Speed management and new enforcement technologies

Presentation on the occasion of the IRF Road Safety & Innovation Forum

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Philip J. Wijers
Director Government Affairs
Sensys Gatso Group
Chair IRF Road Safety Enforcement Sub-committee

Presentation Outline

1. Background and Introduction
2. Taming speed
3. Infrastructure
4. Enforcement
5. Essential preconditions
6. Enforcement models
7. Section control
8. Unmarked in-vehicle enforcement

Background and Introduction

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Background and Introduction

- Economic development
- Growing motorized mobility
- Expanding and upgraded infrastructure
- Intra-urban congestion, noise, barrier effects and pollution
- Improved vehicle quality and safety
- Speeds increase
- Rise in road safety victims

Background and Introduction

Why is speed so important ?

"A 1% reduction in mean speeds leads to a 2% reduction in injury accidents, a 3% reduction in serious injury accidents and a 4% reduction in deaths." (Aarts, L. & van Schagen, I. (2006), based on Nilsson (1982)

"It is estimated that speeding contributes to as many as one third of all crashes resulting in death, and is the most important contributory factor to road deaths and serious injuries." (ETSC 2008)

Traffic enforcement basics

Do you remember physics?

$$E_k = \frac{1}{2}mv^2$$

In which the kinetic energy of an object is equal to half the mass multiplied by the *squared speed* of that object.

Key issues speed management

- Reduce the average vehicle speed across all road types in the network
- Focus on urban areas which have a high percentage of vulnerable road users (max 50 km/h)
- Special focus on residential areas where motorised vehicles should be see as ‘guests’ (max 30 km/h)
- Speed management and road safety important contributors to higher quality of life and urban sustainability

Traffic calming measures

- Infrastructure
- Vehicle
- Speed regimes and signage
- Education and publicity for awareness
- Enforcement

Traffic calming:
Humps and plateaus

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Traffic calming:
Roundabouts

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Traffic calming:

Gateway treatments

Traffic calming:

Road narrowing

Matching speed to road function:

Speed limit changes

Creating awareness by publicity

Campaigns

Enforcement focus

Manual v. automated enforcement

- Instant confrontation with police and fine
- Visible to others
- Driver addressed
- Labour intensive, thus costly
- Limited in intensity, time and location
- Road safety requires ubiquitous and 24/7/365 approach
- Use valuable police resources for ‘non-automatable’ enforcement tasks

Enforcement focus

Issues with manual enforcement

- Reduce ‘fine leakage’ and restoring enforcement integrity (IRF Webinar)
- Avoid cash transactions for violations
- Fine revenue to revert to national, regional or local government
- Transition to automated enforcement challenging
- Improve secondary controls over fine revenue: vehicle/driving license, road tax, PMVI, insurance

Enforcement related objectives

- Reduce the average speed across various road types in the network
- Create an enforcement environment with a high subjective chance of apprehension
- Avoid and counter any link with ‘revenue generation’ and ‘taxes’
- Actively communicate road safety reasons, benefits & results of enforcement

Essential preconditions

- High level political commitment
- Suitable legal framework
- Solid vehicle owner and driving license administration
- Controlled license plate issuance, presence and readability
- Assure legal and data integrity
- Minimise court processing
- Suitable processing infrastructure
- Sufficient fine levels
- Early payment incentive, late payment penalty
- Publicity, integrity, trust and public support

The automated enforcement chain

- Detect
- Measure
- Decide on violation
- Register
- Transfer & store evidence
- Process evidence to ticket
- Issue and send ticket
- Receipt of ticket
- Provide evidence upon request violator
- Collect fines
- Remind violating party
- Court

Bottlenecks and solutions

- Political commitment through advocacy
- Update legal framework
- Move from criminal to administrative law
- Determine owner or driver liability
- Type approval by independent organisation
- Avoid backlogs: processing, collection & judicial
- Centralisation vs. decentralisation
- Fine allocation and reinvestment
- Avoid major projects, start small scale

voorlopige **Verklaring**

Nummer **TP8290** revisie 0
Projectnummer 12200713
Blad 1 van 6

Afgegeven door NMi Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht

Ingevolge: De "concept voorschriften meetmiddelen politie, versie 2010-08-09"

Aanvrager: Gatsometer B.V.
Claes Tillyweg 2
2031 CW Haarlem

Aangeboden: Een model van een **radarsnelheidsmeter**

Fabrikaat	:	Gatsometer
Type	:	T-Series
Aanwijsbereik	:	20 km/h – 250 km/h
Categorie	:	Categorie A

Geldig tot: Definitieve versie voorschriften meetmiddelen politie.

Beschrijving en documentatie: Het model wordt weergegeven door de beschrijving TP8290 revisie 0 en de documentatiemap TP8290-1 die bij deze verklaring behoren.

Opmerking: Dit document moet niet worden beschouwd als een typekeuringscertificaat zoals bedoeld in de concept voorschriften meetmiddelen politie.

De aangewezen instantie,
NMi Certin, 3 mei 2013

C. Oosterman
Hoofd Certificatiebestuur

NMi Certin BV
Hugo de Grootplein 1
3314 EG Dordrecht
Postbus 394
3300 AJ Dordrecht
T (078) 6 332 332
F (078) 6 332 309
certin@nmi.nl
www.nmi.nl

Iedere belanghebbende kan tegen dit besluit, binnen zes weken na de dag van toezending, bezwaar aantekenen bij de directeur NMi (zie "Regeling bezwaar en beroep tegen besluiten van NMi")

Dit document wordt verstrekt onder het voorbehoud dat generiek aansprakelijkheid wordt aanvaard en dat de aanvrager vrijwaring geeft voor aansprakelijkheid jegens derden.

Reproductie van het volledige document is toegestaan.

INSPECTIE
RvA I 122

Two enforcement models

- **Government buys enforcement and back office equipment and manages and executes ticket issuance and fine collection process.**

- **Government sets PPP criteria and leaves enforcement operation up to a private party with violation confirmation**

STATEMENT OF POLICY

by the International Road Federation

"Public Private Partnerships in Traffic Enforcement"

July 2, 2015

In most countries traffic enforcement cameras and other equipment are purchased, owned, and operated by government organizations. The past two decades have seen a wide-ranging wave of privatizations and introduction of public private partnerships (PPP) in formerly government-owned or controlled activities, including traffic enforcement. Implementing this concept requires a set of principles and good practices presented in this IRF policy statement.

Public Private Partnerships in Traffic Enforcement

A White Paper from the International Road Federation

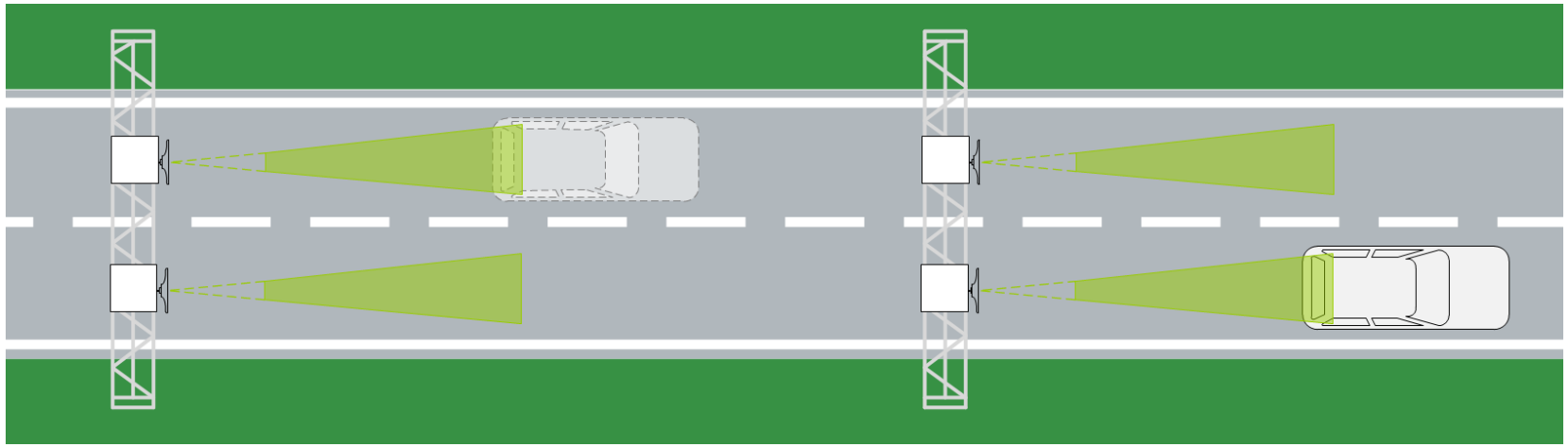
White Paper 02

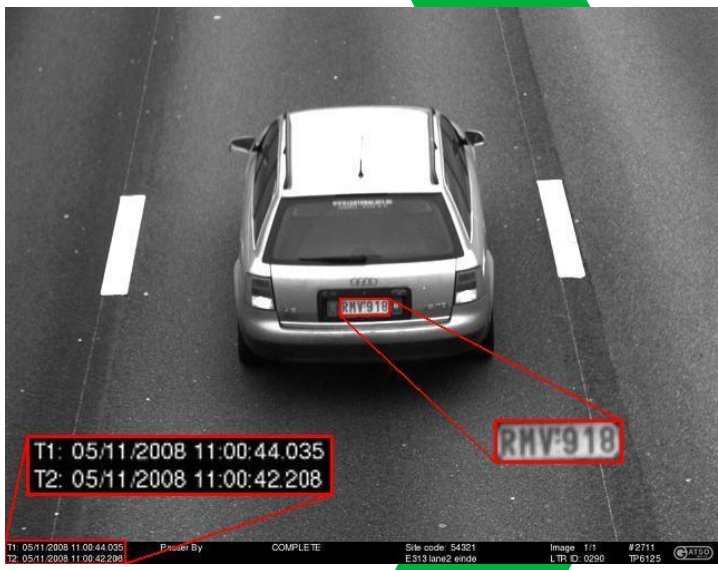
www.IRFnews.org

16

Average speed safety cameras

- Average speed enforcement





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Moving speed enforcement

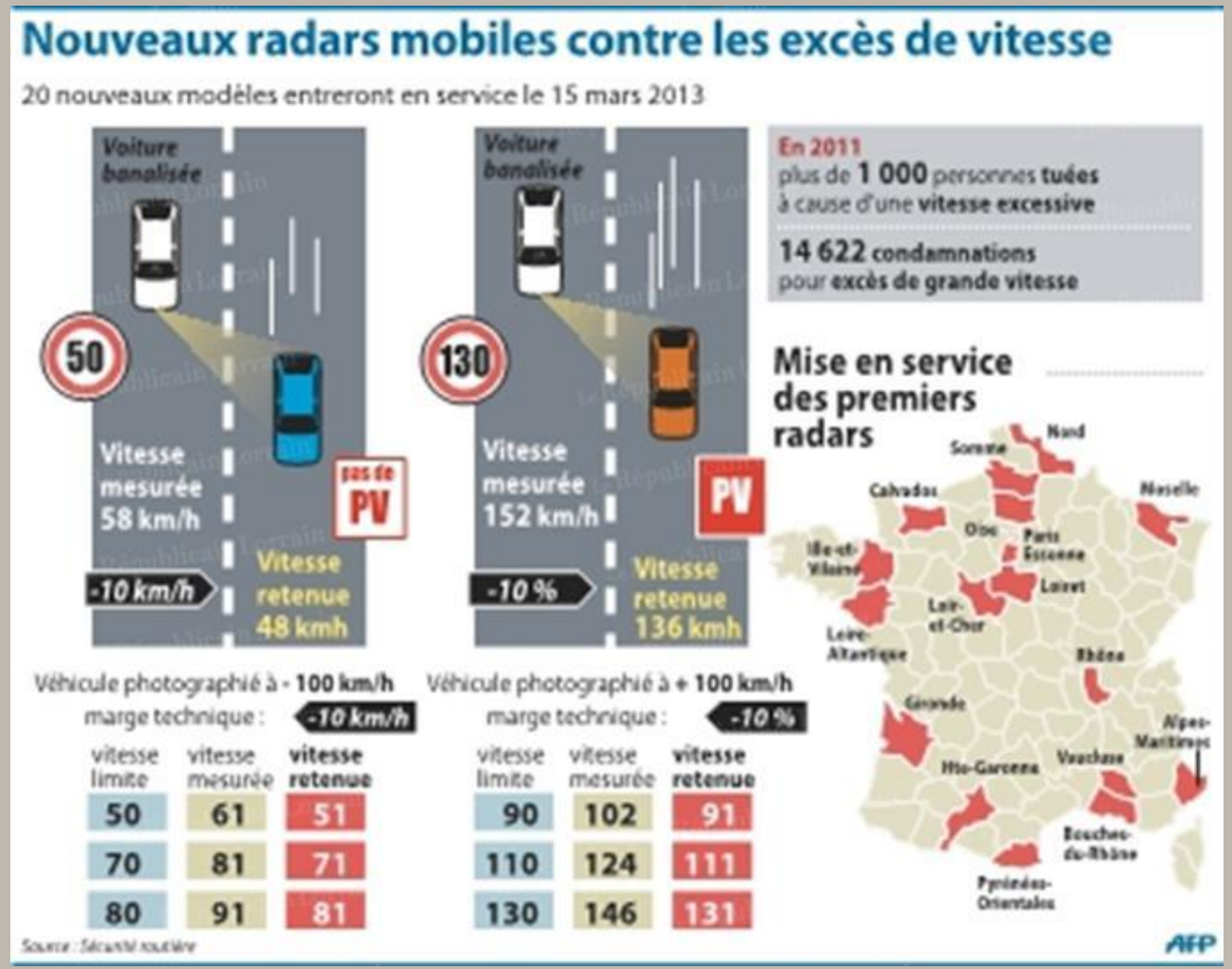
» **Key concept**

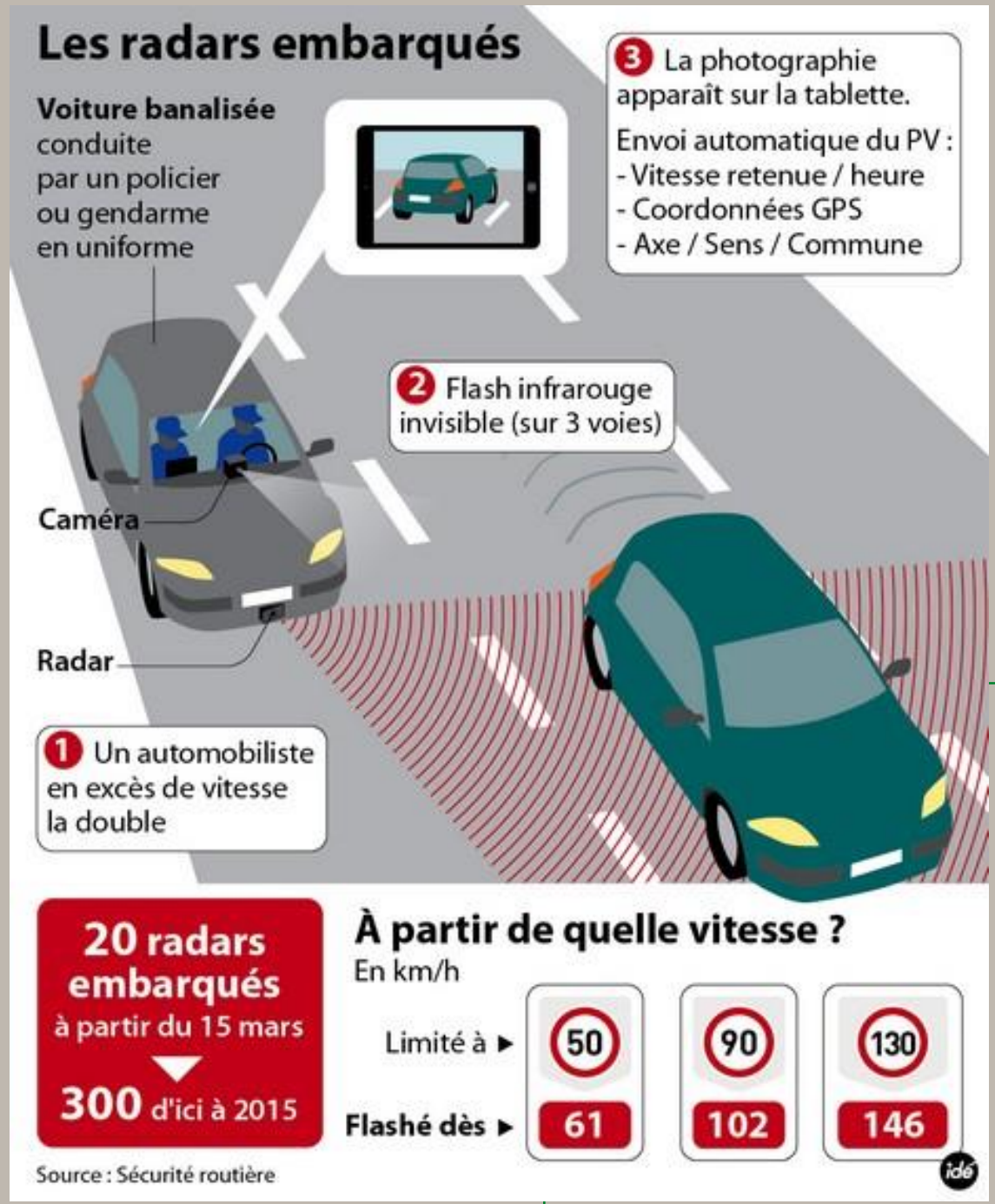
- Unmarked vehicles (due to known camera locations)
- Moving and stationary
- Approaching and receding

» **Advantages**

- Surprise effect
- Effective and flexible operation
- Operational cost savings

Multi-media campaigns





Results: 15.1% casualty reduction within first 6 months

> *Without the new mobile and moving speed cameras,*
> *we would not have seen such a reduction*

H.E. Manuel Valls - French Interior Minister (later Prime Minister)

Key facts

- Gradual project approach by the client
- Custom-built solution, developed and approved within schedule
- Additional features implemented after initial delivery
- 450 systems delivered to date
- Focus on high risk national and country roads
- Optional: in-vehcile ANPR and black list (stolen, no PVI, no insurance, no road taxes, crime related, unpaid fines, anti-terrorism, etc)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RT2 radar mounted behind front license plate.

GATSO

Connecté en tant que: admin

Déconnexion

Connecté

DERNIÈRE MESURE | VITESSE PORTEUR 0 km/h | VITESSE CIBLE -249.4 km/h | VITESSE MESURÉE 249.4 km/h

Pause mission

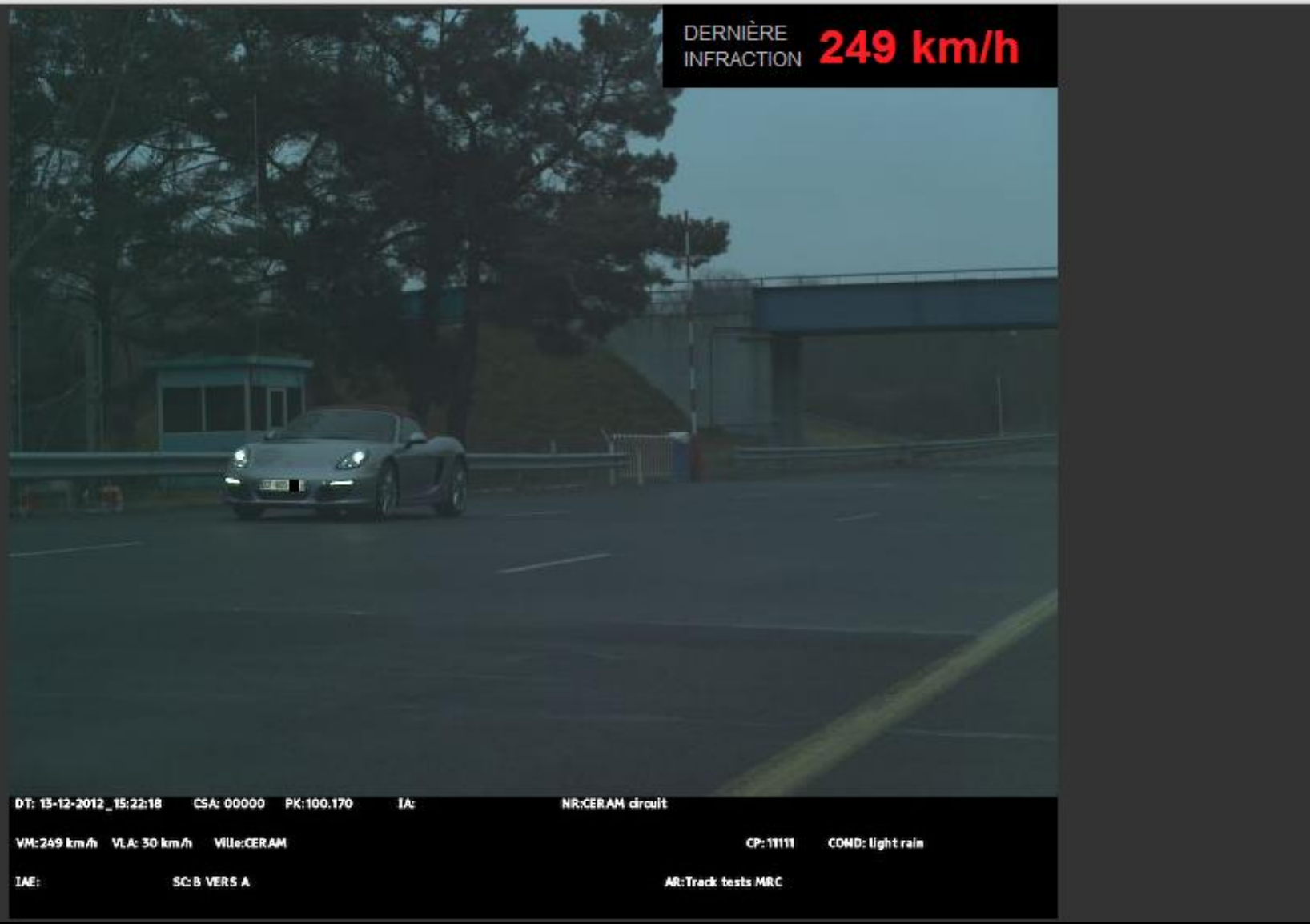
Arrêt mission

Test contrôle

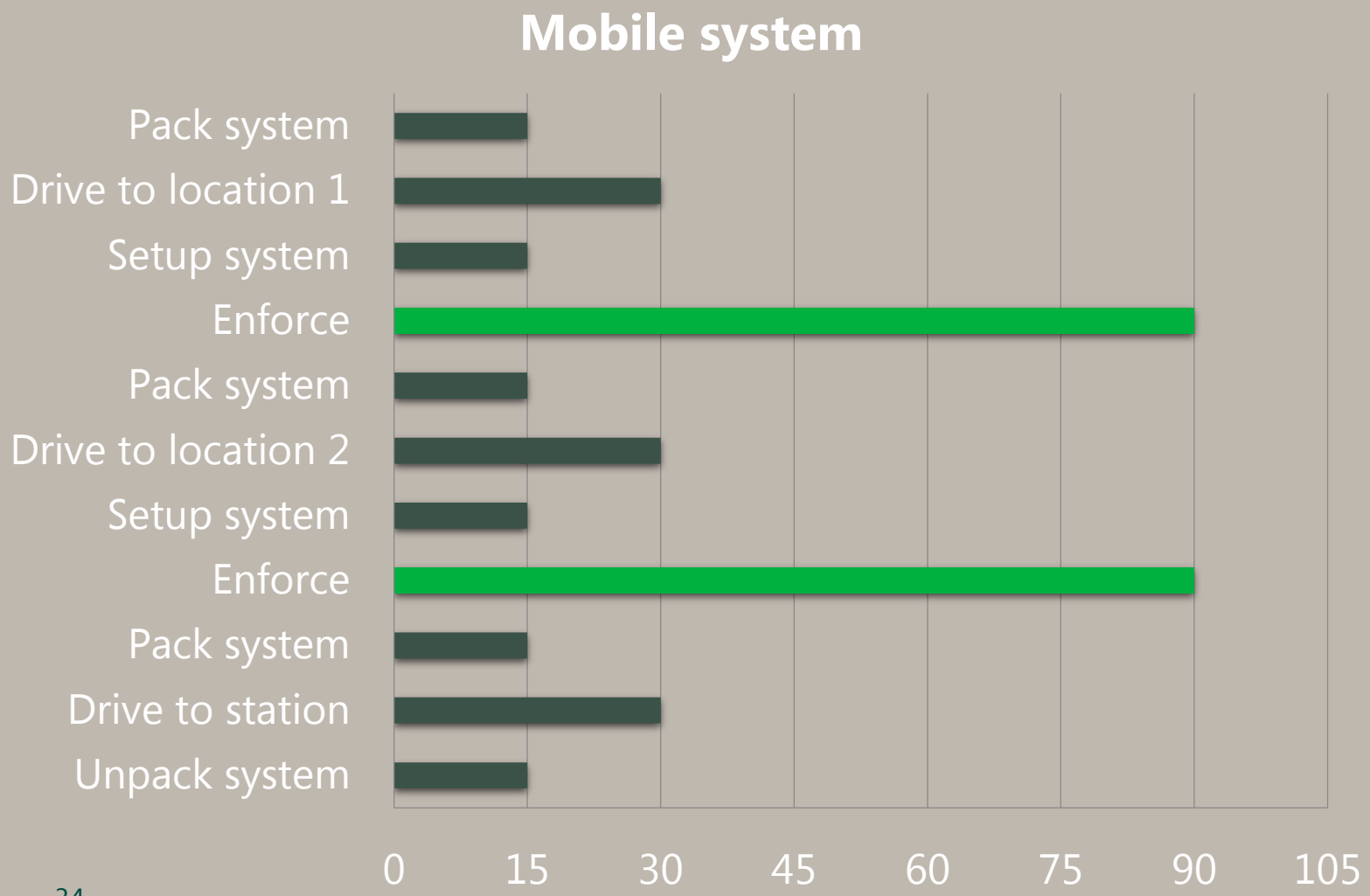
30

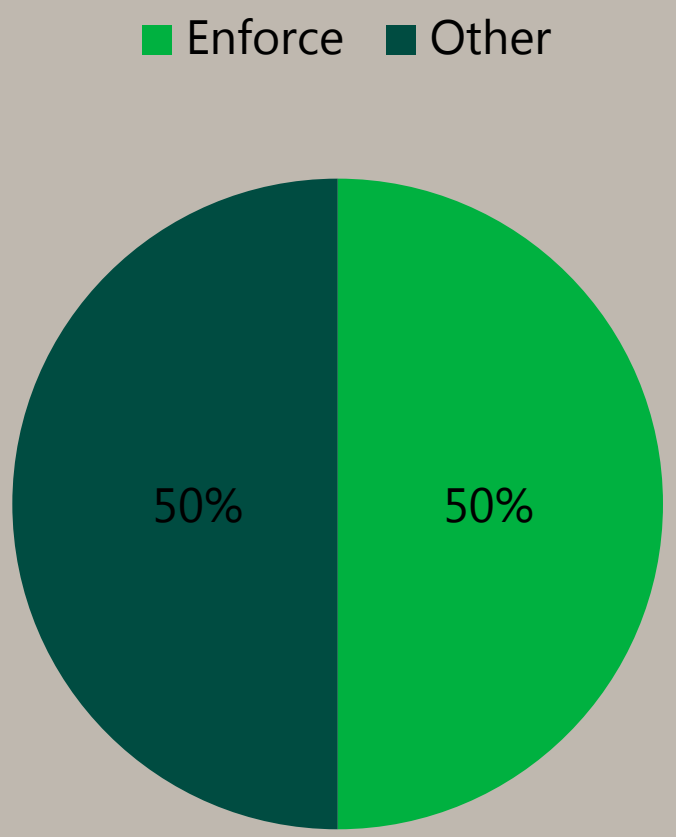
MESURES / INFRACTIONS 50 / 45

VITESSE ACTUELLE 0 km/h

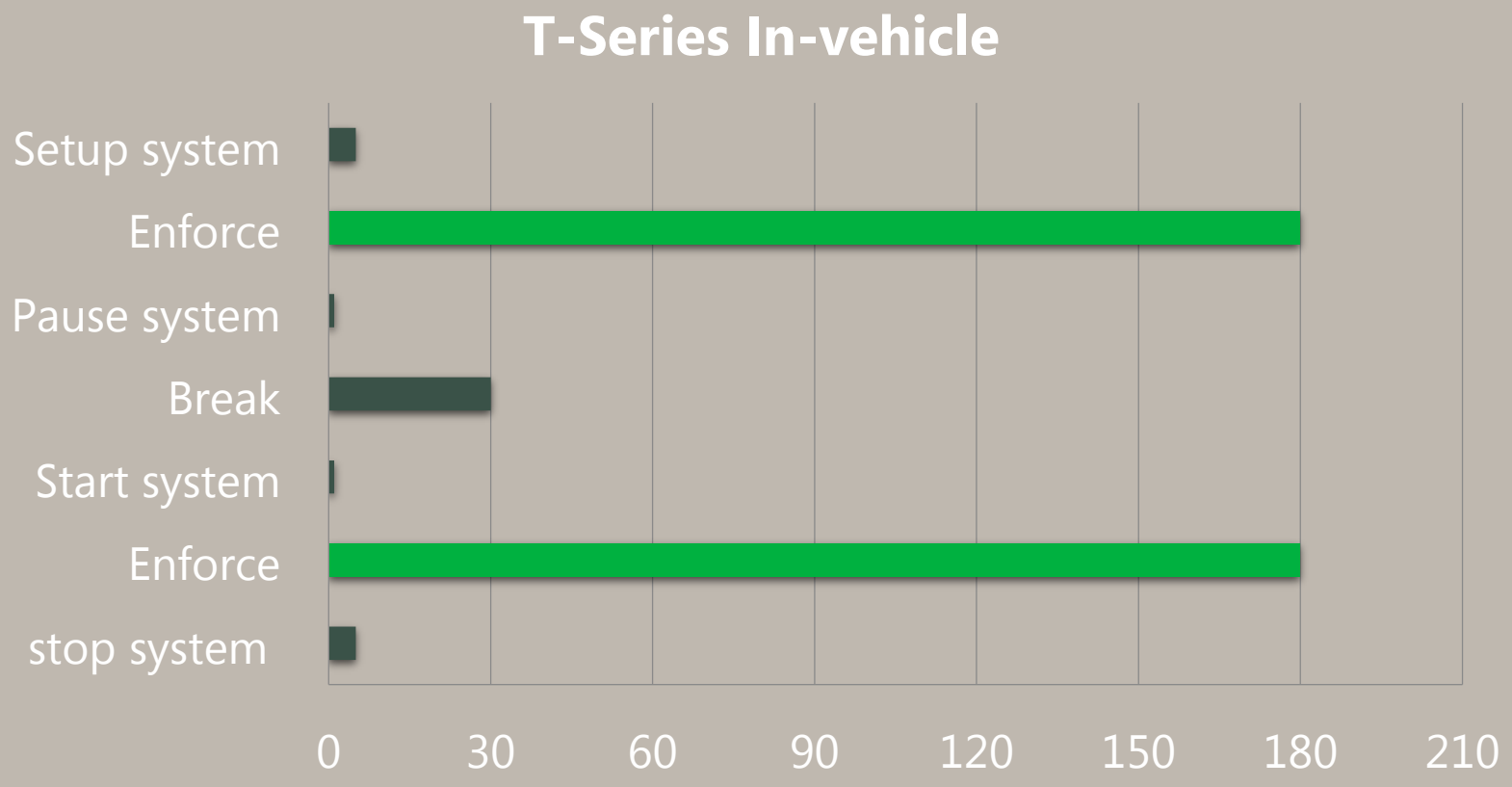


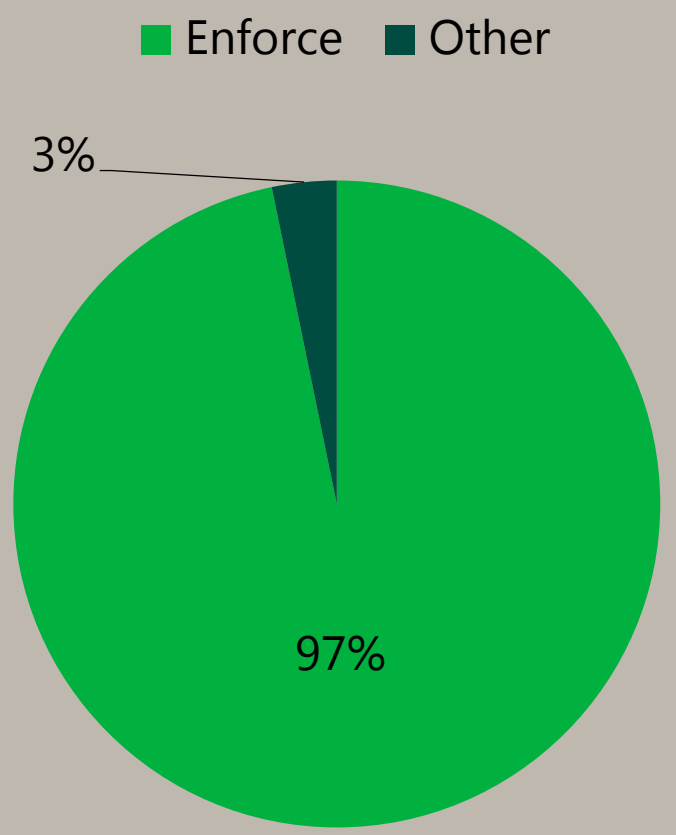
Enforcement: efficiency





Typical shift





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In-vehicle enforcement options for Bulgaria and other Balkan states:

- Operation of IV vehicles by third parties e.g. security companies
- Equip public vehicles with IV systems e.g. busses, utility vehicles, postal delivery vans
- Key issue legal authorisation, black box concept and type appoval and verification

Conclusion

- **The Sensys Gatso In-vehicle enforcement solution provides a flexible, efficient and cost saving solution leading to dramatic road safety improvements when combined with an professional multimedia campaign announcing its introduction and continued operation.**

Remember:

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$$E_k = \frac{1}{2}mv^2$$

and use all suitable speed management instruments to reduce the average vehicle speed on the Bulgarian road network and benefit from improved road safety statistics.