

# Safety Camera Use for Speed Enforcement

## ASE Technology Brief

**MINSK, BELARUS – OCTOBER 16, 2018**

Philip Wijers – Director Government Affairs – Sensys Gatso Group

Chair – IRF Road Safety Subcommittee on Enforcement



# History

- From wet film to digital cameras
- Integrated photo and data evidence

**1980** – Moving In-vehicle



**1988** – First speed and red-light camera

**1966** – First red-light camera



70  
YEARS



# Basic process concept

- Event measurement and trigger
- Collect photo and data evidence
- Transfer evidence
- Store evidence
- Process evidence into violation notification with fine
- Send and receive violation notification
- Monitor fine payment status



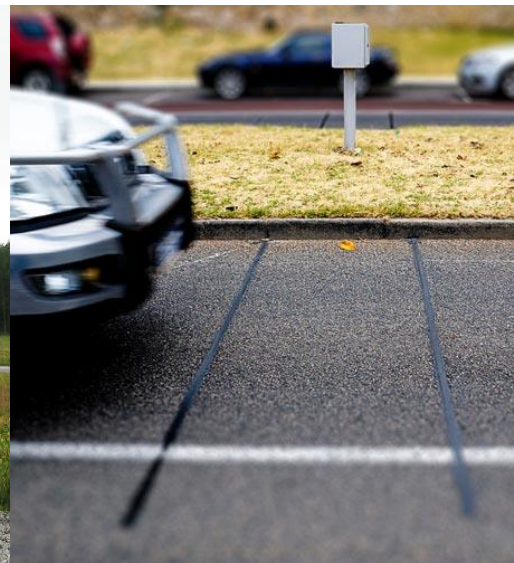
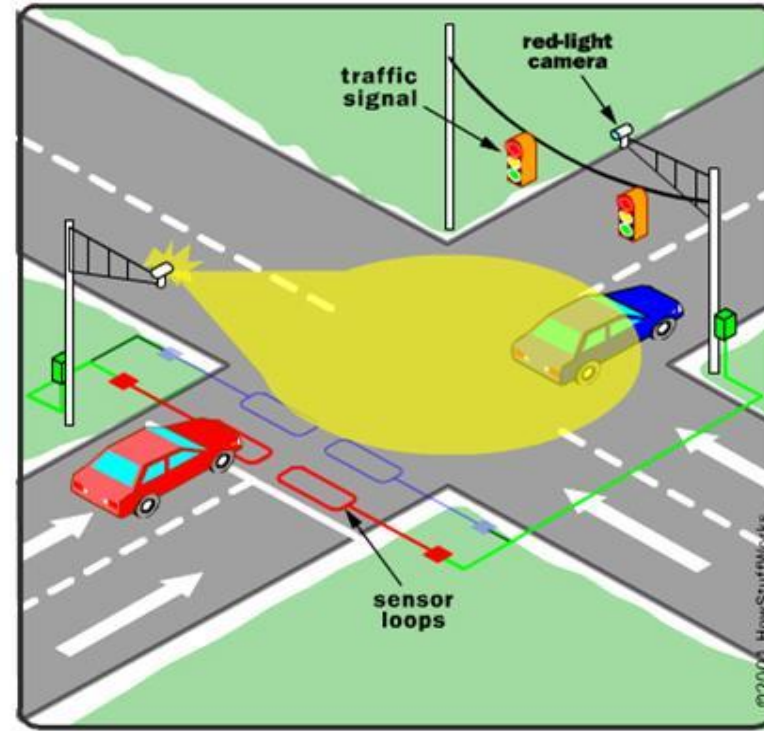
# Detectors - types

## Invasive

- Piezo
- Inductive loops in asphalt

## Non-invasive

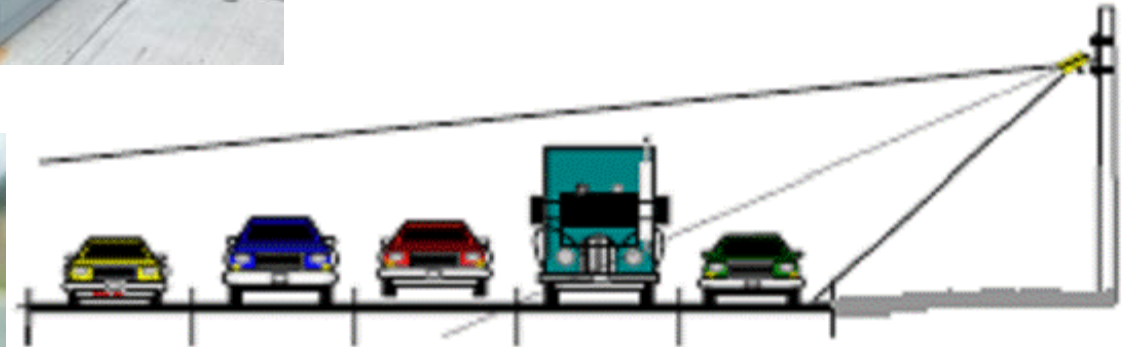
- Radar
- Laser





# Detectors – advantages & disadvantages

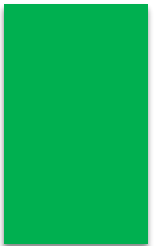
- Vandalism
- Soiling
- Radar detectors
- Occlusion
- Road works
- Maintenance
- Installation height



# Fixed enforcement cameras



- Red-light enforcement
- Spot speed enforcement
- Combined red-light / speed



# Red light camera videos



# Red light camera videos





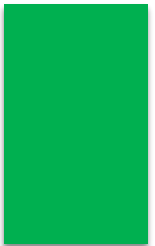
# Red light camera videos



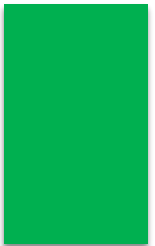


# Semi-fixed speed cameras

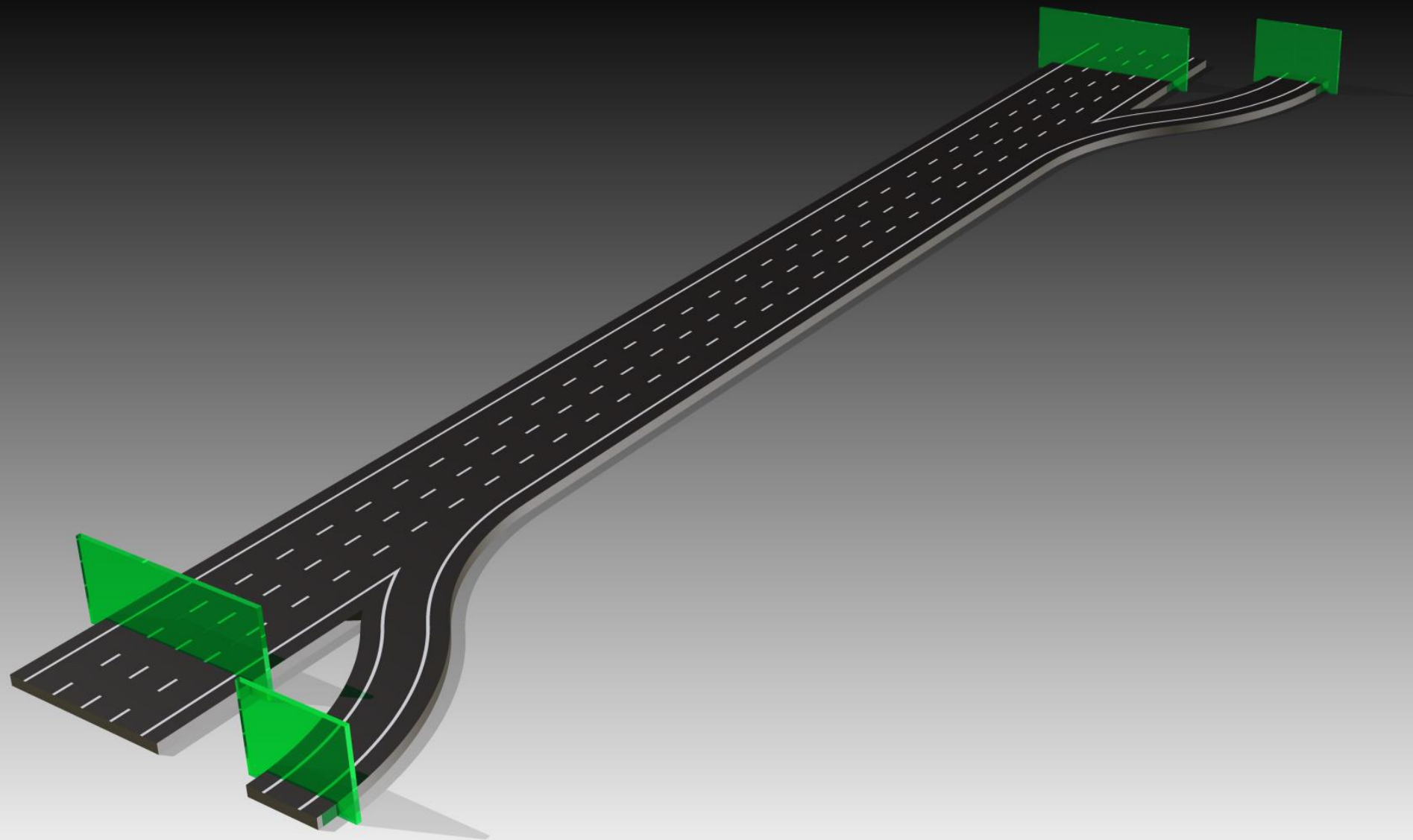
- Temporary spot speed enforcement





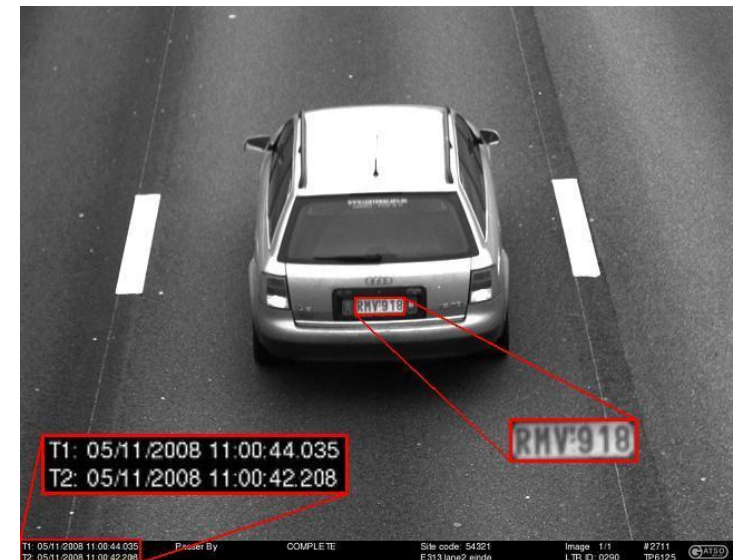
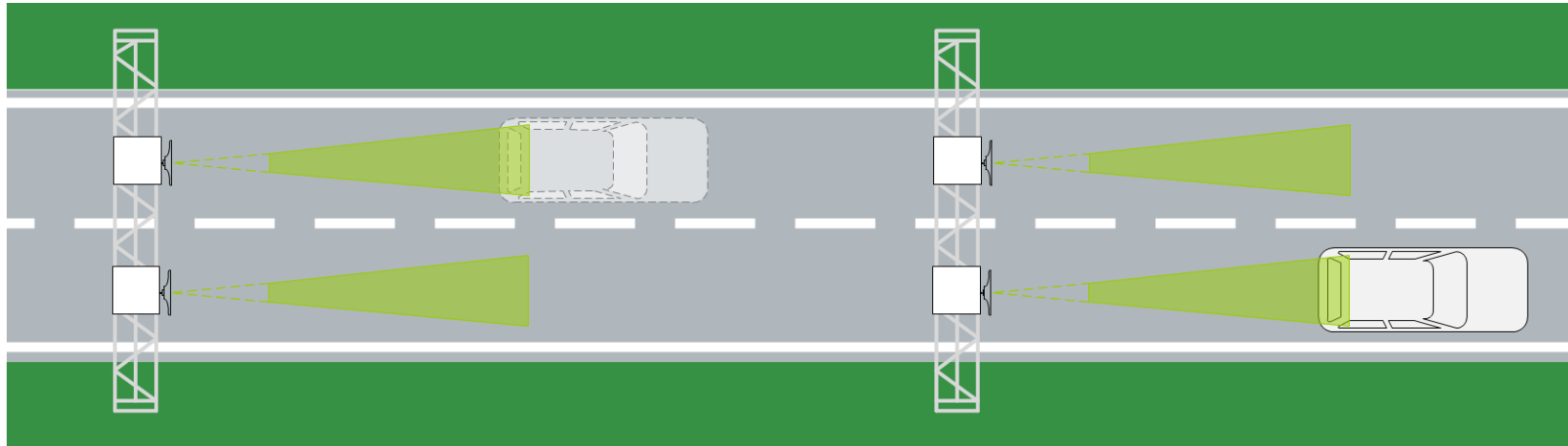






# Average speed cameras

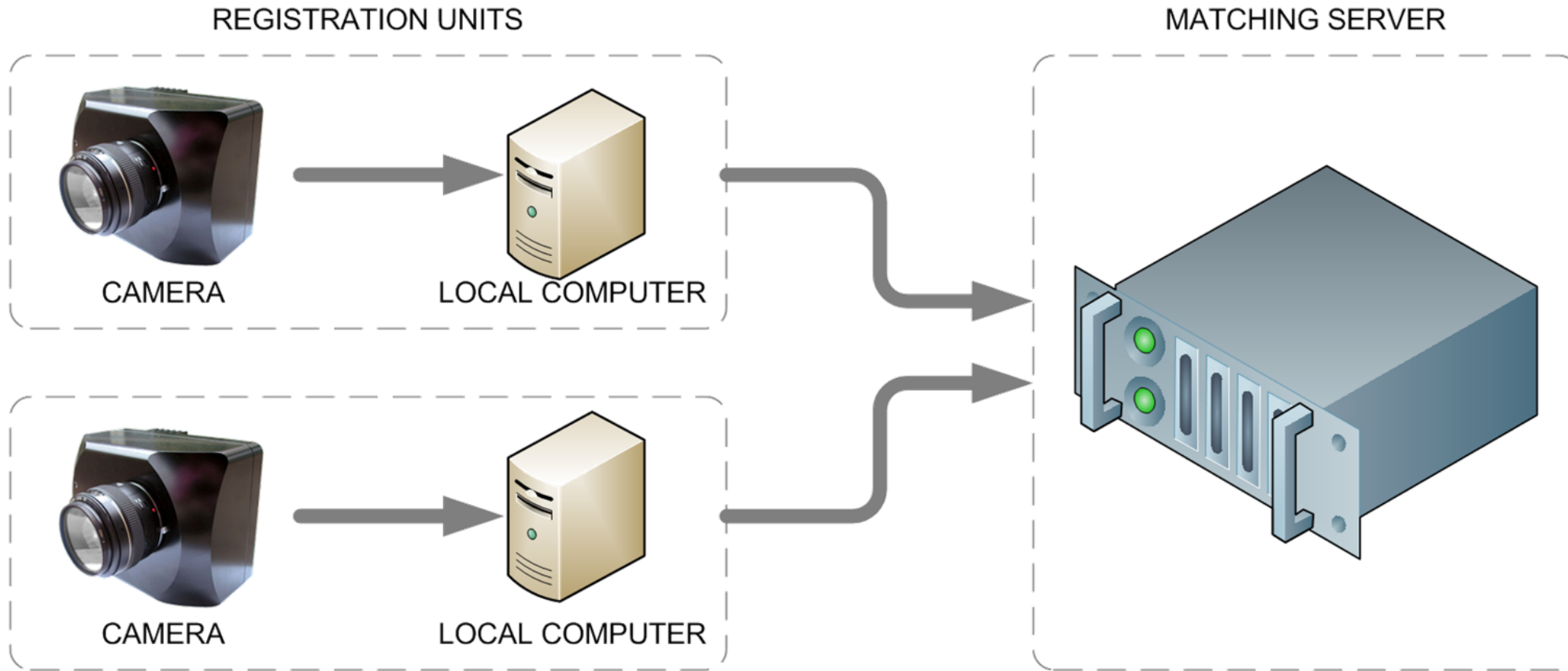
- Principle entry – exit, time over distance
- No speed is measured
- Highly effective



70  
YEARS



# Average speed enforcement





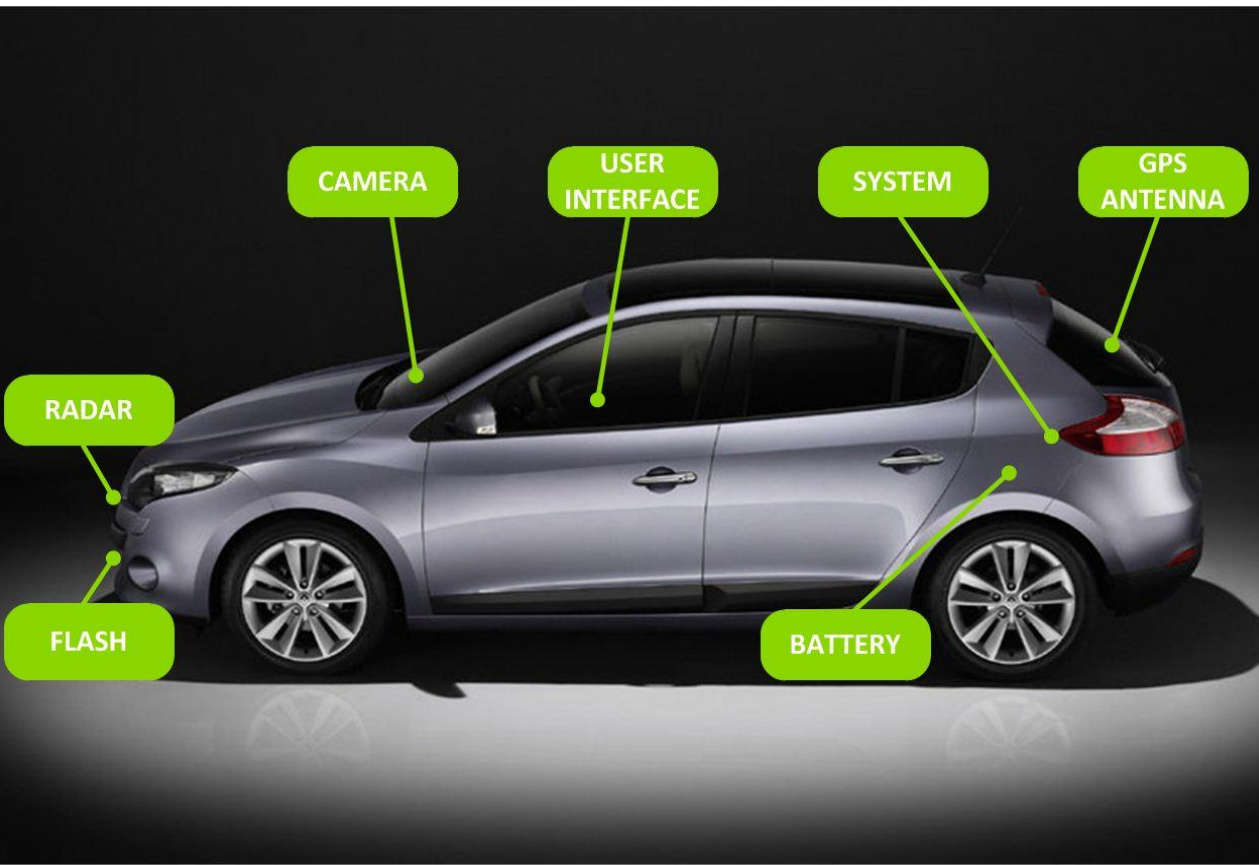
# Mobile speed cameras

- Spot speed enforcement by police



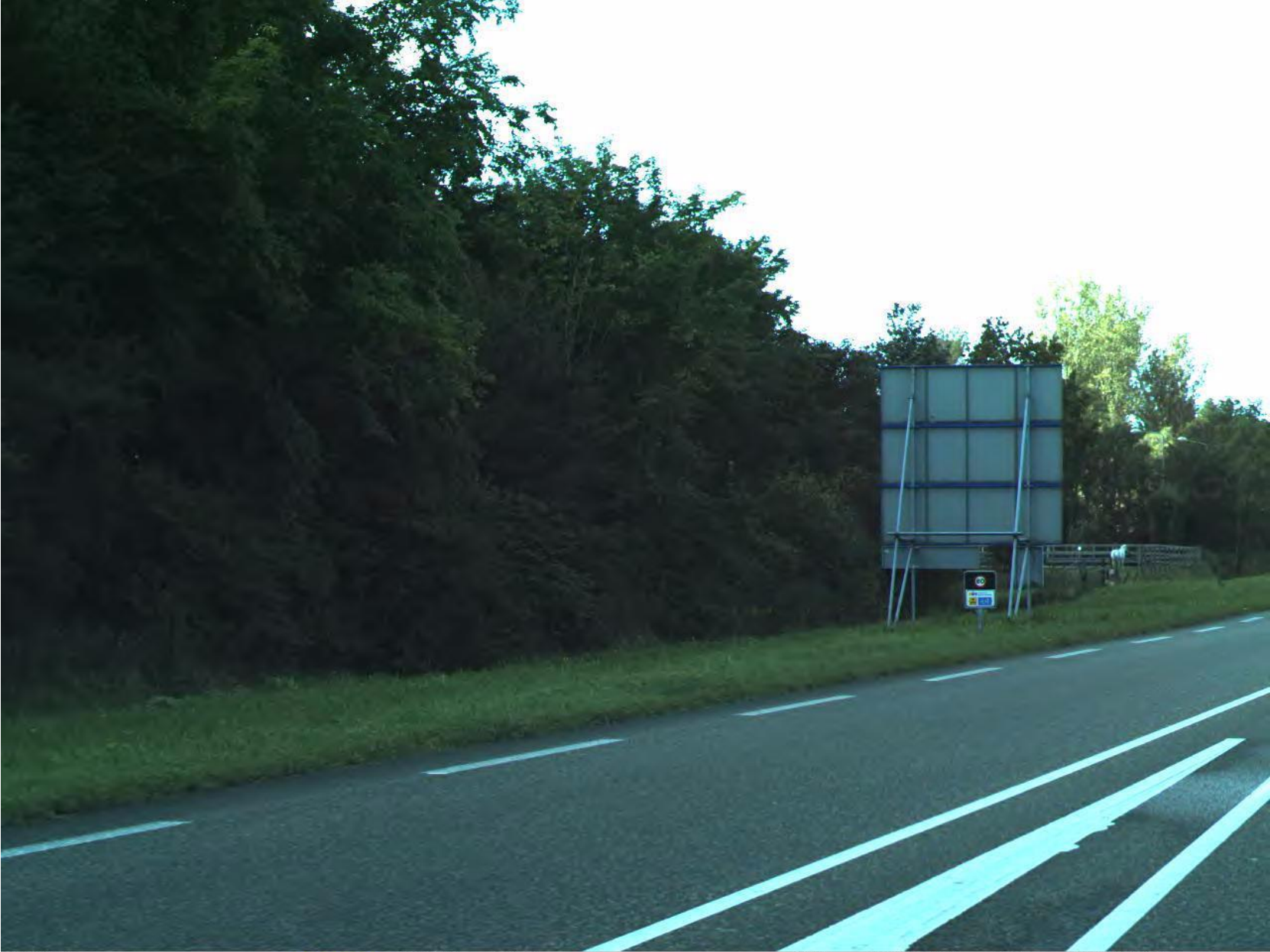
# In-vehicle system

- mobile and stationary speed enforcement by police





# In-vehicle enforcement video



Serial nr: **GATSO** Location: Gatso Date: 2012-09-12 Time: 13:49:37.602

nr	Date	Time	OffenceType	OwnSpeed	DifferentialSpeed	VehicleSpeed	VehicleDirection	Elapsed
# 382	2012-09-12	13:49:35.998	speed	71.2 km/h	147.3 km/h	76.1 km/h	approaching	1.604
# 381	2012-09-12	13:49:34.864	speed	72.4 km/h	135.6 km/h	63.2 km/h	approaching	2.738
# 380	2012-09-12	13:49:33.958	speed	71.6 km/h	152.3 km/h	80.7 km/h	approaching	3.644
# 379	2012-09-12	13:49:32.698	speed	72.2 km/h	152.2 km/h	80.0 km/h	approaching	4.903









# Enforcement cameras

- Overt or covert?
- Different opinions





# Preparations and implementation

- Strategic approach
- Long preparation time due to regulatory and procedural changes
- Timely involve all stakeholders also for PR
- Strategy also defines hardware types
- Don't rush front-end hardware roll-out
- Start hardware roll-out on a limited scale
- Scalability back-office
- Multiple camera communication protocols for back-office
- Homologation and/or second measurement method



# Emerging enforcement technologies by RSS