

# "EVOLIS SOLUTION"

## RADAR SPEED SIGNS



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## I. ELAN CITE: LEADING MANUFACTURER OF RADAR SPEED SIGNS

### A. WHO WE ARE

- Created June 2005
- Based in Orvault, next to Nantes (France)
- Activity: Design and manufacture of electronic display products for collectivities
- Presence: France + 50 countries
- Customers: more than 5,000 municipalities
- Units installed : more than 18,000

### B. OUR GOALS

- To provide a range of products dedicated to local communities : quality, reliability, ease of use
- To design innovative and user friendly products
- To help you at all stages of your projects
- To offer a reactive and qualitative customer service

### C. 100 % MADE IN FRANCE

All our suppliers are based in France and ISO 9001 certified.

We guarantee optimal and consistent quality, through rigorous checks at every stage.



### D. OUR RANGE OF PRODUCTS



RADAR SPEED SIGNS



INFORMATION DISPLAYS



PASSENGER  
INFORMATION  
DISPLAYS



FLASHING BEACONS

## E. THEY TRUST US

More than 5,000 customers in France and worldwide:



VILLE DE NOUMEA

## II. RADAR SPEED SIGNS: A POPULAR AND EFFECTIVE SYSTEM

### A. MORE THAN 10.000 FRENCH LOCAL GOVERNMENTS EQUIPED

In less than 10 years, the number of French local governments using radar speed signs has increased from 1.000 to more than 10.000, for following reasons:

- Efficiency in traffic calming: 15 to 25 % average, measured at our customers.
- Proven long term efficiency, even for permanent installations.
- Popularity among residents, school areas...
- The ability to generate traffic statistics.

### B. HOW DOES IT WORK?

A radar speed sign is used for traffic calming by confronting motorists with their speed. They are commonly installed at village entrance, crossings and schools.



Speed is detected by a Doppler radar located inside the speed sign casing. The radar sends radar waves, the frequency of the waves reflected by the vehicle allows to calculate precisely its speed.

If speed is below the limit, it is displayed in Green or Amber. Excessive speed will be displayed in red.

Messages can also be displayed according to detected speed (slow down, danger...)

Beyond its traffic calming function, a radar speed sign also provides useful traffic information data (average and maximum speed, amount of vehicles...).

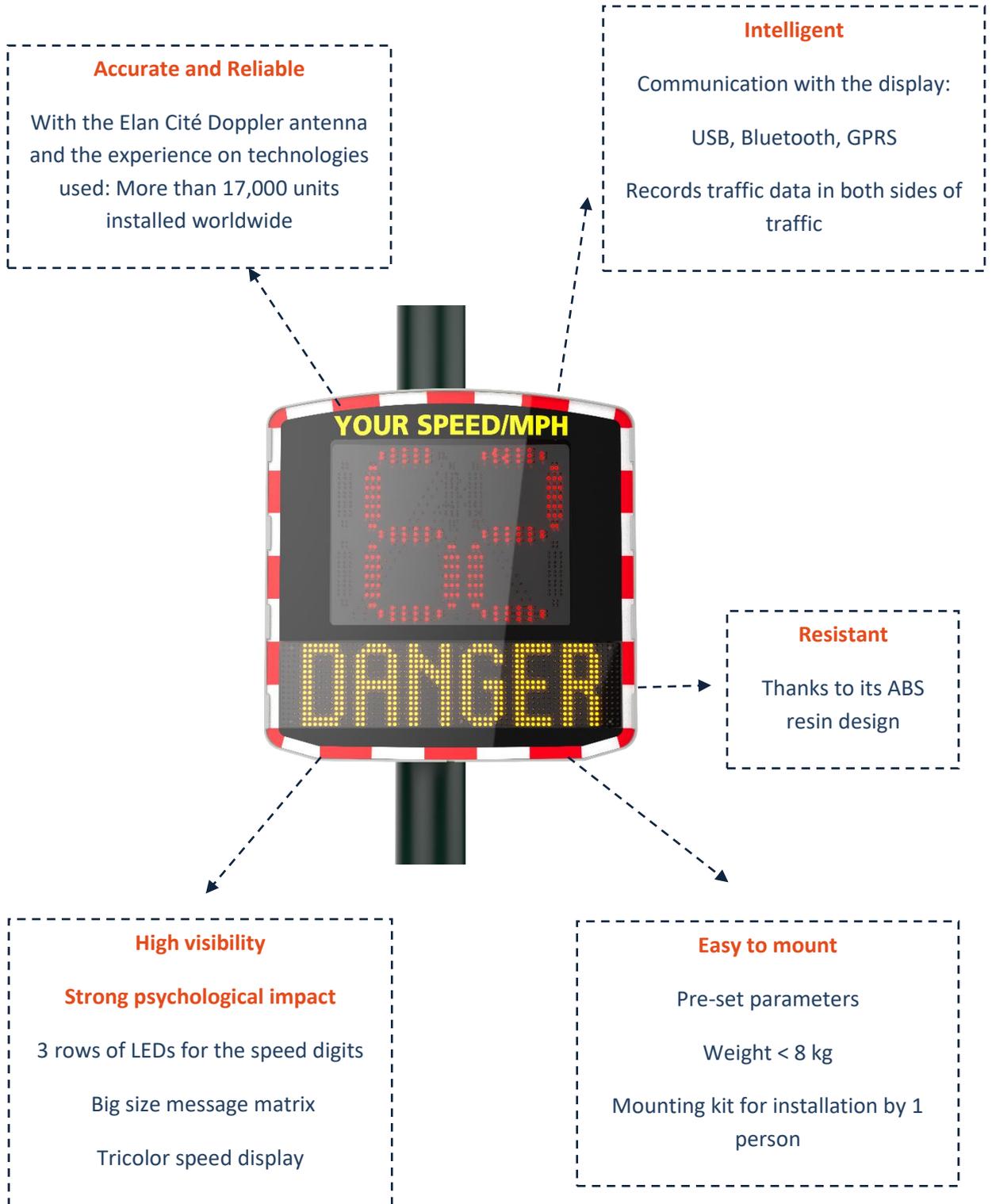
To achieve significant speed reductions, it is important to confront the drivers with their excess speed for as long as possible

This is achieved by:

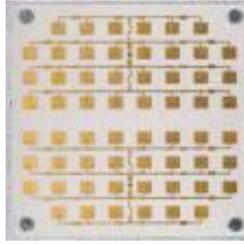
- Selection of a site with straight visibility (from 50 to 250 meters)
- Best quality and visibility of the display
- Range of the Doppler radar antenna

### III. EVOLIS SOLUTION: THE WORLDWIDE MARKET REFERENCE

#### A. PRESENTATION



## B. ELAN CITE DOPPLER RADAR: PRECISE SPEED DETECTION



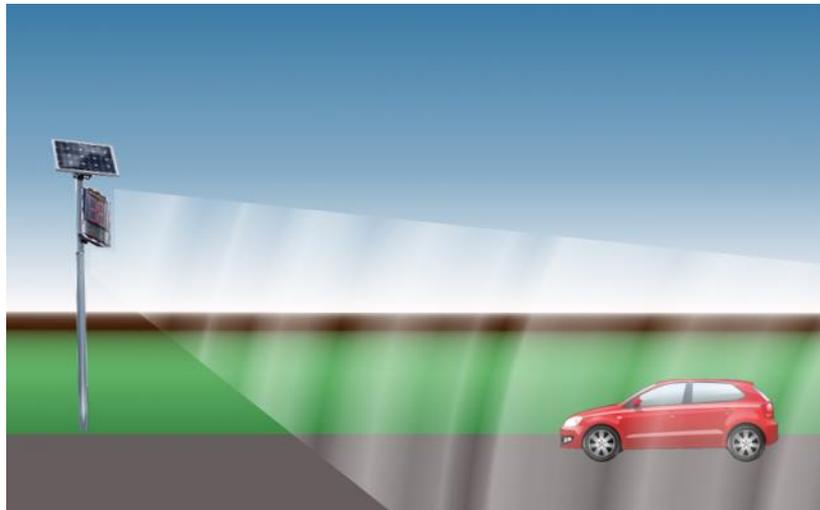
The Doppler antenna is the key element of a radar speed sign.

It has to provide:

- Most precise speed detection
- Long range

The Elan Cité Doppler antenna is:

- Located inside the casing
- Accuracy: +/-1%
- Range: up to 300 meters (adjustable)
- Detection: both sides of traffic. Only speed of on-coming vehicles is displayed. Data of on-coming and out-going vehicles are collected and saved to generate traffic statistics.
- Angle: 12° Horizontal 25 % Vertical
- Certified ETSI EN 300 440/ ROHS and CE2002-95-EG



## C. EYECATCHING DISPLAY OF SPEED AND MESSAGES

### DISPLAY OF SPEED

Evolis 3 colors display enable to:

- Display in **GREEN** or **AMBER** the speed below the limit.
- **RED** for excess speeds (flashing for critical speeds)
- Block the display of speed after a certain limit in order to prevent the « race-effect ». A danger signal triangle "A14" is then displayed.

#### Posted speeds



#### Excess speeds

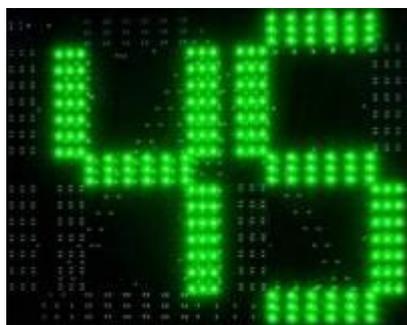


Speeds beyond the programmable threshold « maximum » ("anti-race")



In order to get better contrast and achieve best speed reduction, choose the green for speeds below the limit.

The visibility of the display is one of the main qualities of an effective radar speed sign. The psychological impact and induced speed reductions are directly related to the confrontation time of the drivers with their speed.



34 cm



- 3 digits: allows to display from 1 to 199 km/h)
- automatic brightness control



Using 3 LEDs segments for the digits provides significant increase of visibility and therefore of the traffic calming effect.



Evolis 3 LEDs display



2 LEDs displays



1 LED display

## DISPLAY OF TEXT MESSAGES

Depending on speed, up to 5 different messages can be edited and displayed on the "Full-graphic" matrix 64\*16 Pixels:



Examples of messages:

Type of message		Line height	Number of characters
1 Line of Text		16 cm	Up to 8
2 Lines of Text		7 cm	Up to 11
Icons		16 cm	

COMPARISON	
ELAN CITE BIG SIZE MATRIX 16*64 Cm	COMMON MATRIX 16*48 Cm



## SPECIAL FEATURE "EVENT"

For daily or weekly recurrent events such as school times or market day, you can display a specific message (example: « CAUTION SCHOOL») only at certain times of certain days.

DAYS	
Monday	<input checked="" type="checkbox"/>
Tuesday	<input checked="" type="checkbox"/>
Wednesday	<input type="checkbox"/>
Thursday	<input checked="" type="checkbox"/>
Friday	<input checked="" type="checkbox"/>
Saturday	<input type="checkbox"/>
Sunday	<input type="checkbox"/>

Operating hours		
	Start	End
Time slot #1	07:30	09:00
Time slot #2	11:30	12:30
Time slot #3	13:30	14:30
Time slot #4	16:30	17:30

THRESHOLD	
Minimum speed displayed	8 Km/h
Color changing speed	31 Km/h
Flashing display trigger speed	35 Km/h
Maximum speed displayed	89 Km/h
Relay trigger speed	199 Km/h

Complementary mode  
Alternative display mode enable:  Yes  No

MESSAGES	
Message #1	8 Km/h



## HIGH BRIGHTNESS LEDS FOR BOTH DISPLAYS

- Osram SMC high brightness low consumption LEDs
- Lifetime > 100.000 hours
- High visibility process with contrast lenses
- Automatic brightness control



## D. RESISTANT AND ESTHETIC STRUCTURE



Elements	Specifications	Benefits
Front Face	Antiglare Polycarbonate. Convex shape	Excellent impact resistance. Excellent visibility even by bright sunlight
Casing	Reinforced Polycarbonate ABS resin. No external metal component (except stainless steel locks). Structural performance (charges, deformities, Passive Safety, resistance to shock and vibration) fully meet the requirements of the standard CE12966.	Strongly resistant. No corrosion.
	Integrated Battery box with key-secured access. Dial selector and USB port located in the battery box.	Discreet and secure. Reduces the risk of vandalism.
	Weight lower than 8 Kg. Dimensions 70*70*15 cm	Easy installation and removal. Limits the size of poles and concrete blocks. Reduced mechanical wear and tear.
	Waterproof IP 65. Monobloc structure.	Eliminates the risk of failure by oxidation. Any waterproof casing incorporating batteries must provide a solution for depressurization (for Evolis, use of a "Goretex" vent)
	Light color	Bright colors attract and generate less heat than dark color. The lifetime of the electronics is increased. (+ 20% on average equal component)
	Color and anti-uv treatment integrated into the ABS resin	No paint, therefore not possible alteration (peeling...). Increases the lifetime of the product.

**E. POWER SUPPLY: LOW CONSUMPTION ENABLE NUMEROUS POWER OPTIONS**

DISPLAY	Average current	Average power at 12 Volts
Speed	0,3 Ah	3,6 W
Speed and message	0,8 Ah	9,6 W
Stand-by (no display)	0,1 Ah	1,2 W

Battery	Mains	Street light	Solar Panel
			
Recharge with an external charger	Direct power supply. An internal supplies 12 Volts.	An internal quick charger (4 Ah) enables battery recharge during street light operation. Battery ensures day operation.	<p>2 Batteries 12 Volts 22 Ah with solar specific technology</p> <p>1 internal solar charger with intelligent charging management</p> <p>1 85 Watts solar panel. "Polycrystalline" High Performance.</p> <p>Dimensions: 120*55 cm. Compact size prevents from windage. Charging capacity up to 5,3 A.</p> 

## F. MODIFICATION OF THE SETTINGS

Settings can be modified using either:

1. Dial selector
2. Set-up software "Evocom"

### 1. Dial selector (factory settings)



To simplify installation and avoid any computer setup, Evolis radar sign provides pre-set parameters with related to different types of speed limits in force (limited to 30 km / h areas, 50 km / h.). When installing or changing location, just turn the dial to select the correct settings corresponding to speed limit.

#### Example of factory setting for a 50 km/h zone:

	<b>Zone 50 Km/H Position 50 km/h on the dial selector</b>
<b>Colors with green-red</b>	51 km/h
<b>Flashing</b>	55 km/h
<b>Anti-record threshold: no speed display / danger signal</b>	60 km/h
<b>Message 1</b>	50 km/h
<b>Message 2</b>	60 km/h

## 2. Set-up Software Evocom

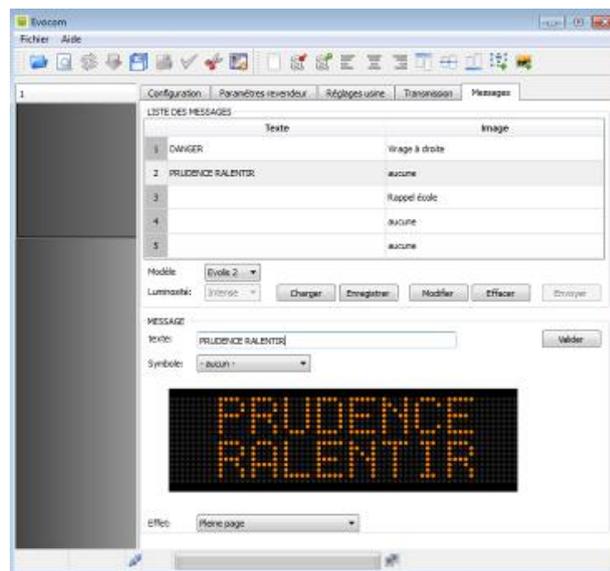
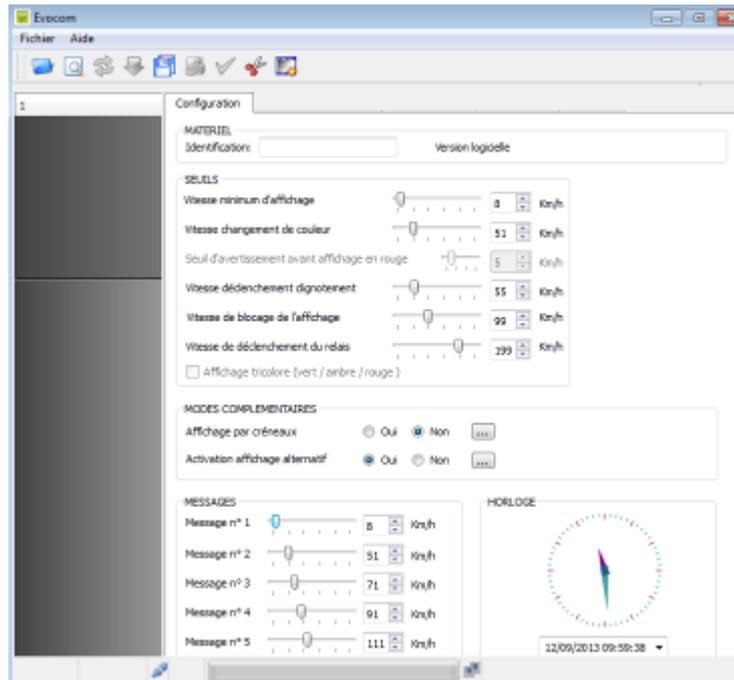
### a. Communication with the radar speed sign

Can be done by :

- USB (key secured access to USB plug)
- Bluetooth (secured by code) with PC, Mini Pc or touchpad (Android or Windows)
- Web. G.P.R.S.



### b. Change the parameters with multilingual software Evocom for Windows:



Unlimited version for Windows. Evocom can be installed as many times as requested.

## G. TRAFFIC DATA: HIGH MEMORY AND EASY OF USE

- Internal memory of 8MB (more than 1,000,000 vehicles)
- Accuracy of speed measurements : +/-1 km/h
- Each detection is precisely recorded and timestamped

Data are collected using the software Evocom.

They are then analyzed using our software Evograph (unlimited version).

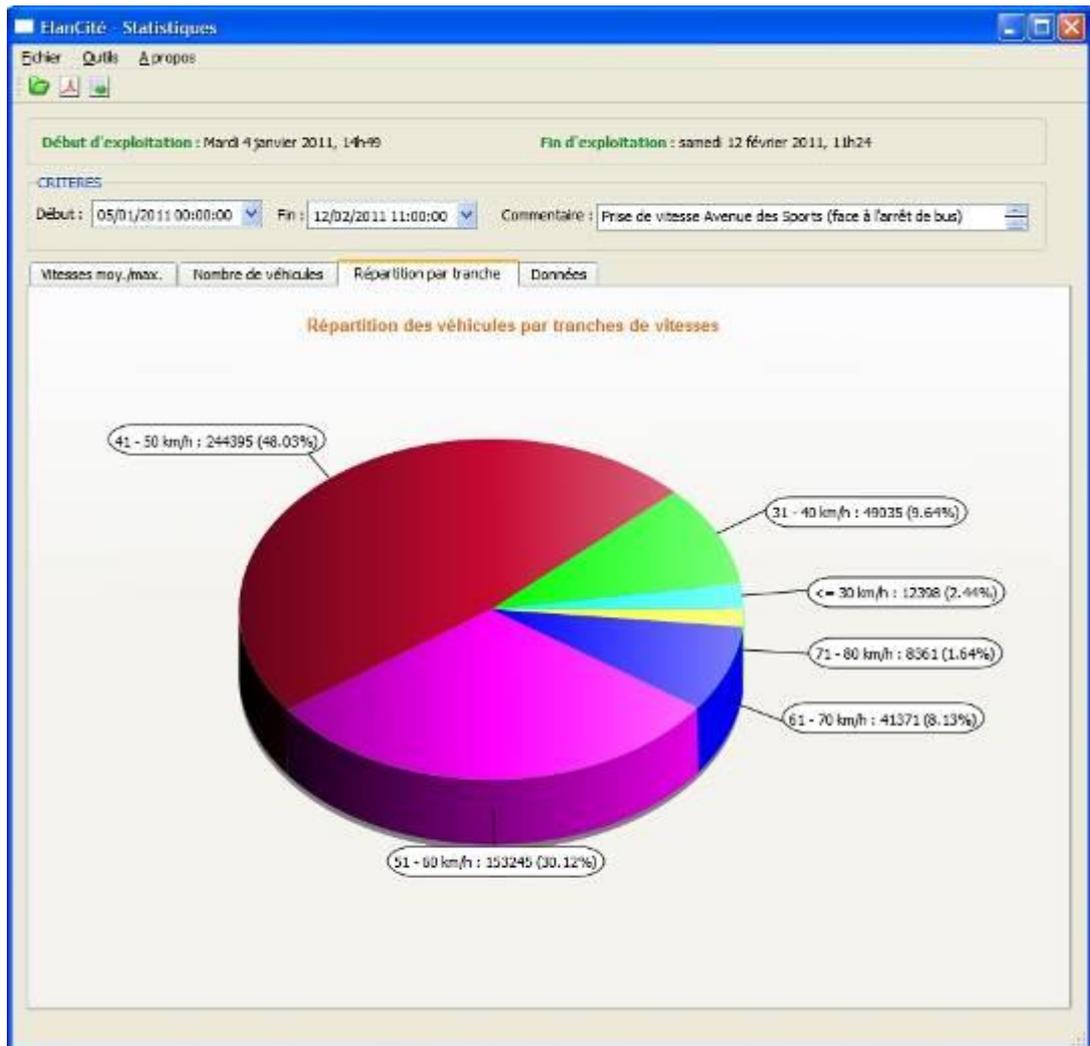
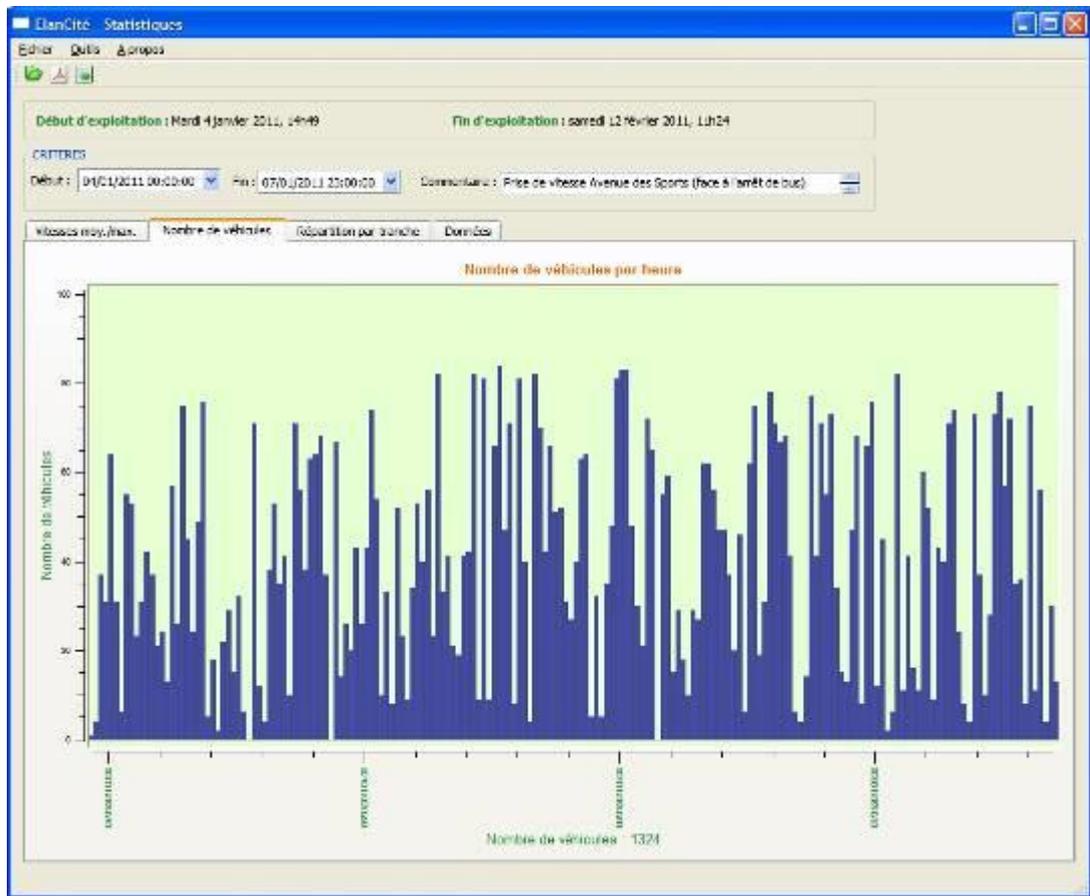


Several charts can be generated:

- Distribution of vehicles by speed range
- Maximum speed
- Percentiles: V30, V50 and V85
- Amount of vehicles

Data can be exported to Excel for further analysis or directly as pdf reports for mailing, printing and video presentations.





## H. EASY AND SECURED INSTALLATION

**Step 1 :** mount the bar on a pole



**Step 2 :** hang up the radar speed sign onto the bar and optional key lock (non included)



Easy mounting by 1 person

**Step 3 :** Insert the battery



**Step 4 :** choose the right speed zone on the dial selector



**EVOLIS SPEED DISPLAY NOW OPERATING!**

Evolis does not require further adjustments.  
Simply install the sign perpendicular to the traffic flow.

## I. 100% COMPLIANT WITH WORLD STANDARDS AND REGULATIONS

Elan Cité products are fully compliant with following standards:

- European Norm R&TTE 1999/5/CE for telecommunication (Bluetooth)
- Electromagnetic compliance 2004/108/CE (EMC)
- Low voltage protection 2006/95/CE
- RoHS 2002/95/CE
- FCC/IC

Evolis Solution is **compliant** with the whole road safety regulation as defined by the French law “**24 Novembre 1967**” and ministerial **instructions on road signs**.

It is also compliant to recommendations of the **CERTU** (30 Octobre 2012) (French governmental Body for analysis on grids, transports and urbanism).



As French expert in Radar Speed Signs, Elan City is regularly sought for his expertise by the Ministry of Transportation issues for the evolution of the regulatory and legislative environment (collaboration with bodies such as ASQUER and Certu).

## IV. COMPREHENSIVE AND REACTIVE SERVICE

### A. DELIVERY AND INSTALLATION

On demand, we and our local reseller can quote installation and start up (concrete bloc, pole, connection...). Evolis Solution was designed to save on such expenses by installing yourself or with any local service provider.



### B. 2 YEAR WARRANTY

Evolis Radar Speed Signs are warranted during 2 years from installation date. In case of failure we (or our local reseller) proceed to a phone diagnose of the problem and identify the part to be replaced. Modular design of Evolis speed displays allows for on-site repair (or at our local reseller).



### C. REACTIVE HOTLINE

Our team of experts and our local resellers help on any question related to the use of our devices.



### KEY FEATURES

- Tested and proven technologies : + 18,000 units installed worldwide
- Using 3 LEDs digits provides significant increase of visibility and therefore of the traffic calming effect.
- Large Sized matrix for messages of 7 characters, 16 centimeters
- Special Feature "EVENT". For daily or weekly recurrent events such as school times or market day, you can display a specific message (example: « CAUTION SCHOOL) only at certain times of certain days.
- No corrosion nore color fading thanks to ABS resin design
- Unlimited software license for Windows. Evocom can be installed as many times as requested.

## VII. OTHER PRODUCTS

### A. EVOCITY INFORMATION DISPLAY



- Installation on existing poles
- Recharge on street light
- Content management by Web/G.P.R.S
- Easy to install and remove for event use

### B. EVOFLASH FLASHING BEACON



- Installation on existing signs
- Full autonomy thanks to integrated 20W solar panel
- Flashes at vehicle detection