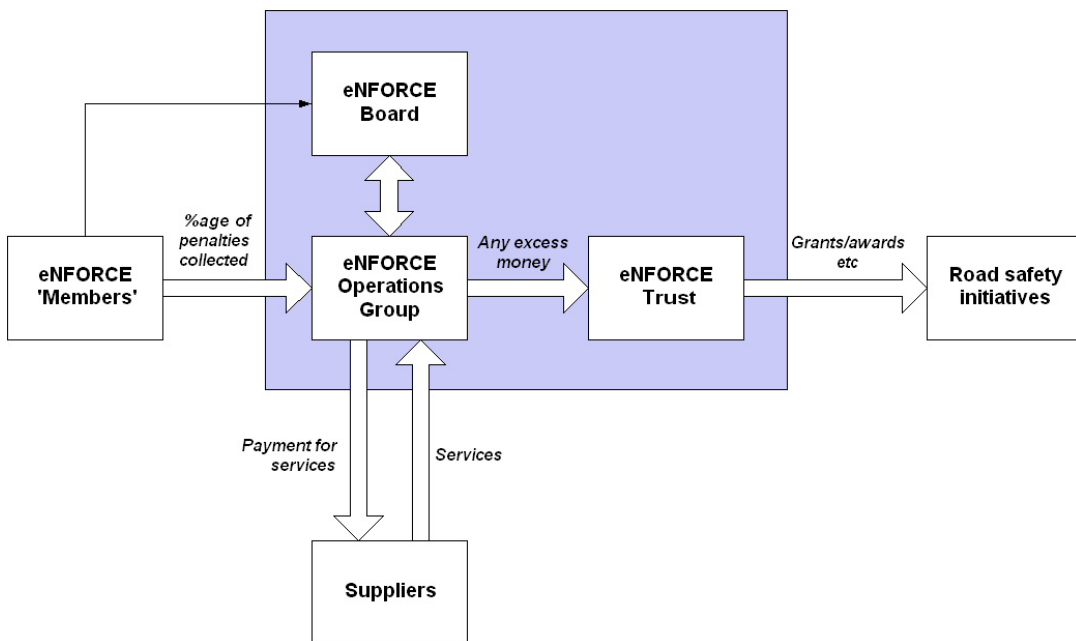


Figure 2 Overview of a potential Not for Profit model for eNFORCE

VERA2 Recommendation 6

eNFORCE should be an independent organisation operating for the benefit of the public and all of its members. It should operate on a non-profit distributing basis.

The options considered and the reasoning for recommending the options described above are provided in VERA2 Deliverable D4-1¹⁵.

¹⁵ VERA2 Deliverable D4-1, Organisational Models to Support Cross Border Enforcement, September 2004



3.4 *eNFORCE* Enforcement Data Exchange Service (EDES)

The exchange of data between *eNFORCE* authorities is fundamental to the process of cross-border enforcement.

VERA2 has developed two specific tools which together, provide a basis for a fully operational *eNFORCE* EDES:

- A **data dictionary** which fully defines all the data elements used in the enforcement of road traffic legislation
- A **demonstration data exchange service** which provides a platform for the compilation and exchange of data necessary for all aspects of the cross-border enforcement process based on the VERA Principle. It also provides a way of explaining the principles of cross-border data exchange using the *eNFORCE* concept.

eNFORCE enforcement data dictionary

The *eNFORCE* enforcement data dictionary has been developed to:

- provide a structured way of presenting data entities and their relationships with each other
- ensure language independency by providing master list of terminology and translations
- reflect the requirements of *eNFORCE* Network as they have been defined in VERA2
- reflect the requirements of the COPEN 24¹⁶ certificate
- be expandable to cover additional offences in future.

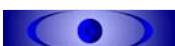
Developing a data dictionary to address all road traffic law offences across Europe is a significant undertaking. Within the financial and time constraints of the project, it was agreed that an undertaking on this scale would not be possible. It was agreed that the *eNFORCE* Data Dictionary would address three of the most common offences (speeding, running a red light and non-payment of road user charges including road tolls). Translation into English, Dutch and Spanish would be provided. This limited Data Dictionary was considered to be achievable within the timescale of the project. It would also provide a framework for future expansion to address additional offences and more languages.

eNFORCE demonstration data exchange service

The *eNFORCE* Demonstrator aimed to show the following aspects of a cross-border enforcement process based on the COPEN 24¹⁷:

¹⁶ Draft Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties, Document No. 16321/03, The Council of the European Union, 19 December 2003

¹⁷ Draft Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties, Document No. 16321/03, The Council of the European Union, 19 December 2003



- how the *eNFORCE* Data Dictionary is the basis for the exchange of enforcement data across national borders
- how an Issuing *eNFORCE* Authority could compile the package of data necessary to delegate the power to enforce a financial penalty to an Executing *eNFORCE* Authority
- how this package of data could be validated and sent to the appropriate Executing *eNFORCE* Authority
- different options for presenting the package of data to an Executing *eNFORCE* Authority.

It is also important to recognise what the *eNFORCE* Demonstrator was not intended to do. Although it was designed to demonstrate some elements that an operational system would have, the Demonstrator itself was not intended to be an operational system or to function as though it were an operational system.

The Demonstrator architecture is outlined in Figure 3.

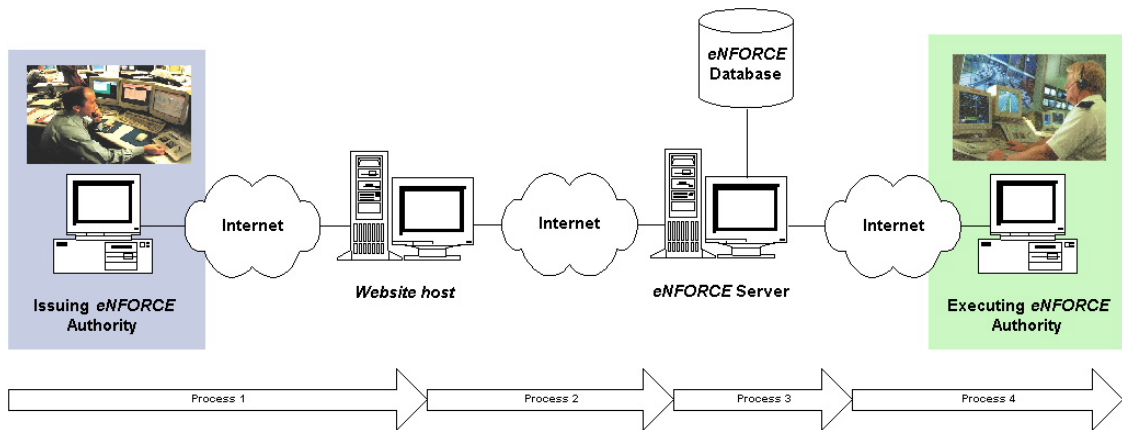


Figure 3 Overview of eNFORCE Demonstrator architecture

The four processes that comprise the exchange of data using the demonstrator are described in Figure 4.

Process	Description
1	Issuing <i>eNFORCE</i> Authority accesses <i>eNFORCE</i> Demonstrator on www.enforce-network.org
2	Issuing <i>eNFORCE</i> Authority compiles all data necessary to delegate the power to enforce a financial penalty (known as a 'record') using server-side web pages. Each page of data is validated as it is completed. Once validated, constituent data is stored on the <i>eNFORCE</i> database.
3	Completed records are sent to the Executing <i>eNFORCE</i> Authority together with an XML template which dictates how the data is presented.

Process	Description
4	Record and XML template received by Executing <i>eNFORCE</i> Authority. Data in record is viewed in Executing <i>eNFORCE</i> Authorities web browser.

Figure 4 *eNFORCE* Demonstrator processes

VERA2 Deliverable D3-1 describes both of these tools in detail. It also describes how they could be used as the basis for the implementation of an operational *eNFORCE* Enforcement Data Exchange Service (EDES). It outlines functional specifications for an operational system in terms of

- General requirements for the EDES
- Architecture requirements
- Security requirements
- Access requirements
- Requirements for creating an *eNFORCE* record
- Requirements for exchanging an *eNFORCE* record
- GUI requirements
- Administration requirements
- Audit trail requirements
- Fallback and disaster recovery requirements.



4 IMPLEMENTING eNFORCE

4.1 Introduction

Implementing eNFORCE will require action in two areas:

- Implementing the eNFORCE Network
- Implementing the EDES

Recommendations from the VERA2 Consortium relating to these two aspects of implementation are presented below. They assume that the concepts recommended by VERA2 will be adopted – if alternative concepts are adopted, it is anticipated that the spirit of the processes described below will still be applicable although details will naturally have to be amended as appropriate.

4.2 Implementing the eNFORCE Network

Early Adopters

The key to establishing cross-border enforcement in accordance with the VERA Principle and the recommendations of the VERA2 project will be to identify and secure the participation of Early Adopters. Early Adopters will be:

Countries who are committed to implementing cross-border enforcement and are keen to champion and facilitate the implementation of the VERA2 recommendations.

Criteria for countries to become an Early Adopter should include:

- An existing national political commitment to implementing cross-border enforcement
- A commitment to a European solution for cross-border enforcement which as a minimum, is applicable across the EU-25
- A willingness to work with other Early Adopters to develop and refine the VERA2 recommendations
- A willingness to take the organisational, technical and operational actions necessary to implement cross-border enforcement.
- A willingness to assign responsibility to an (central) agency already executing automated enforcement, preferably an agency that is likely to be nominated according to COPEN 24¹⁸.

Initial candidates to be Early Adopters who have already declared an interest in cross-border enforcement are France, The Netherlands and Switzerland. It is anticipated that other

¹⁸ Draft Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties, Document No. 16321/03, The Council of the European Union, 19 December 2003



Member States and non-EU countries may well be interested in participating at this stage.

Implementation Forum

Led by Early Adopters but involving other MS Cross-border enforcement will only be implemented across Europe on the basis of a consensus between Early Adopters and ultimately, between all participating Member States and other countries. We therefore suggest that the first step in securing the participation and involvement of Early Adopters should be to establish an Early Adopters Forum. This will be the vehicle for regular meetings between Early Adopters and for discussion and consensus building on:

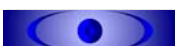
- How to initiate cross-border enforcement on the basis of the Framework Decision on the Mutual Recognition of Financial Penalties - VERA2 recognises this Framework Decision¹⁹ as providing the most appropriate legal basis for cross-border enforcement at the current time
- The exact organisational and operational form of cross-border enforcement in Europe
- What technical services will be required to support cross-border enforcement (for example, the *eNFORCE* EDES as proposed by VERA2)
- What work will be required to implement these services
- What support will be necessary to implement these services and to deliver the organisational and operational form of cross-border enforcement
- An implementation plan to include development, testing and deployment
- What funding will be required and possible identification of possible sources.

In preparation for setting up the Forum, we suggest holding a meeting (possibly hosted by the European Commission or a committed Early Adopter eg France) to which all Member States are invited. The topics for discussion could include:

- presentation of the concepts developed by VERA
- review of the VERA2 recommendations
- discussion on the way ahead
- discussion on what it means to be an Early Adopters
- identification of interest in becoming an Early Adopter.

The aim of the meeting would be to establish which Member States have an interest in becoming an Early Adopter of cross-border enforcement. A more definite decision about becoming an Early Adopter would be sought soon after the meeting. Once Early Adopters have been identified, the Forum can be established.

¹⁹ Draft Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties, Document No. 16321/03, The Council of the European Union, 19 December 2003



If the VERA2 recommendations are adopted in full, the Forum could also be a precursor to the *eNFORCE* Management Board. This is the part of the recommended three-tier *eNFORCE* organisational structure responsible for overseeing strategic direction.

Implementation Forum Secretariat

The middle tier of the three-tier organisational model proposed for *eNFORCE* is a Secretariat to manage and administer day-to-day operations and to carry out other support tasks allocated to it by the *eNFORCE* Management Board.

It is anticipated that the Early Adopters Forum will have the same need for support services and we therefore recommend establishing a small Early Adopters Forum Secretariat to fulfil this support role and to carry out many of the day-to-day activities required to establish cross-border enforcement in accordance with the implementation plan developed by the Forum. Regardless of whether or not the VERA2 recommendations are adopted by the Early Adopters, it is anticipated that some kind of Secretariat support will be required.

Figure 5 shows this overall process.

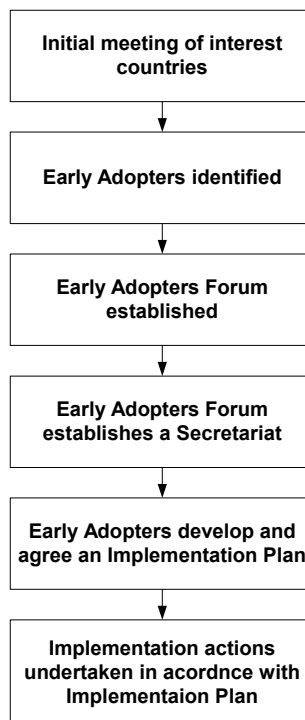


Figure 5 Overview of Early Adopters process

The concept of Early Adopters is described in full in VERA2 Deliverable D1-1²⁰.

4.3 eNFORCE EDES

Whatever approach to cross-border enforcement is adopted by the Early Adopters, some kind

²⁰ VERA2 Deliverable D1-1 Technology Implementation Plan, September 2004



of electronic data exchange service will be necessary. VERA2 recommended an approach to data exchange called the *eNFORCE* Enforcement Data Exchange Service (EDES) which is described in detail in Deliverable D3-1. Even though the choice of scope and scale of the data exchange service will ultimately be the responsibility of the Early Adopters, VERA2 Deliverable D3-1 has provided an outline functional specification for the EDES which could be an input to their considerations.

High-level design issues to be addressed by the Early Adopters will include:

- agreement on the scope and scale of the data exchange service.
- agreement on what functions it will provide
- agreement on the technical architecture
- what communications network is used
- how will the service be designed and built
- who will fund development work
- how will software be distributed
- who will integrate Early Adopter's own back office systems with the electronic data exchange service.

Enforcement Data Dictionary

VERA2 has developed an enforcement Data Dictionary based on the principles described in the Framework Decision on the Mutual Recognition of Financial Penalties. The Data Dictionary provides a general structure for the exchange of enforcement data across borders and provides detailed data descriptions for speed limit violations, red-light violations and violations relating to the non-payment of road tolls or taxes. The Data Dictionary is presented in VERA2 Deliverable 3-1.

Within the constraints of project funding and timescale, this Data Dictionary provides a structure for use in an operational cross-border enforcement system. However, further work will be required to expand and test the Data Dictionary before it can be used in practice.

VERA2 Recommendation 7

The Enforcement Data Dictionary developed by VERA2 in support of the *eNFORCE* Demonstrator should be expanded to address other road traffic offences and be translated into all Official Languages of the European Union (as a minimum).

European standardisation should be pursued at an appropriate point.

The development and content of the Data Dictionary are described in more detail in VERA2 Deliverable D3-1²¹.

²¹ VERA2 D3-1, Report on Common Data Exchange Format and Demonstrator, September 2004



Enforcement data exchange service

Once the high-level design issues have been resolved and agreement has been reached between the Early Adopters, development of the data exchange service can begin.

Depending on how the high-level design issues have been resolved, it is likely to be a relatively large, complex system. It will certainly need to be a secure and robust system capable of supporting multiple users and handling significant data exchange traffic. It is therefore recommended that system design and development expertise will be required to ensure that the system can be delivered as required. This expertise may be available through Early Adopter' in-house capabilities but it may also be necessary to secure external expertise for this purpose.

A typical route for service development and deployment may be:

- Develop and agree detailed Functional Specification possibly based on outline functional specification included in VERA2 Deliverable 3-1
- Develop Technical Specification
- System development to include usability testing
- Implement pre-operational data exchange service (modified to take usability tests into account) to include on-site integration
- Operational testing, evaluation and system modification
- Early Adopters agreement that service can be released for operation
- Formal launch of service for operational use.

Figure 6 shows one view of the components of the EDES architecture that need to be implemented.

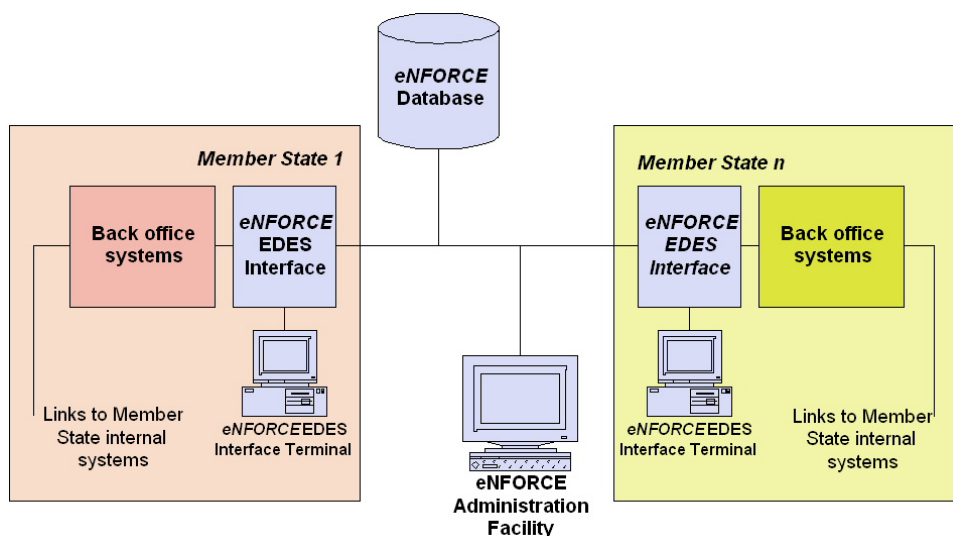


Figure 6 Overview of the eNFORCE EDES architecture

5 EUROPEAN TYPE APPROVAL

5.1 Why is type approval important for cross-border enforcement?

Trust is inherent part of cross-border enforcement. Trust in this context means each Member State accepting another Member States' record of a violation, accepting their processing of the record and accepting the results of their prosecution process. A common basis for type approval will ensure that records of every violation are made on a common basis and that they can be accepted by all Member States.

As part of its review of enforcement practices across the European Union, the first VERA project identified a number of fundamental barriers to European type approval as follows:

- **Responsibility for violations** – in countries where the driver is considered to be responsible for the violation, an image from the front of the vehicle is necessary. Where the owner is considered responsible (unless they subsequently identify the driver), license plate data is used to identify their vehicle
- **Penalties imposed** – differences in the fines and penalty points (and the combination of the two) vary across Europe
- **Privacy rules** - Directive 95/46/EG exists as a harmonised regulation but in practice, is implemented differently in Member States.

These barriers have to be addressed before a common basis for European type approval can be achieved.

Many Member States have existing type approval requirements and support networks to carry out type testing and approval of enforcement equipment and processes. However, as they are based on national legal and operational requirements and have been developed to take into account specific national operating conditions, there are inevitable differences. Where present, commonalities in national requirements are not always transparent.

5.2 VERA2 approach to addressing the type approval disparities

In seeing to address these barriers, VERA2 adopted the following approach:

- harmonise technical aspects of type approval on the basis of the VERA Principle (where possible) on the basis of the Measuring Instruments Directive (MID) as a common European legal framework and existing European and international standards
- take account of the key differences between existing type approval processes where they are required to satisfy State-specific legal and operational conditions (for example, differences in driver/owner responsibility)
- make any State-specific requirements transparent and easy-to-understand from a technical and organisational perspective



This approach was intended to identify commonalities in national type approval processes and perhaps most importantly, to respect the differences which are essential to meet national legal and operational requirements.

VERA2 Recommendation 8

The type approval and verification requirements for each component of an enforcement system should be based on national legislation. Requirements should be harmonised across the European Union as far as is possible recognising that some differences are inevitable due to differences in national legal frameworks.

This is described further in VERA Deliverable D5-1²².

5.3 Measuring Instrument Directive and Software Guide

Measuring Instrument Directive

The MID is a European Parliament and European Council Directive²³ regularising the construction and certification procedures of several types of measuring instruments in order to improve free trade of these devices across Europe. First published in April 2004, it has to be adopted into each Member States' national legislation within the coming two years.

The MID manages:

- requirements until placing on the market / putting into use
- essential requirements for measuring instruments
- reference to technical specifications
- harmonised European standards (presumption of conformity)
- normative international documents of OIML (presumption of conformity)
- provision of manufacturer (presumption of conformity not in force)
- modular conformity assessment
- conformity marking (CE, M, year, No of NB)
- essential requirements for notified bodies (NB)

The MID comprises several parts. Following a main body which contains the general articles, it consists of a number of annexes. Annex I describes the essential requirements valid for all measuring instruments. Annexes A to H1 describe conformity assessment procedures. Annexes MI-001 to MI-010 describe specific requirements for the instruments covered by the MID. Applicable conformity assessment procedures are listed for each instrument.

At the current time, the MID does not regulate construction and certification procedures of

²² VERA2 Deliverable D5-1, Report on routes to Harmonisation of Type Approval Procedures, September 2004
²³ Measuring Instruments Directive published in April 2004, (Official Journal Official Journal of the European Communities, Nr. L 135, S. 1-80, 30.04.2004)



speed enforcement systems. VERA2 has therefore prepared a draft Annex to the MID (known as Annex MI-DiMES (Digital Image Enforcement Systems)) specifically addressing type approval of speed enforcement systems using digital images.

As measuring instruments used for speed enforcement are not within the scope of the MID, their approval remains a matter for national regulation. The aim of the proposed Annex is to provide both useful guidance and a common starting point for setting national type approval requirements. The structure of a MID annex was chosen as the most efficient vehicle for doing this whilst also facilitating migration to common standards as far as possible across the European Union and, if in the future governments agree, to a European type approval procedure. For the immediate future, the Annex provides guidance that it is hoped those responsible for setting national requirements will follow where possible within their own regulations for digital imaging enforcement systems.

Software Guide

Software approval is one of the fundamental aspects digital enforcement imaging systems. In the European Commission fifth Framework RTD Programme, the MID-Software²⁴ project dealt with software aspects of measuring instruments covered by MID. This project will deliver a guide for software requirements based on MID.

MID-Software is a continuation of the work already started by WELMEC²⁵ Working Group 7. After completion of the project, WELMEC Working Group 7 will convert the Software Guide into a WELMEC Guide. It was therefore considered appropriate to use the Software Guide as a basis for the format of the software-aspects of Annex MI-DiMES.

VERA2 Recommendation 9

Type approval requirements for enforcement system software should ensure the integrity, authenticity and privacy of the data. Similar algorithms should be used in all Member States for these purposes. Type approval requirements should be written in the format specified by the Measuring Instruments Directive (MID) and the corresponding WELMEC software guide.

This is described further in VERA2 Deliverable D5-1²⁶.

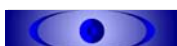
5.4 Proposal for Annex MI-DiMES

Annex MI-DiMES is intended to be used by type-approval authorities in the European Union for testing and approving digital imaging enforcement systems. The requirements are intended to embrace all known national requirements. As a consequence, an equipment manufacturer need only comply with a single, uniform set of requirements rather than different

²⁴ www.mid-software.org/

²⁵ European Cooperation in Legal Metrology. Originally Western European Legal Metrology Cooperation but now expanded to include representatives from Central and Eastern Europe. <http://www.welmec.org>

²⁶ VERA2 Deliverable D5-1, Report on routes to Harmonisation of Type Approval Procedures, September 2004



requirements for each State.

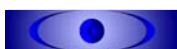
Annex MI-DiMES consists of requirements in the following areas:

- Design requirements for the sensor and the handbook
- Design requirements for the evidential record via image
- Maximum permissible errors of the sensor
- Rated operating conditions
- Permissible effect of disturbances
- Power supply failure
- Software requirements
- Other requirements such as requirements governing transportable instruments, the period over which the maximum permissible errors without adjustment must be respected, time keeping, measurement units, etc

The relevant requirements of Annex 1 of MID and the Conformity Assessment Procedures (taken from MID) also apply to digital imaging enforcement systems. The applicable Conformity Assessment Procedures are type examination and product verification by an independent body (similar to modules B and F of MID). National Requirements may allow that the product verification is based on an approval of the quality assurance of the production process of the manufacturer (similar to Module D of MID).

5.5 Generalisation to other measuring instruments

Annex MI-DiMES specifies requirements for a digital imaging enforcement system to be used in conjunction with a speed-measuring instrument. For other enforcement applications (for example, red light enforcement or weigh-in-motion systems), other measuring instruments are required. In addition to Annex MI-DiMES, VERA2 has also proposed a more general set of requirements leaving open all requirements relating to the measuring instrument itself. These requirements can therefore be used as the basis for MID annexes for other enforcement applications in the future.



6 IMPROVING ENFORCEMENT OPERATIONS

6.1 Introduction

In developing recommendations on cross-border enforcement in Europe, a number of associated issues arose that the VERA2 consortium considered needed addressing at a European level. These are integral to establishing a comprehensive cross-border enforcement solution and, if addressed Europe-wide, would allow for significant improvements in enforcement operations.

6.2 Identifying the vehicle nationality from the vehicle registration plate

Identifying a vehicle by means of its registration plate is possible both manually and automatically. However identifying which country the vehicle is registered in is, in practice, more difficult. Manual reading of number plates may highlight the nationality marker on the vehicle. This is typically located on the rear of the vehicle (which in itself causes difficulties where the image is captured by forward facing cameras) or is an integral part of a vehicle registration plate. This issue will to some extent be resolved through the wider introduction of EU number plates, where the country of registration is shown on both front and rear plates.

However, the size of the country marker on European Union registration plates may not always promote ease of reading either manually or automatically and this could be aggravated by less than perfect reading conditions such as poor weather. The impact of this will become more significant with the move towards more automated enforcement processes.

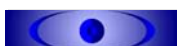
The process of reading registration plates can be made worse by:

- variations in fonts (letters and numbers), size and type
- variations in the reflective materials used by Member States and other countries
- corruption of letters and numbers by vehicle owners making the recognition of plates more difficult.

Where an operator is unable to identify the country of registration visually, they may be able to identify the vehicle by checking the registration number against the national databases through the EUCARIS²⁷ agreement. This agreement supports a system designed to allow participating countries to share car and registration information with a view to helping fight car theft and registration fraud. There is, however, an inherent weakness to the EUCARIS agreement, in that the exchange of owner information is not included as part of the current arrangements, which makes the use of the system very limited for cross border enforcement.

In addition, not all European Member States and countries are members of EUCARIS or can receive or provide owner data. The EUCARIS approach currently stops at the first correct identification and does not search all databases for possible duplicate registration numbers (It

²⁷ EUCARIS European Car and Driving Licence Information System, www.eucaris.net



is feasible for the same registration number to be issued in different countries). The EUCARIS approach cannot provide details of the driver of the vehicle, but may be used to check driving licence details in some countries.

A further issue to be addressed is the lack of standardisation of usage of numbers and letters across the EU which is necessary to ensure that a particular registration plate is unique. This may lead to the potential for the same combination of numbers and letters being used in different Member States or other countries. However this should also be addressed with increased use of the EU vehicle registration plates.

Where an operator is unable to identify the registration number, the process currently ends.

VERA2 Recommendation 10

Further work is required in the area of establishing vehicle identity and country of registration. This includes improving the manual and automatic readability of registration plates and promoting the increased use and readability of the European Union State of origin marker.

This is described further in VERA2 Deliverable D4-1²⁸.

6.3 Access to Owner/Driver Information

Exchanging vehicle owner information is a fundamental requirement for cross border enforcement. This exchange of information is currently available on a fairly restricted basis between a small number of Member States via bilateral agreements or via informal arrangements. The method of exchange of information can be electronic by batch file or disk, or paper by file or fax. The process is slow and complex and represents a significant barrier to the effective application of cross border enforcement. The simple reality remains that unless the information about the owner of the vehicle is available to the appropriate authority in the country where the violation took place, the process of enforcement can go no further.

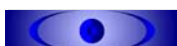
Given the potential for increases in long range cross-border traffic following the expansion of the European Union, Member States and other European Countries may find local arrangements need to be expanded and the complexity of doing so may become a barrier in itself.

VERA2 Recommendation 11

Accessing another Member States' information on a vehicle and its driver or owner is a potential barrier to implementing cross-border enforcement across the European Union. Member States should give their full assistance to other States making a request for:

- confirmation as to whether or not a vehicle (as identified by its registration

²⁸ VERA2 Deliverable D4-1, Organisational Models to Support Cross Border Enforcement, September 2004



supplemented by other identification information such as make, model and colour where possible) is registered within their territory

- name and address of the registered owner or keeper of a vehicle registered within their territory
- details of a violator who resides, is a citizen or has income or property in that State (as specified in the Framework Decision on the Mutual Recognition of Financial Penalties)
- driver license details.

Consideration should be given to granting Member States remote access to each other's data for the purposes of cross-border enforcement.

This is described further in VERA2 Deliverable D4-1²⁹.

6.4 Cross-border enforcement of non-financial penalties

There are widespread differences between the types of penalties imposed by Member States for the same (or similar) offence. Financial penalties and the endorsement of a violator's driving licence with 'penalty points' are used widely, either on their own or in different combinations.

VERA2 has proposed a mechanism for the cross-border enforcement of financial penalties. At the current time, there is no equivalent legal mechanism for the cross-border enforcement of driving license endorsements. As a consequence, in Member States where the endorsement of a violator's driving licence is the primary penalty (and therefore, the primary deterrent), violators who do not reside, are not a citizen or do not have income or property in the State where the violation took place cannot be treated in the same way as those that do.

VERA2 Recommendation 12

Further examination of the cross-border enforcement of non-financial penalties (for example endorsement of driving licenses with penalty points) is required at a European Commission-level to ensure that all penalties can be enforced across Member States' borders.

This is described further in VERA2 Deliverable D4-1³⁰.

²⁹ VERA2 Deliverable D4-1, Organisational Models to Support Cross Border Enforcement, September 2004

³⁰ VERA2 Deliverable D4-1, Organisational Models to Support Cross Border Enforcement, September 2004



7 CONCLUSIONS

7.1 VERA2 achievements

VERA2 has addressed the practicalities of cross-border enforcement in Europe. It has examined the legal basis for cross-border enforcement aligning much of its work with the Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties³¹. This has resulted in draft text for a future Directive on Cross-Border Enforcement which if enacted, would provide a basis for resolving many of the legal, organisational and technical issues.

In support of this draft Directive, VERA2 has developed the concept of a cross border data exchange network for enforcement originally proposed in the first VERA project. *eNFORCE*, as the concept has been renamed, comprises two key elements:

- A **'network' of agencies and organisations** (known as *eNFORCE* Authorities) in participating States who are certified as being competent to:
 - delegate the power to enforce a financial penalty (in the case of an Issuing State)
 - enforce a delegated financial penalty (in the case of an Executing State)

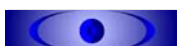
In the case of criminal offences, the *eNFORCE* Authority will typically be a public-sector organisation. In the case of civil offences, the *eNFORCE* Authority may be a public- or private-sector organisation. *eNFORCE* is therefore designed to be used by both public- and private-sector organisations
- A **data exchange service** which *eNFORCE* Authorities use to exchange all data necessary to delegate the power to enforce a financial penalty and to enforce a delegated financial penalty.

VERA2 has developed organisational models for *eNFORCE* and has developed an enforcement data dictionary and a demonstration data exchange service to highlight what the concept could provide. VERA2 has also identified an implementation path for *eNFORCE* and the draft Directive.

In terms of type approval, VERA2 has prepared a draft Annex to the Measuring Instruments Directive known as Annex MI-DiMES (Digital Image Enforcement Systems). This specifically addresses type approval of speed enforcement systems using digital images. This specific Annex has also been generalised to cater for equipment used for other enforcement applications such as red-light violations and weigh-in-motion violations for example.

Finally, VERA2 has identified further key issues of importance fundamental to establishing effective, efficient and above all, fair cross-border enforcement across Europe. These are:

³¹ Draft Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties, Document No. 16321/03, The Council of the European Union, 19 December 2003



- Improving the identification of vehicle nationality from the vehicle registration plate
- Improving access to Owner/Driver Information
- Cross-border enforcement of non-financial penalties.

7.2 Looking ahead

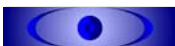
The European Commission have recognised the importance of cross-border enforcement in its Recommendation on Enforcement. VERA2 has identified:

- what is stopping cross-border enforcement from happening
- key operational and technical issues which need to be resolved
- the differences between Member States approach to cross-border enforcement
- a strategic, Directive-driven approach to ensuring that all Member States participate and cooperate in cross-border enforcement
- a potential solution to cross-border enforcement and to EU type approval.

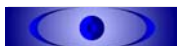
This recognises that Member States need to do more to improve their approach to enforcement and to embrace best practices and new technologies. Even for Member States considered to be at the forefront of enforcement policy and operations, there is still considerable scope for continuous improvement.

Work needs to be done to develop a practical framework within which operational staff can utilise best practice, technology, intelligence-led policing, human factors, and problem solving to better deliver cross-border enforcement and ultimately, meet the requirements of the Commission's Recommendation on Enforcement.

In terms of type approval, technological developments are presenting manufacturers with opportunities to develop new approaches to enforcement. Systems to automatically measure the average speed of the vehicle over a section of road are becoming increasingly prevalent and present new type approval issues. Approval of vehicle-mounted manually-operated systems would also benefit from a MID Annex. New enforcement applications such as close-following and dangerous driving present both technologists and approval authorities with new issues to address. Finally, the increasing interest in the use of technologies such as GPS and EVI (Electronic Vehicle Identification) for road tolling and other telematics applications may also impact on speed enforcement systems and therefore on type approval.



ANNEX 1 GLOSSARY OF TERMS



GLOSSARY OF TERMS

Annex MI-DiMES	A draft Annex to the MID specifically addressing type approval of speed enforcement systems using digital images
COPEN	The family of documents addressing the Principle of Mutual Recognition between Member States. COPEN 24 is the current version of the Framework Decision on the Application of the Principle of Mutual Recognition to Financial Penalties
DiMES	Digital Imaging Enforcement Systems
EDES	Enforcement Data Exchange System
eNFORCE	A formal network of agencies and organisations responsible for coordinating and managing the 'operation' of cross-border enforcement as well as monitoring its progress and ensuring the robustness of the services it supports
eNFORCE Core	Functions which eNFORCE must provide if it is to start delivering on its aims and objectives and exchange of the data prescribed by the COPEN 24 Framework Decision Certificate
eNFORCE Plus	Functions that, while not essential to providing the Core functionality, provide added-value which will help eNFORCE become a more viable and attractive proposition to users and will provide them with a complete cross-border enforcement 'service'.
EU	European Union
EU-25	25 Member States of the European Union
MID	Measuring Instruments Directive - a European Parliament and European Council Directive regularising the construction and certification procedures of several types of measuring instruments in order to improve free trade of these devices across Europe.
MoU	Memorandum of Understanding
State of Residence	The State where the offender resides, works or is a citizen
State of Offence	The State where the offence is committed
VERA	Video Enforcement for Road Authorities
WELMEC	European Cooperation in Legal Metrology. Originally Western European Legal Metrology Cooperation but now expanded to include representatives from Central and Eastern Europe. http://www.welmec.org



ANNEX 2 CONSORTIUM MEMBERS AND CONTACTS



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