



# General Inspectorate of Road Transport Centre for Automatic Traffic Enforcement (CANARD)





## **Process of recording violations and installation of stationary recording devices**

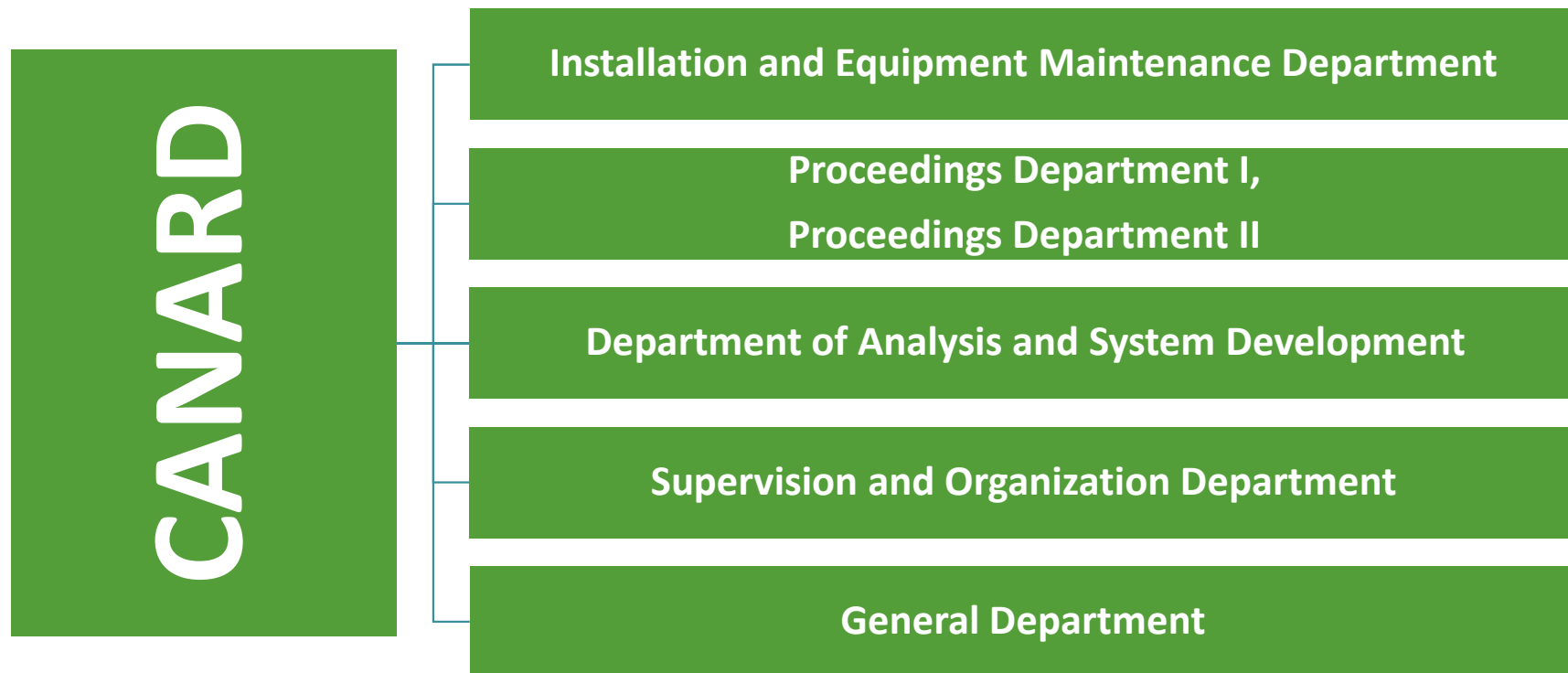
## A bit of history (2023 – the 13th year of system operation)

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- ✓ 2010 – Road Transport Inspection obtains authority to disclose using Stationary Recording Devices (SUR):
  - exceeding the speed limit
  - disobeying traffic signalsenabled the construction of the Centre for Automatic Traffic Enforcement (CANARD)
- ✓ The first stage of the CANARD system was based on SUR equipment taken over from the:
  - National road managers (445 enclosures and 4 recording devices from the General Directorate for National Roads and Motorways)
  - Police (100 recording devices)(they allowed manual ripping of recorded violation data on violations was similarly (manually) entered into the CANARD computer system)
- The next steps in the expansion of CANARDs 'de facto automatic' system include the installation of new SUR devices with connectivity (GSM) to the CANARD information system. The connectivity allows real-time supervision of vehicle traffic at locations of the SUR and remote configuration of devices.

# Structure of the Centre for Automatic Traffic Enforcement (CANARD)

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# Installation and Equipment Maintenance Department – WUCANARD



## Implemented tasks:

- ✓ Related to the operation of the automatic traffic surveillance system
  - ongoing remote supervision of the correct functioning of equipment in the system (Poland) and direct control of SUR in the field (in the area of CANARD operations)
  - preparation and implementation of contracts for repair and legalization of stationary recording devices
  - preparation and implementation of agreements with local governments on installation, transfer of devices
  - participation in tender committees and implementation of contracts related to system expansion
  - coordination of installation of new and relocated recording devices, their technical acceptance
- ✓ Site typing for newly purchased equipment / relocated equipment conducted based on in-house resources gathered in connection with the implementation of SUR installation requests and on the basis of road safety analyses prepared by external parties

# Recording devices

devices: Fotorapid CM, Multiradar CD, Fotorapid CF, TraffiStar SR520, Unicam VELOCITY3, Neurocar 2.0 RedLight, Mesta Fusion RN

✓ we operate on 523 stationary devices

22 recorders of passing red lights at intersections (sets)

462 speed cameras

37 sectional measuring devices average speed

2 recorder of passing red lights at railroad crossing



40

We are in the process of  
**EXTENDING** the system

by 100 new fixed  
equipment locations

26 speed cameras  
(already installed)

39 sectional measuring devices  
average speed

30 recorders of passing red  
lights at intersections

5 red light passing recorders  
red lights at  
railroad crossings

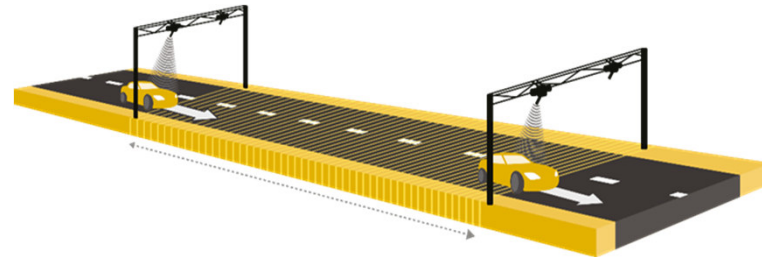


# Stationary Recording Devices – type of measurement:

1) spot speed measurement



2) sectional measuring devices average speed



3) Registration of crossing at red lights (including at railroad crossings)



# Stationary Recording Devices – device models:

spot speed measurement – speed camera – operation of the device based on the use of the Doppler effect, i.e. the magnitude of the difference in the frequency of the microwave sent from the device and reflected by the moving vehicle is proportional to the speed of the vehicle

speed cameras used in the system

Fotorapid CM, Fotorapid CF – producer: Zurad Sp. z o.o.



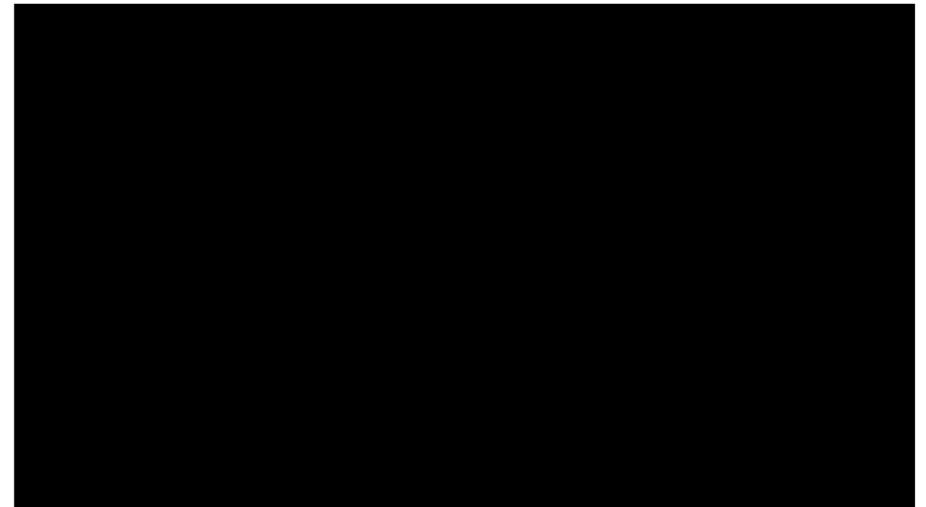
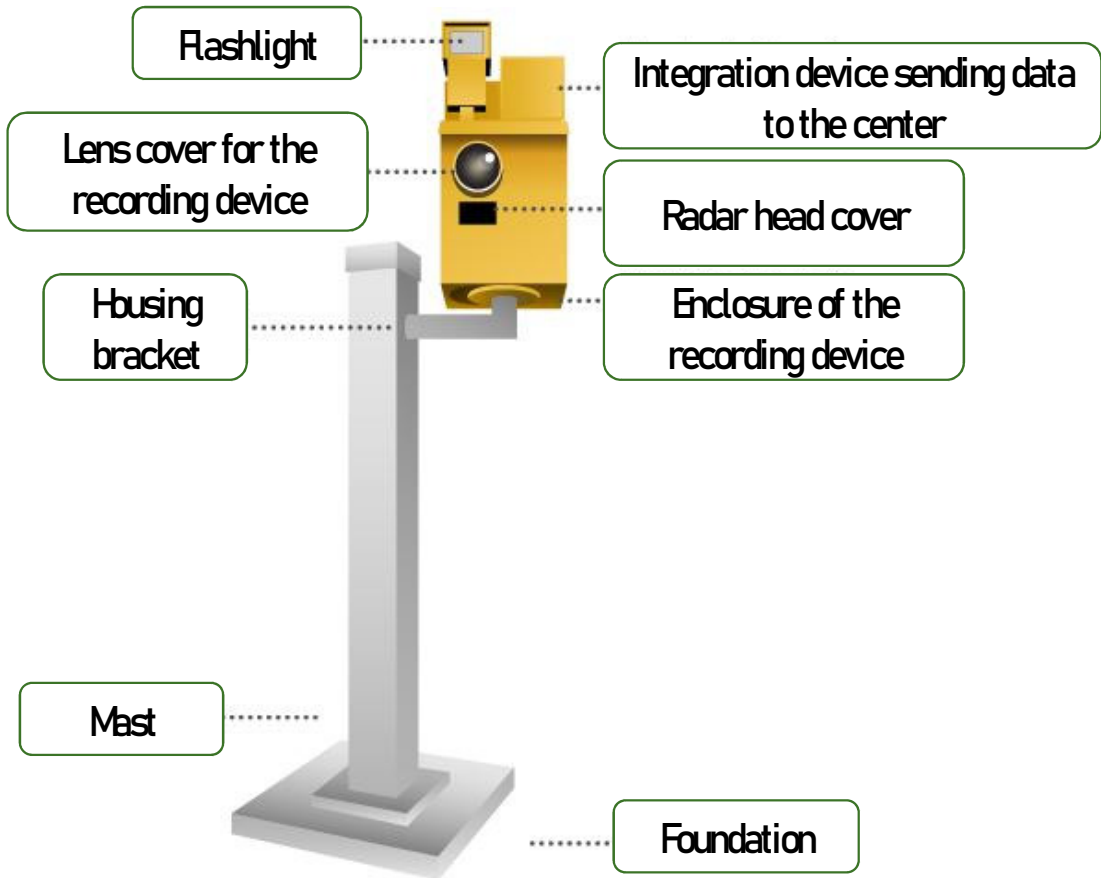
Mutaradar CD – producer: Jenoptik Robot GmbH

Mesta Fusion RN – producer: IDEMA IDENTITY & SECURITY FRANCE





# Stationary Recording Devices - recording violations



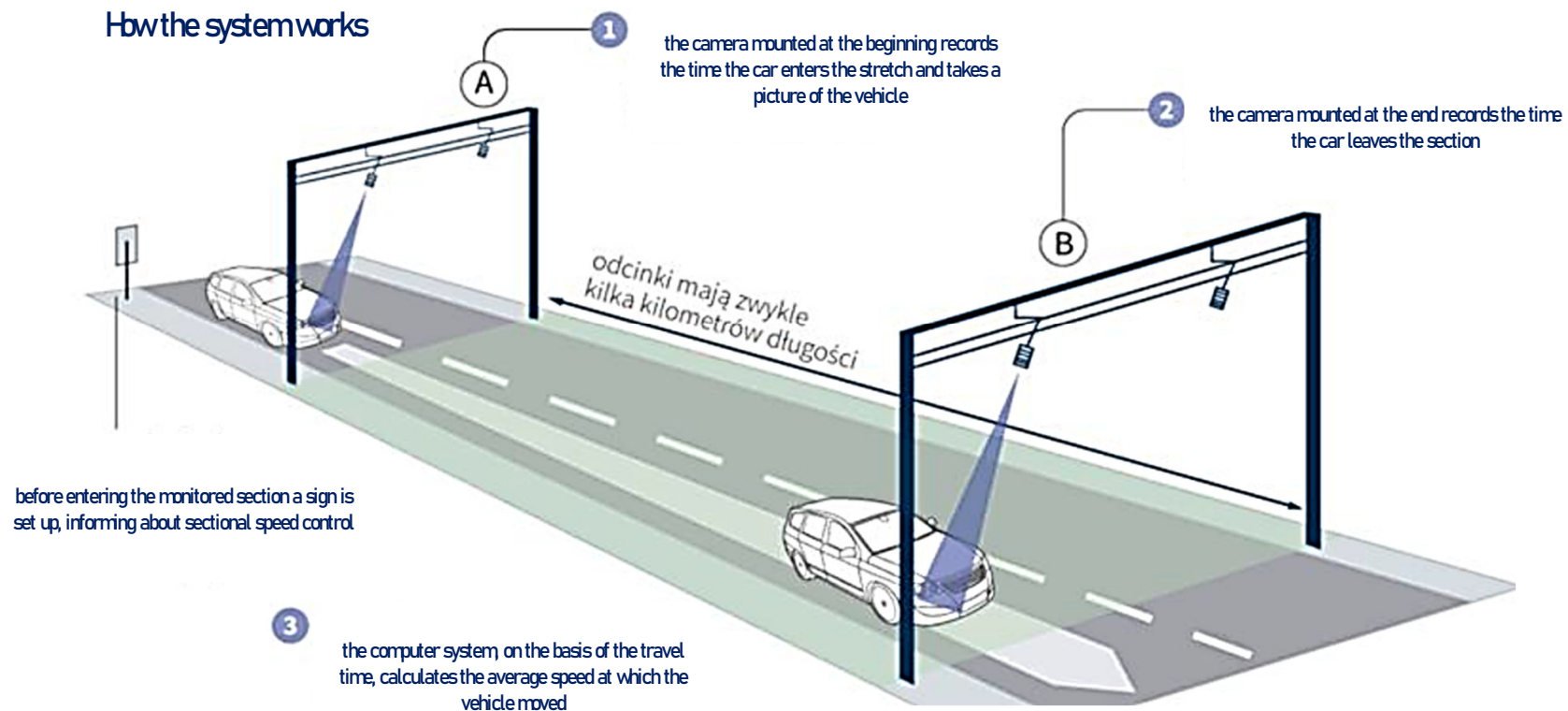
# Stationary Recording Devices – device models

Sectional speedometer – records the average speed of vehicles that pass over a specified section of road. The basis of the measurement is the measurement of the vehicle's travel time along a road section of known length. The speed is calculated as the quotient of the length of the measuring section and the measured travel time

Unicam VELOCITY3 – producer CAMEA spol. s r.o.



# Stationary Recording Devices – recording violations – sectional measurement:



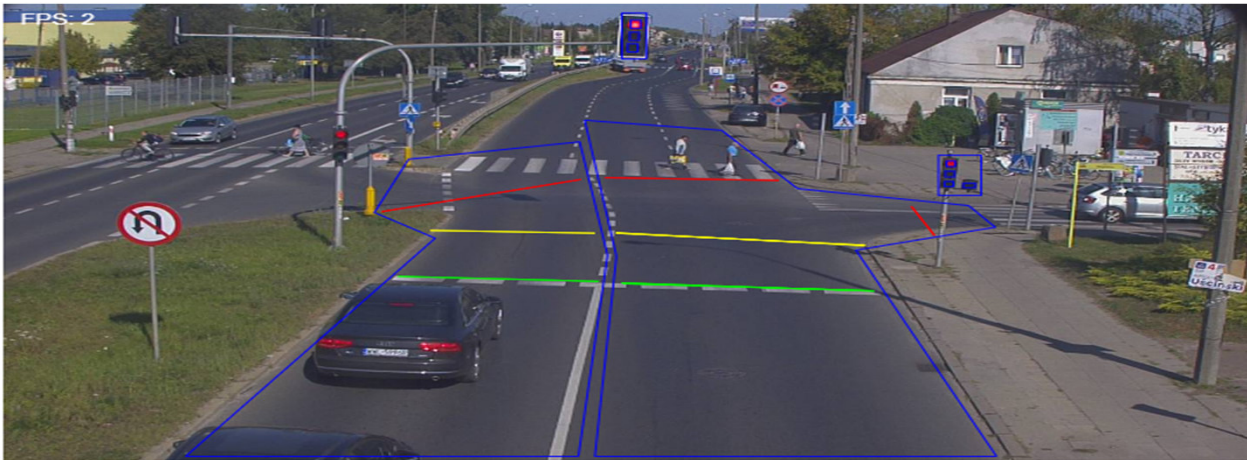
# Stationary Recording Devices – device models



registration of red light crossing  
(including at railroad crossings)

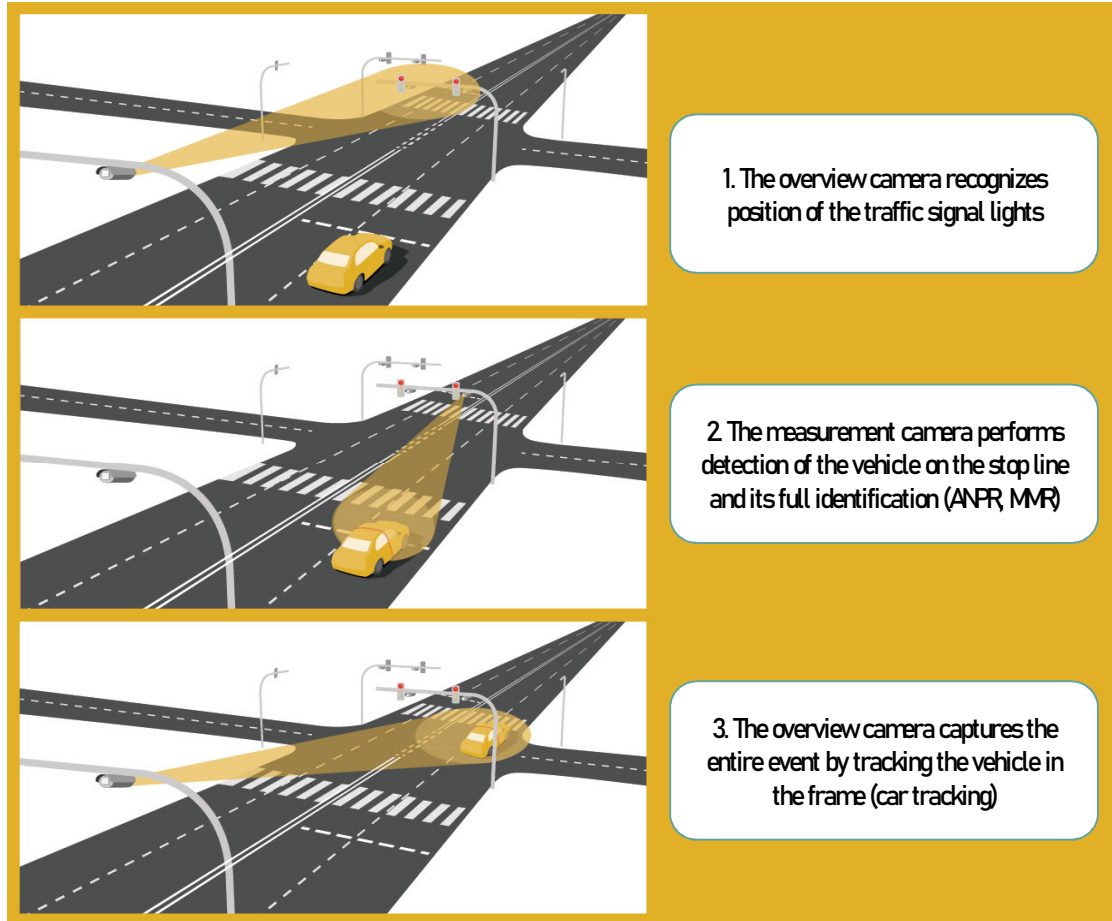
NeuroCar RedLight – producer: CAMEA, spol. s r.o.

Red light monitoring is implemented from two cameras – a general camera, located in such a way as to record the state of the traffic light and the rear of the offending vehicle, and a detailed camera allowing registration of the front of the vehicle equipped with the ARTR (automatic license plate recognition) function.



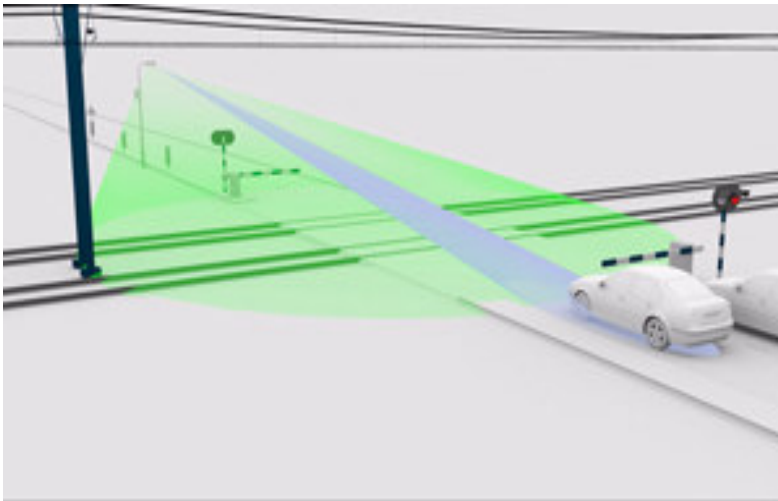


# Stationary Recording Devices – recording violations – red light:



# Stationary Recording Devices – recording violations at rail-road crossings:

Devices recording offenses of disobeying traffic lights at a rail-road crossing consist of the following:



Source: NERESST, NERCO RAILWAY CROSSING



- appropriately selected, according to the size of the rail-road crossing, the number of recording cameras and cameras of the ANPR system (license plate recognition)



- a computer controlling the recording device

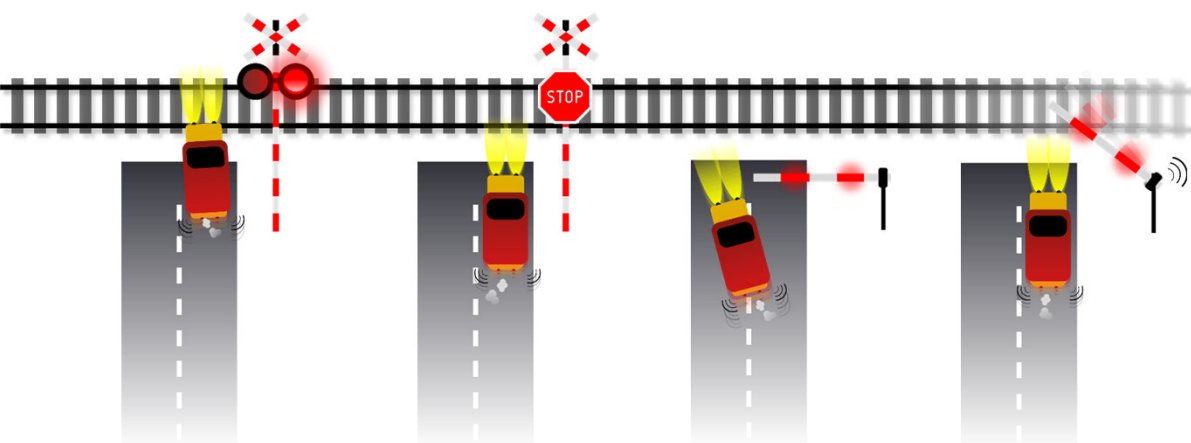


- a set of devices communicating with the central system



# Stationary Recording Devices – recording violations at rail-road crossings:

## Most common causes



ignoring a red light

failure to obey a  
STOP sign

bypassing closed  
semi-collars

entering the crossing  
when the barriers  
are lowered

Accidents and collisions that include vehicles and pedestrians on the railroad crossings/ passages cat. A-E since the beginning of 2023\*



\*Situation as at: 06.09.2023 r. (source: bezpieczny-przejazd.pl)

# Applications for installation of Stationary Recording Devices processed by GTD

✓ Between 2011 and 2022, employees of the General Inspectorate of Road Transport (field units – delegations and CANARD WU) processed 4289 applications for installation of stationary recording devices

✓ 2022 – 250 applications for installation of equipment were processed at CANARD, including:

- local governments	- 94 applications	(37,6 % processed)
- individuals	- 98	(39,2 %)
- road managers	- 13	(5,2 %)
- Police	- 16	(6,4 %)
- deputies, senators	- 15	(6,0 %)
- public institutions, companies, etc.	- 14	(5,6 %)

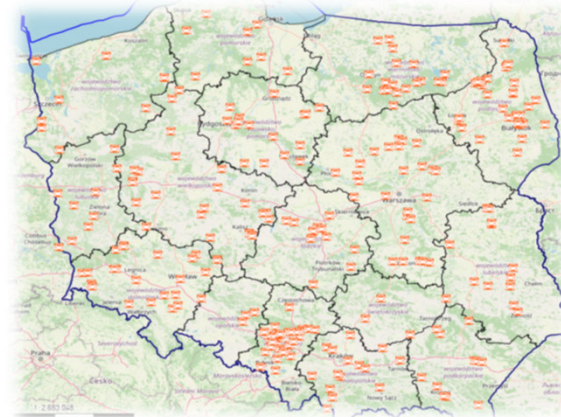
At the same time, the territorial delegations processed 196 applications for the installation of stationary recording devices on roads of lower categories (other than national roads).



# Mobile recording devices

# Mobile recording devices

Mobile recording devices complement the speed camera network. They are used throughout the country, primarily in places where it is not possible to install speed cameras.



The GTD has 29 mobile recording devices (AD 9C) and 11 video recording devices (VideoRapid 2A).

The devices are installed in unmarked emergency vehicles used by traffic inspectors also when conducting roadside inspections and technical vehicles used to operate stationary recording equipment.





# Mobile recording devices



## Unmarked emergency vehicles:

3 Volkswagen Passat vehicles

9 vehicles Ford Mondeo

10 vehicles Ford Focus

11 vehicles BMW 3

## Marked technical vehicles:

7 vehicles Peugeot Partner



# Mobile recording devices



As part of the ongoing project "Increasing the effectiveness and efficiency of the automatic traffic surveillance system", the purchase of 33 new vehicles equipped with various types of devices was planned, first 11 vehicles are already in use.





# Mobile recording devices



Offenses recorded with mobile recording devices are processed in CANARD's CPD system provided that inspectors did not punish the driver immediately after recording the offense.

The screenshot displays the CANARD CPD system interface, which is used for processing offenses recorded by mobile recording devices. The interface is divided into several sections:

- Video Player:** Shows a live or recorded video of a car on a highway. The video player includes a timestamp and speed information: "120km/h 00:00:25.47 849m O60.C50km/h 56m".
- Event List:** A table listing recorded events. The table has columns for "Data i czas czynności" (Date and time of the act), "Opis czynności" (Description of the act), "Id operatora" (Operator ID), and "Parametry czynności" (Parameters of the act).
- Event Details:** A detailed view of a specific event, showing the "Wynik" (Result) and "Komentarz" (Comment).
- Event Summary:** A summary of the event, including the "Progi wypełnienia" (Thresholds), "Data i czas zdarzenia" (Date and time of the event), "Kierunek pomiaru" (Direction of measurement), "Identyfikator zapływu" (Flow identifier), "Kod lokalizacji" (Location code), "Prędkość/Srednia prędkość" (Speed/Average speed), "Ograniczenie prędkości SO/SC" (Speed limit SO/SC), "Typ urządzenia" (Device type), "Kod punktu kontrolnego" (Control point code), and "Kategoria pojazdu" (Vehicle category).

The interface also includes a search bar at the top and a sidebar on the right with a "Wyszukiwanie" (Search) button and a "Wyniki" (Results) section.

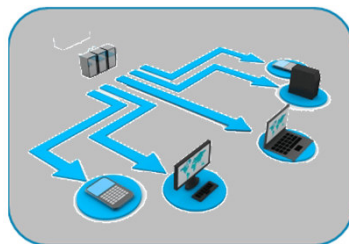
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Akceptuj



CANARD CPD system

# CPD CANARD ICT system



Owner data is  
obtained from the  
Central Vehicle  
Register



Sending a summons



URZĄD SKARBOWY

Tax Office

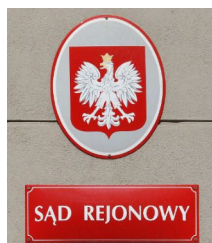


No payment



Executive title

District Court



Agreeing to the mandate



Statement of intent by the  
owner/holder of the vehicle

Request for  
punishment



Refusal to  
accept the  
mandate



## CANARD CPD functional areas



Control and  
preselection

Handling of  
cases and  
proceedings

Communication  
with the parties  
to the  
proceedings

Payments and  
settlements

Road  
infrastructure  
management

Analysis and  
reports on  
CANARD  
activities

Electronic  
customer  
service office  
(eBOK)

## Electronic customer service office (eBOK)

Electronic customer service office (eBOK) is a tool available on the CANARD GTD website which allows registered users to access selected informations about cases and to conduct electronic correspondence in cases concerning registered road traffic violations.

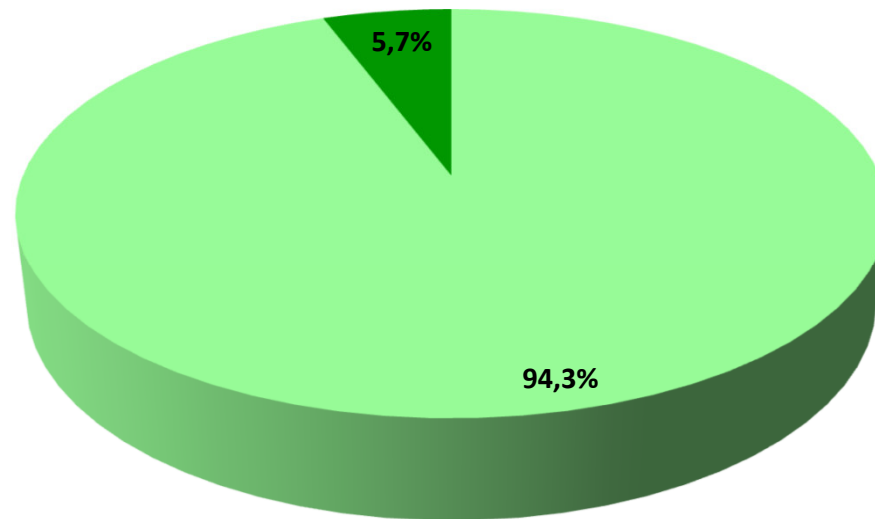
265 249 – active number of users (status as of September 22, 2023)





# Case execution vs. process automation

% of automated case processes vs. manual activities



■ SYSTEM ■ WORKER

# Integration with external databases



Central Register of Vehicles  
and Drivers



External Correspondence  
Operator



MINISTERSTWO  
SPRAWIEDLIWOŚCI

[www.ms.gov.pl](http://www.ms.gov.pl)

Ministry of Justice  
National Court Register (KRS)



Narodowy Bank Polski

National Bank of Poland



Ministerstwo  
Cyfryzacji

Ministry of Digitization  
National Contact Point (KPK)  
Cross-border Information Exchange



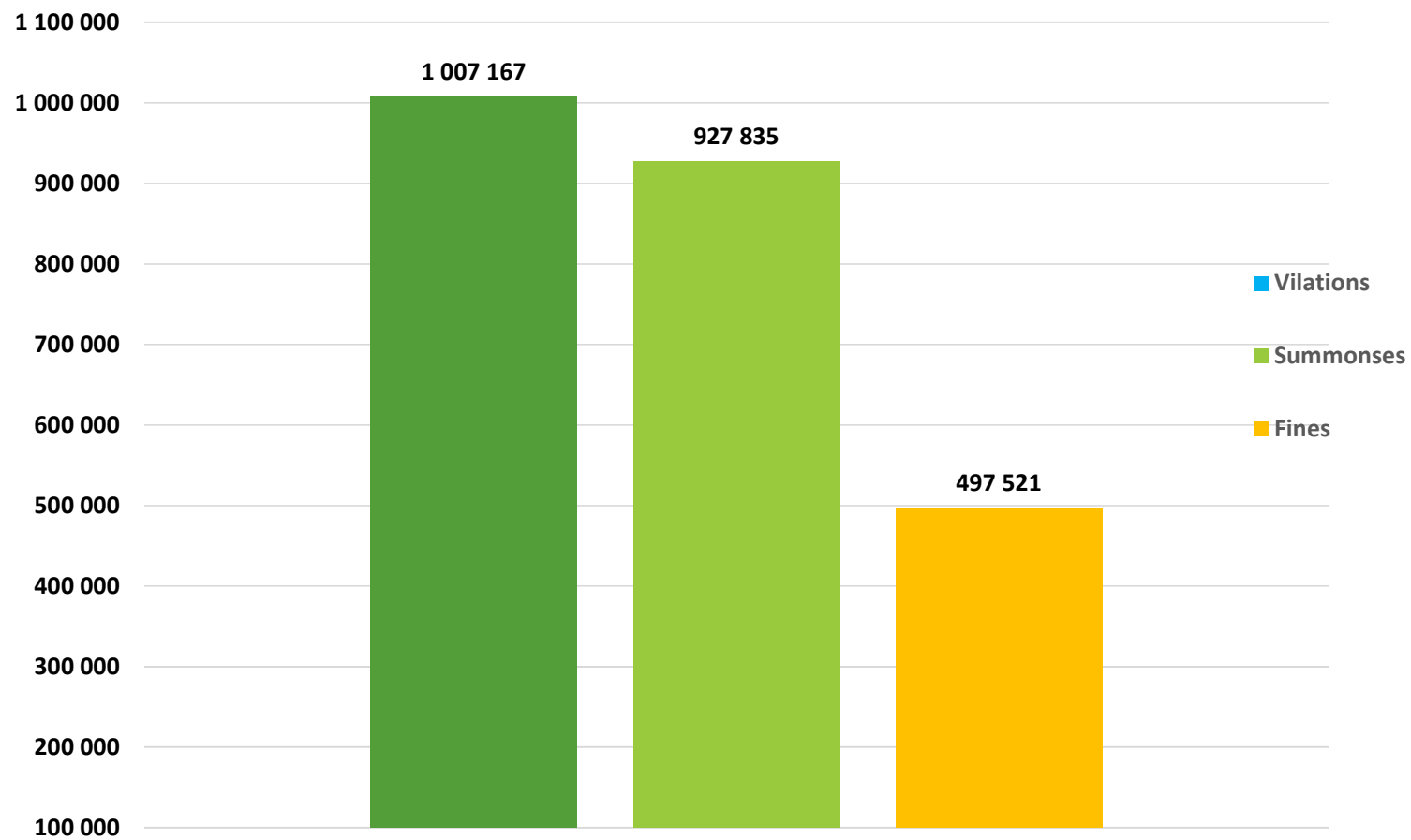
Ministerstwo  
Finansów

Ministry of Finance  
Electronic enforcement title (eTW)

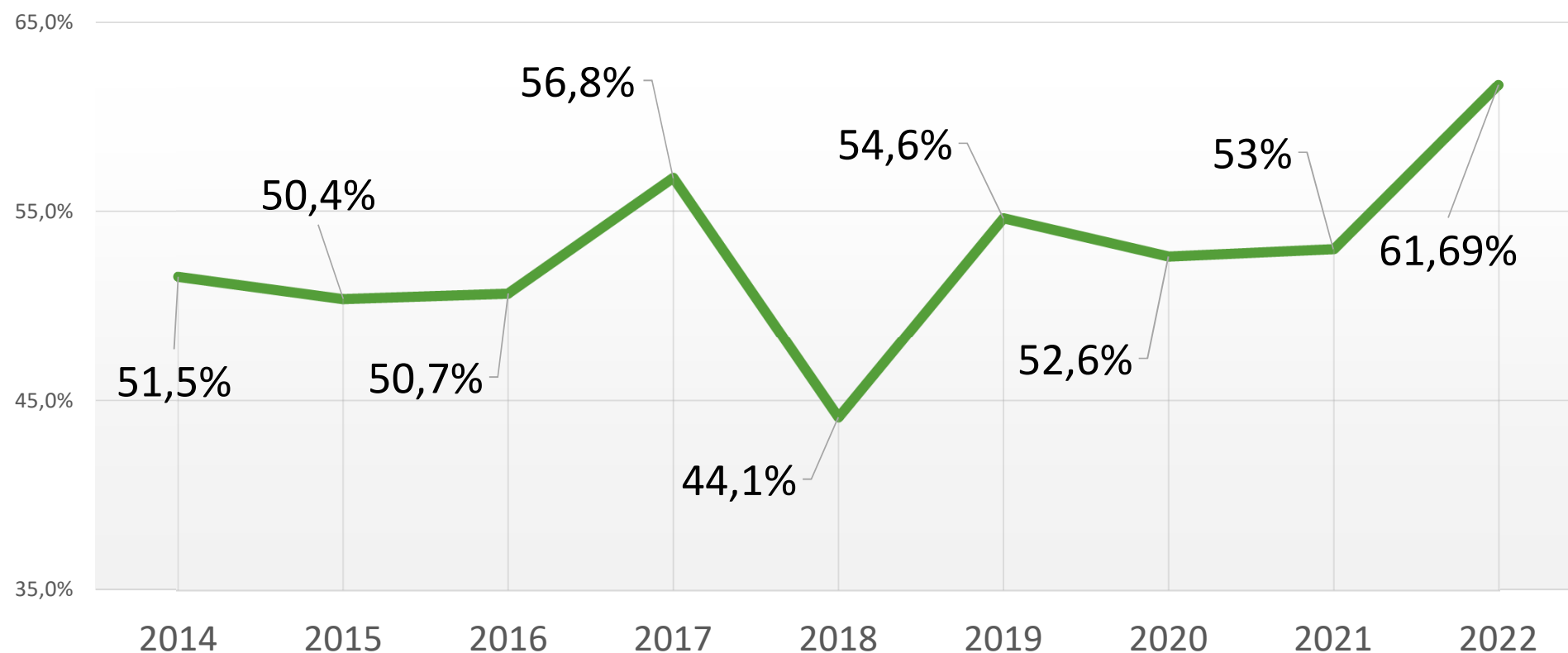


Police  
National Police Information System  
(KSIP)

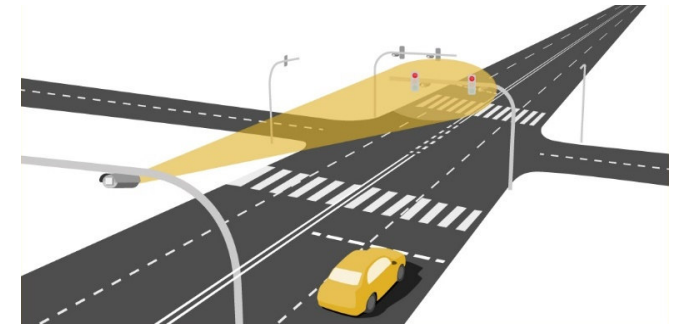
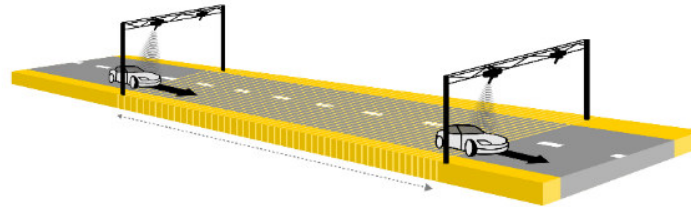
# CANARD 2022 control activities



## Effectiveness of ongoing investigations from 2014 to 2022



# Efficiency of the CANARD system



ACCIDENTS

positive impact in 350 locations

– 75,26 %

INJURED

positive impact in 296 locations

– 63,66 %

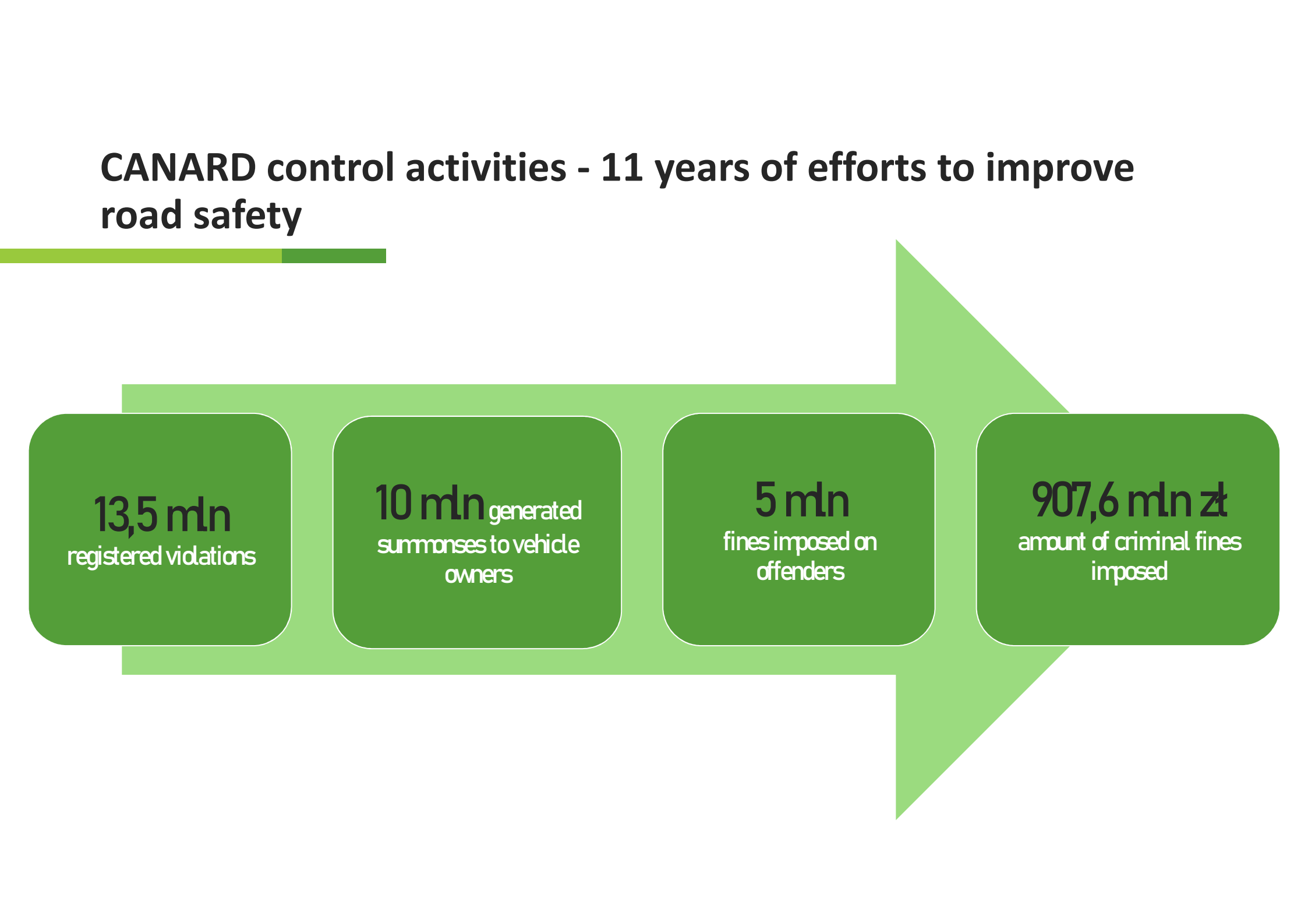
KILLED

positive impact in 452 locations

– 97,20 %

the analysis shows that both the number of vehicles exceeding the speed limit  
and the number of traffic incidents have decreased  
in the vast majority of locations

## CANARD control activities - 11 years of efforts to improve road safety



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**13,5 mln**  
registered violations

**10 mln** generated  
summonses to vehicle  
owners

**5 mln**  
fines imposed on  
offenders

**907,6 mln zł**  
amount of criminal fines  
imposed