

**IRF Lisbon May the 25th 2010**

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**Mobility Transport and Infrastructure**

**ON THE GREEN ROAD THANKS TO INTEGRATED  
INFORMATION HIGHWAYS AND MOBILE SERVICES**

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**Vice president Continental Automotive France SAS**

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# We Address the Mobility Megatrends

## Safety



Increased safety, comfort and convenience functions in the vehicle.

- ▶ Chassis & Safety
- ▶ Interior
- ▶ Tires
- ▶ ContiTech

## Environment



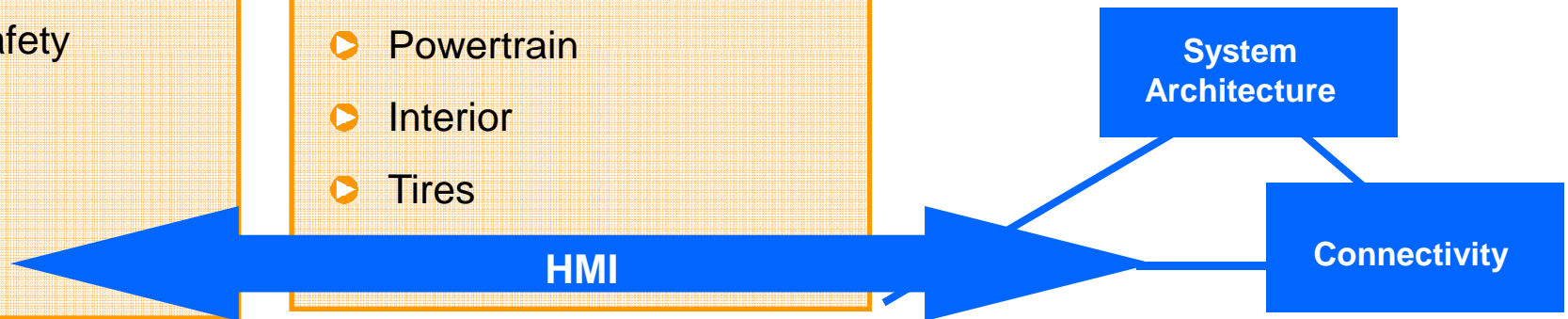
Shortage of natural resources.  
Sustained mobility.

- ▶ Powertrain
- ▶ Interior
- ▶ Tires

## Information

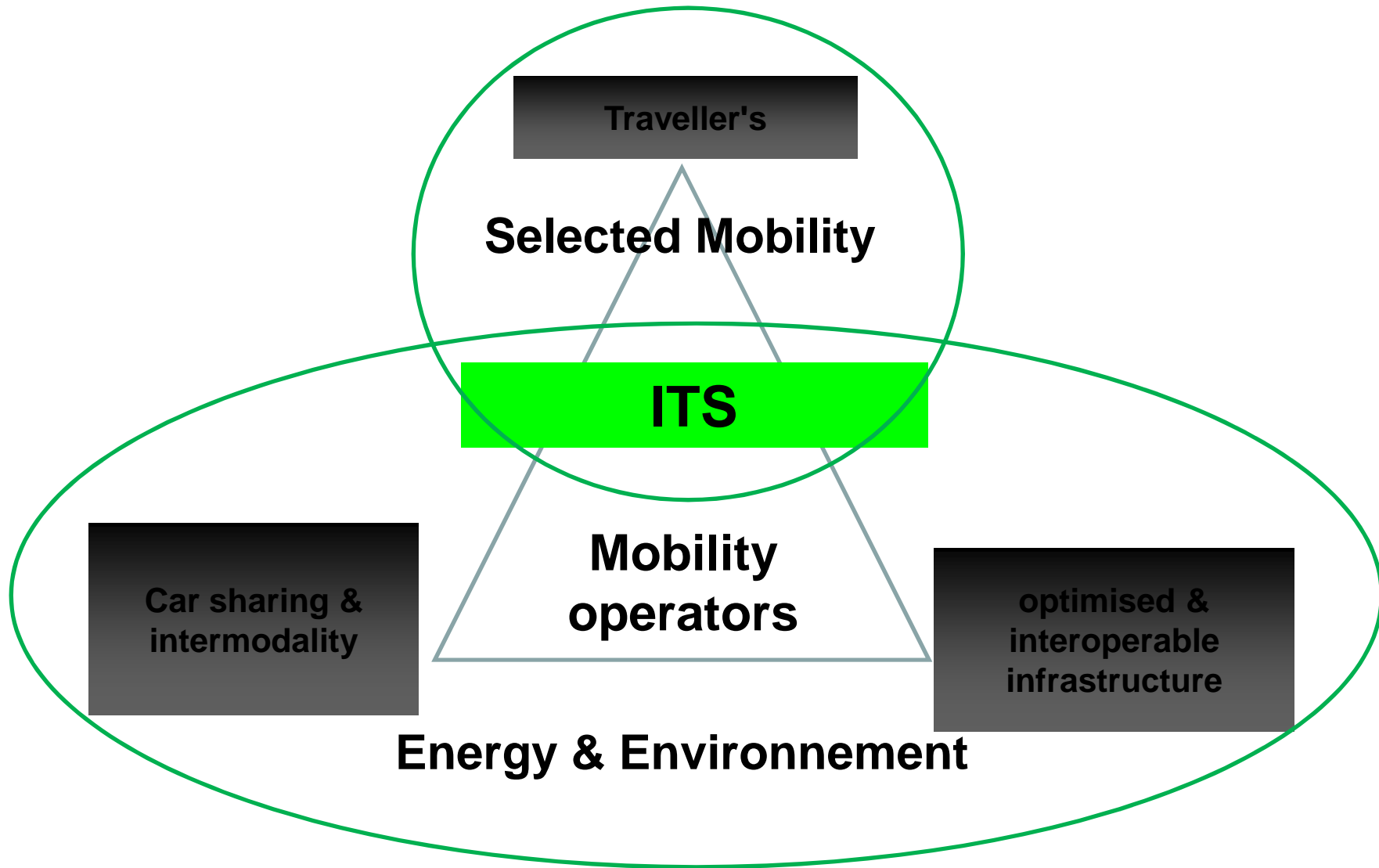


Growing demand for information management in the vehicle and for improving mobility.

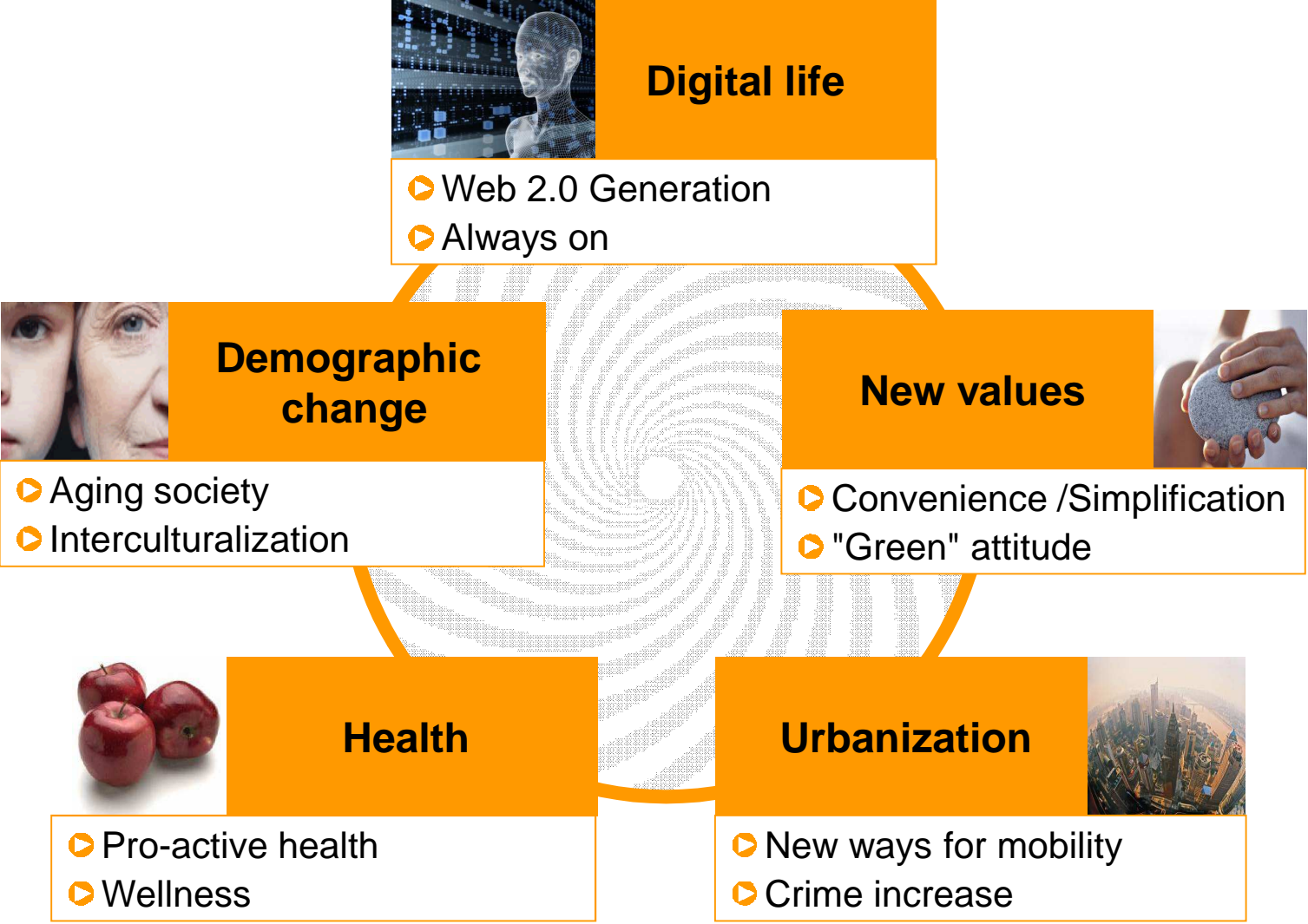


# Transportation Systems Trends

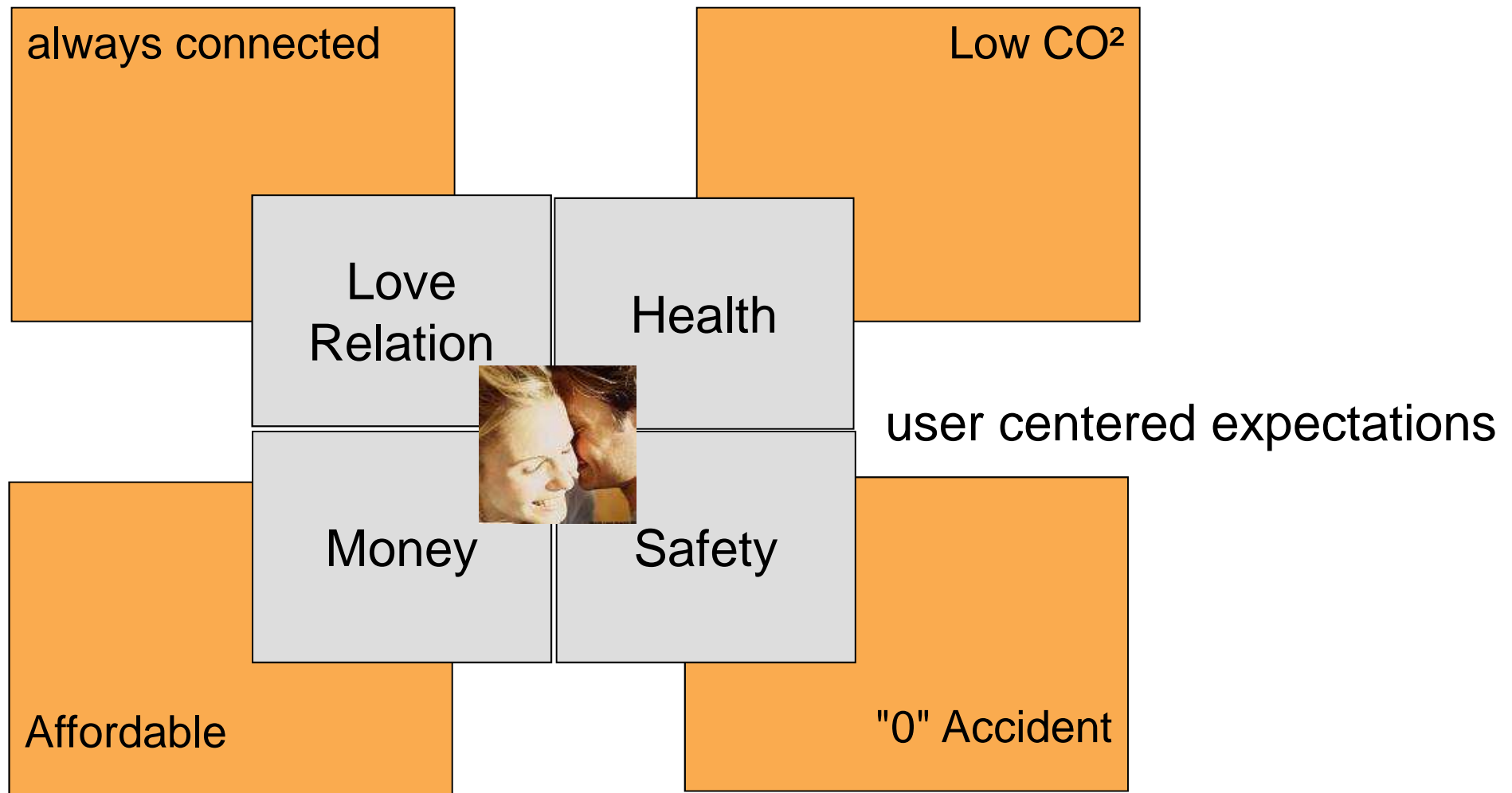
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# Major society trends



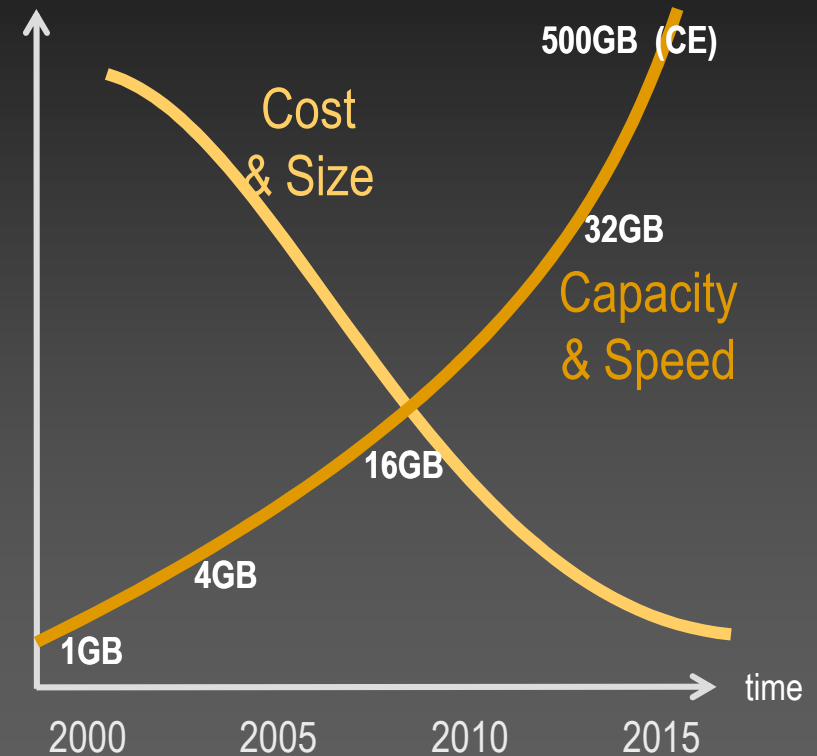
# The fundamentals for a durable green mobility



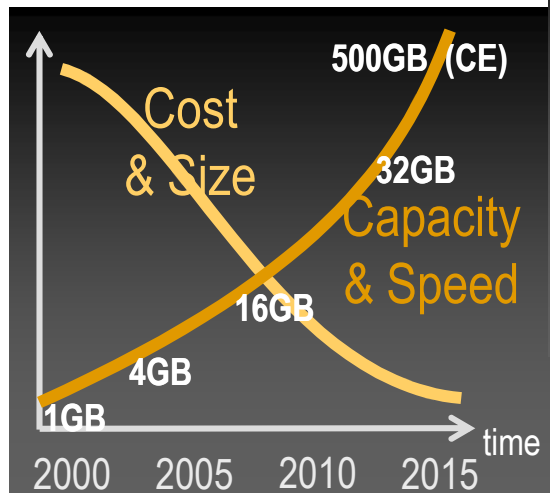
Expectation during personal mobility

# The world is changing ...

- ▶ Short range Communication
- ▶ Communication Long range
- ▶ Cameras
- ▶ Digital displays
- ▶ Text to speech & Voice recognition
- ▶ Search engines
- ▶ Location based services
- ▶ Security & Authentication
- ▶ Mass Storage



# Megatrends relevant for Automotive Cockpit control



personal Smart phones as information carrier



Content from servers  
Speed of new value proposals

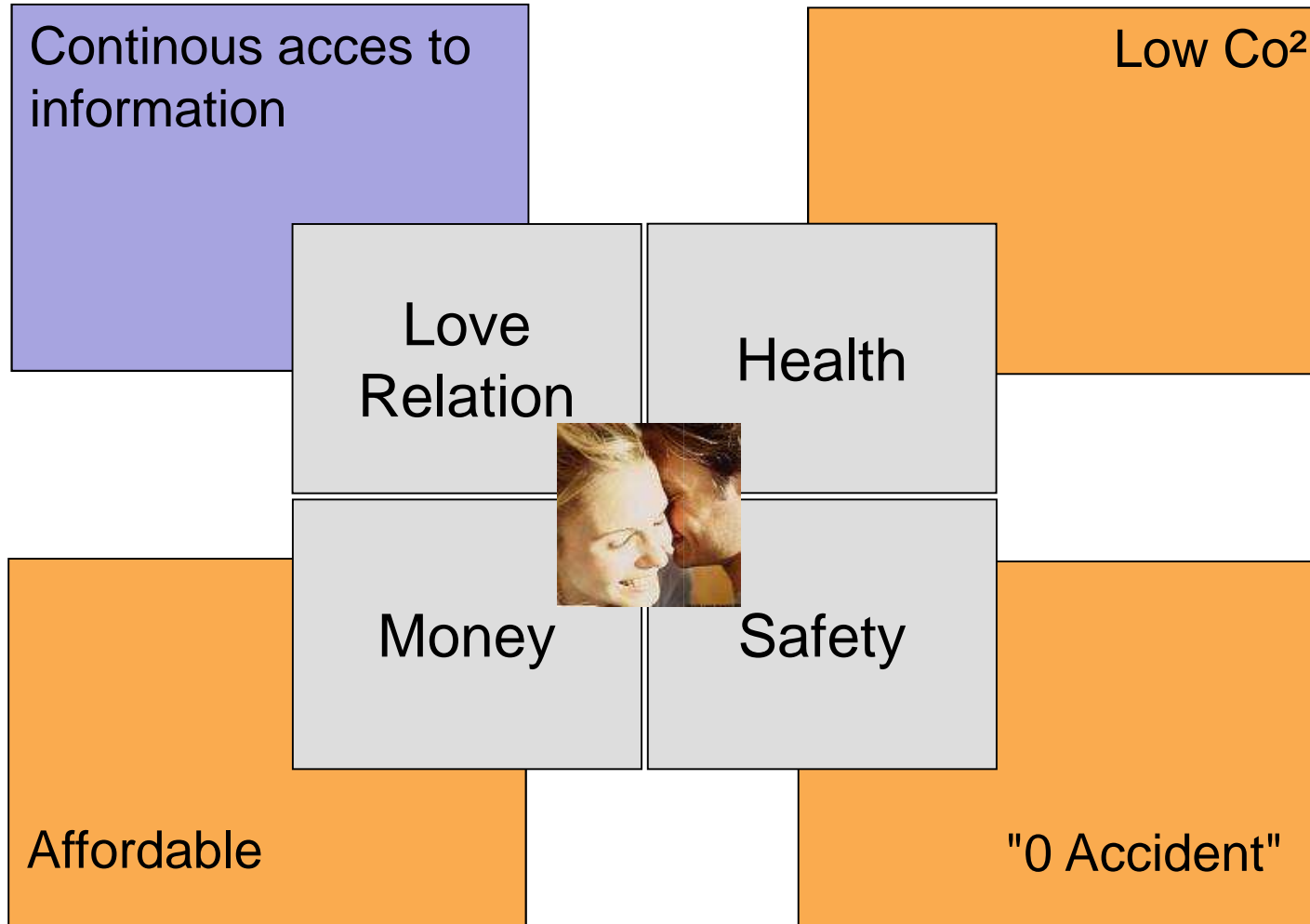


Intuitive, Nice, Simple  
Human Machine Interface

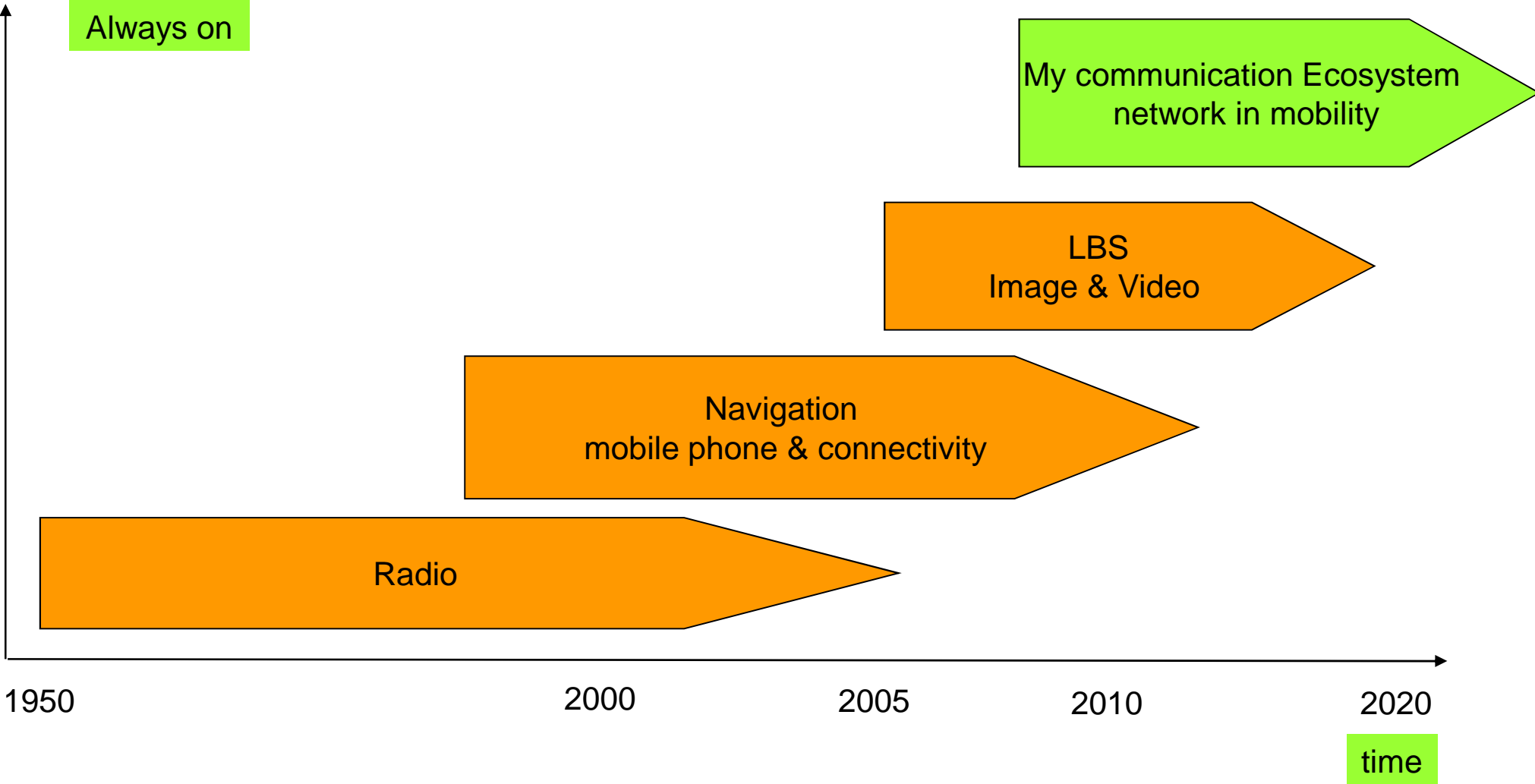
Speed of technology

# « Always on »

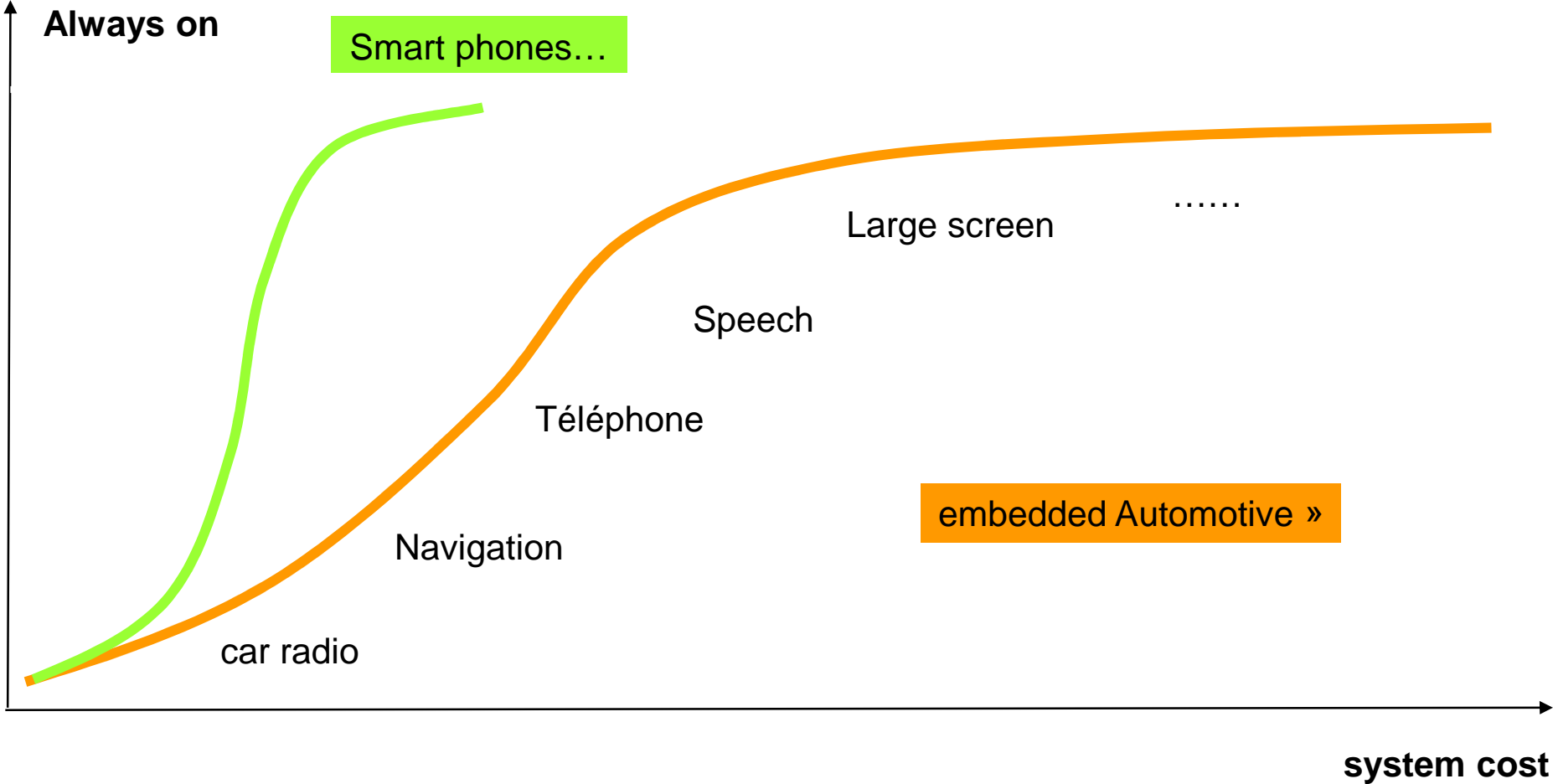
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# Continuous access to information



# Connectivity ICT in transportation



# Services in mobility everywhere everytime



## Connect Me

- Stay Connected with Friends, Colleagues and the World
- Coordination Calendars
- Emergency Services & Assistance

- ▶ Telephony
- ▶ SMS/E-Mail
- ▶ Calendar
- ▶ Aggregated Content



## Guide Me

- Research, plan and download trip
- navigate via connected search and traffic alerts Share experience

- ▶ Turn by Turn Navigation
- ▶ Points of Interest
- ▶ Location Based Services
- ▶ Traffic



## Entertain Me

- Stream Live and Time Shifted Content from the Internet, your Home, your Portable Device

- ▶ Music from CD/ DVD/USB
- ▶ Internet-Radio
- ▶ Web Services
- ▶ TV



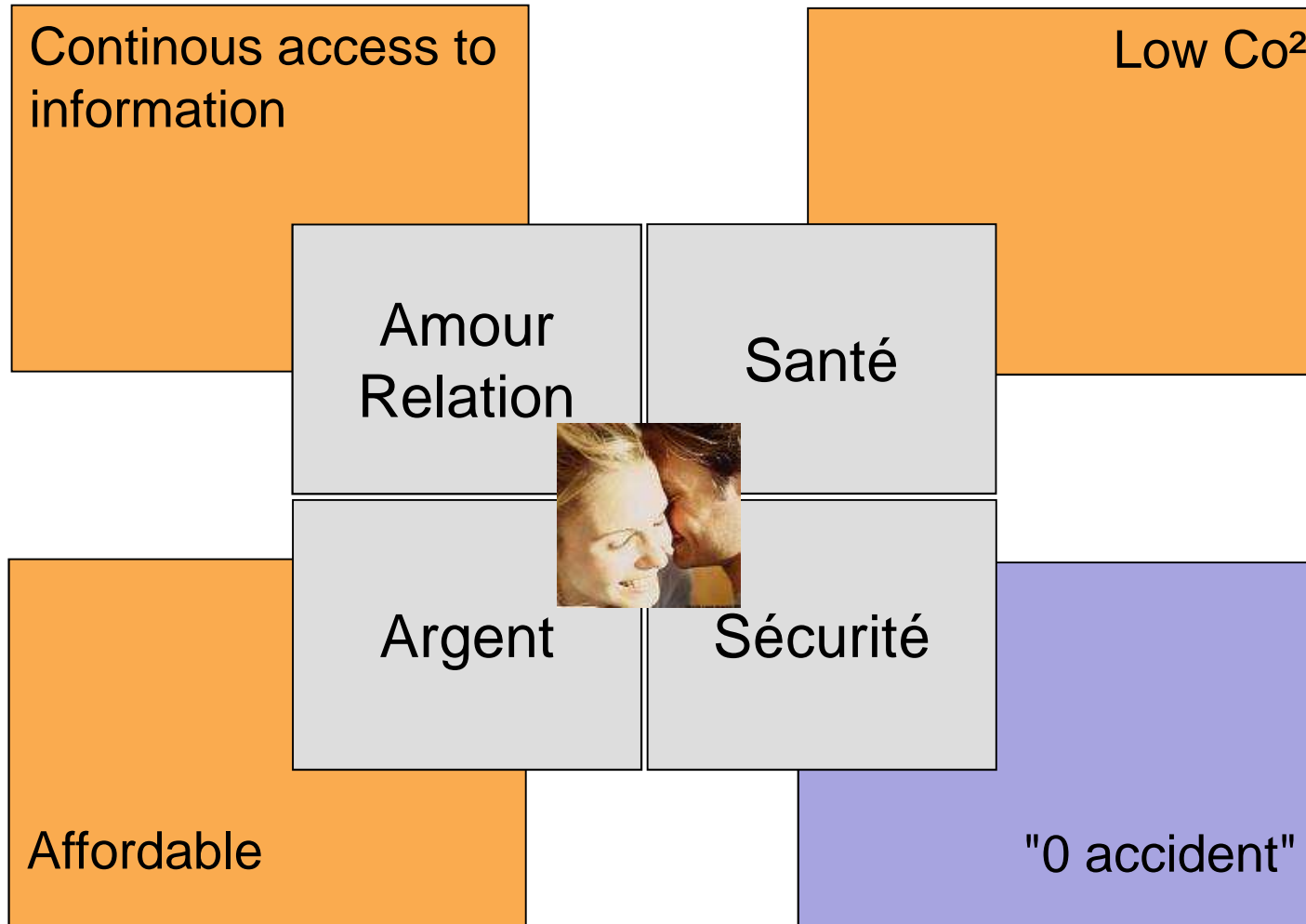
## Drive Me

- Vehicle Interaction
- Vehicle Data Access

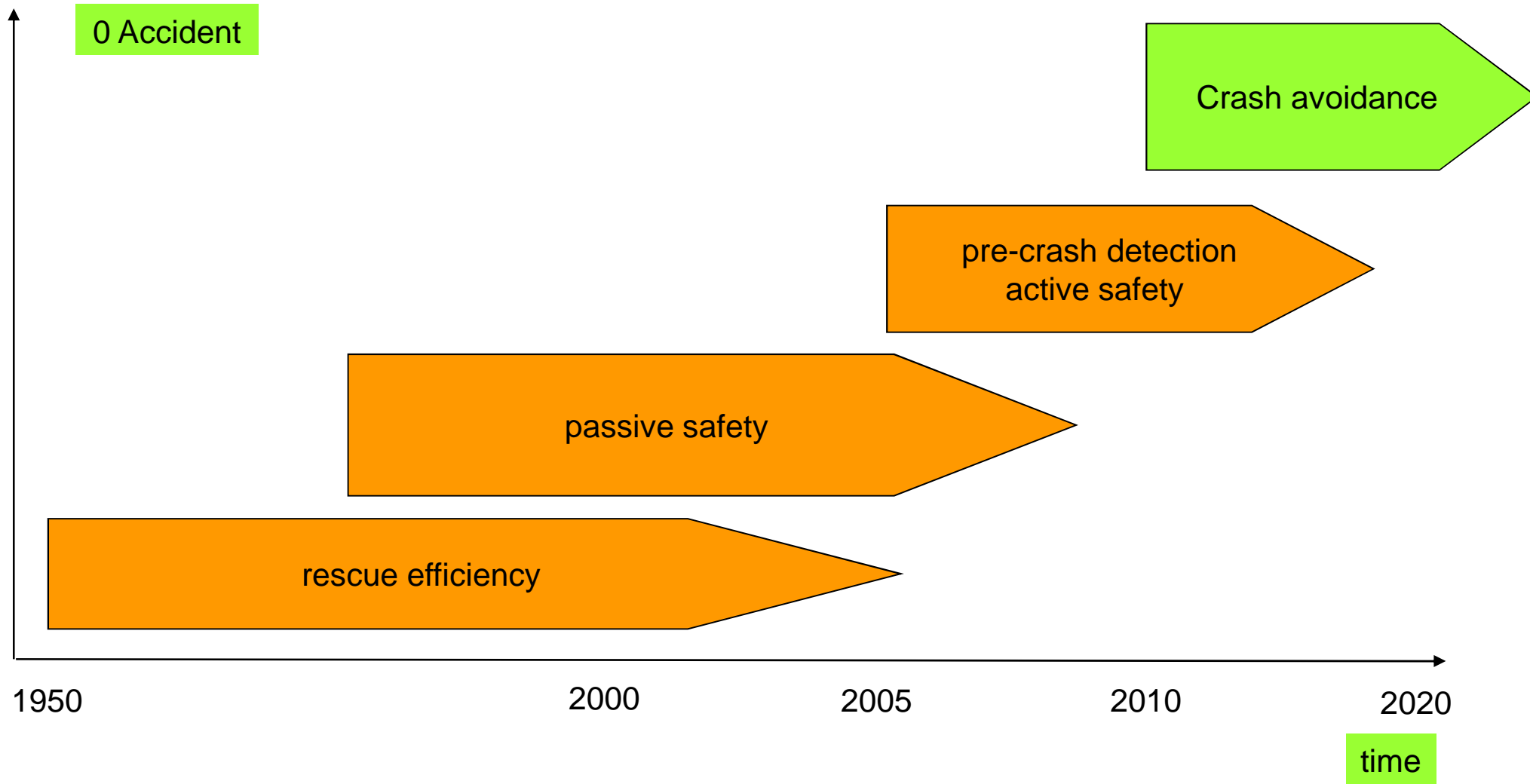
- ▶ C2I, C2C
  - ▶ Remote Diagnosis.
  - ▶ Dynamic Tolling
  - ▶ Floating Car Data
  - ▶ Pay As You Drive
  - ▶ Eco Driving

# « 0 accident »

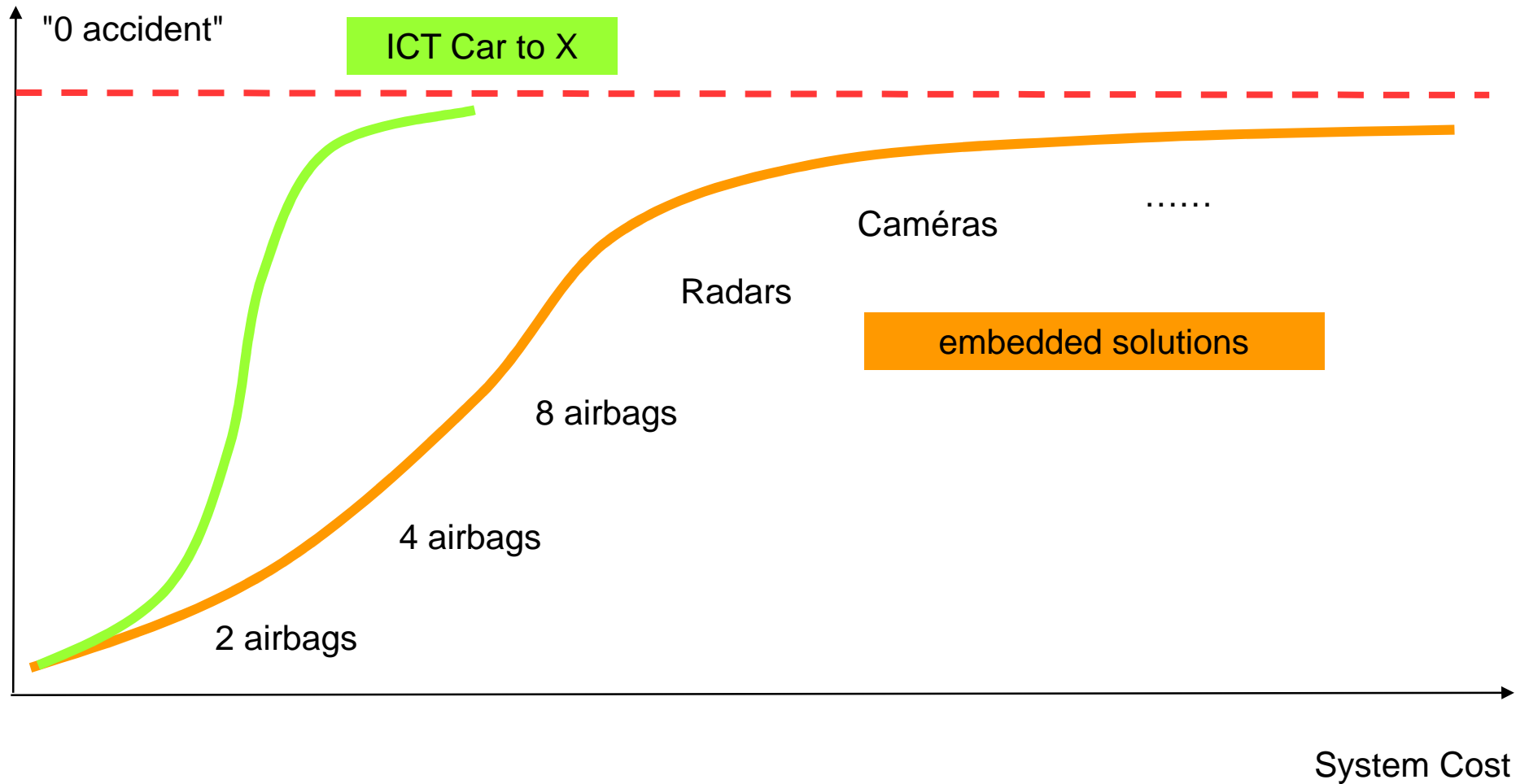
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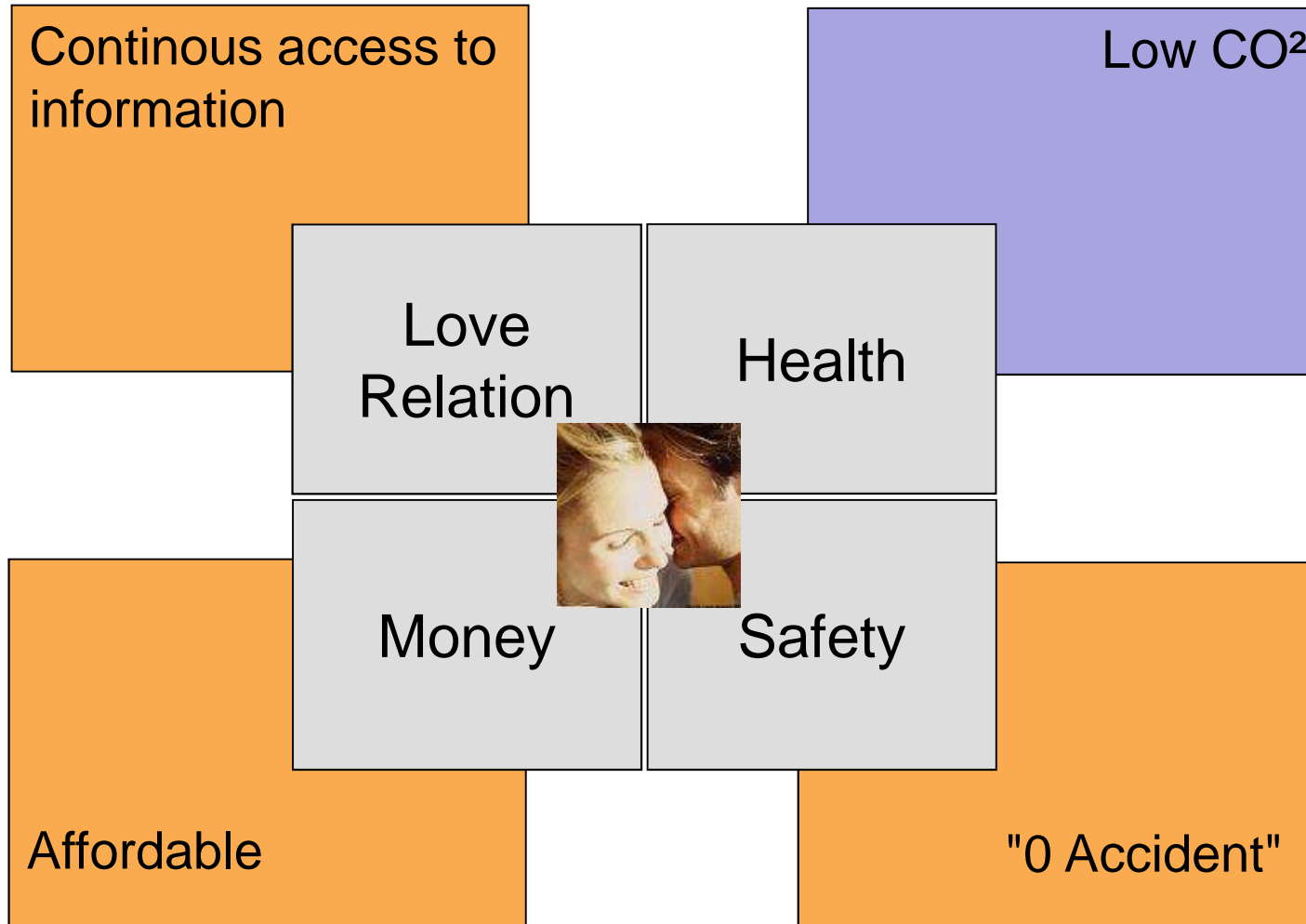
# « 0 accident »



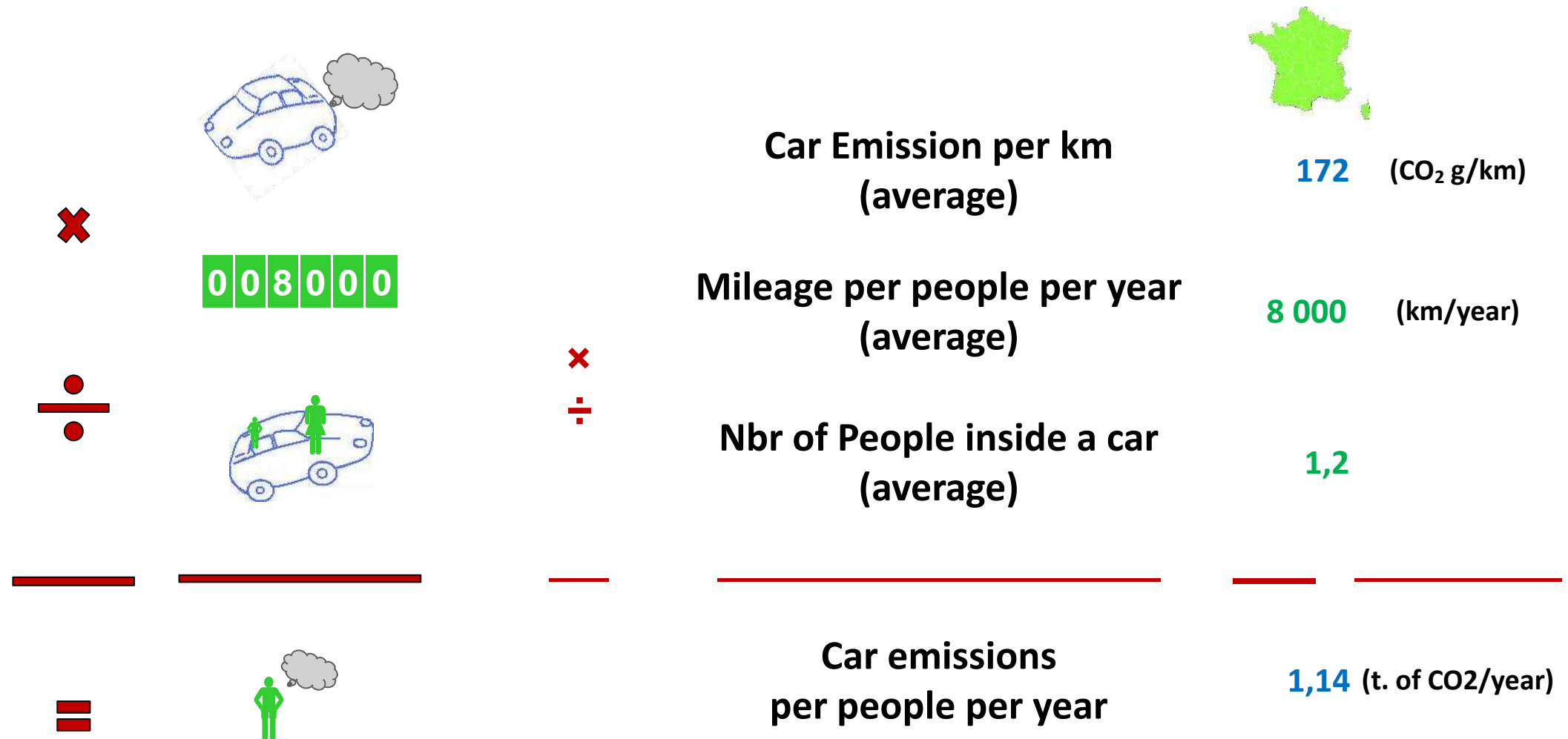
# « 0 accidents »



# « 0 emission » The path to green infrastructure

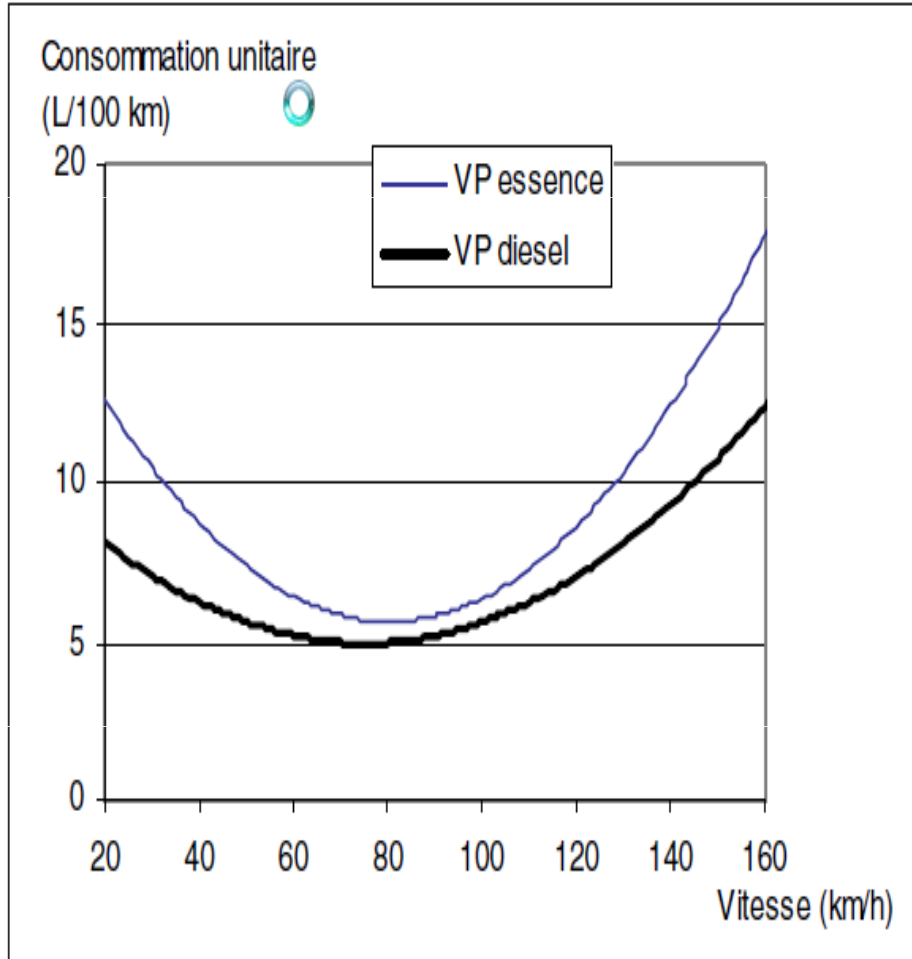


# CO2 emission/cars : focus on personal mobility in France (2007 data)



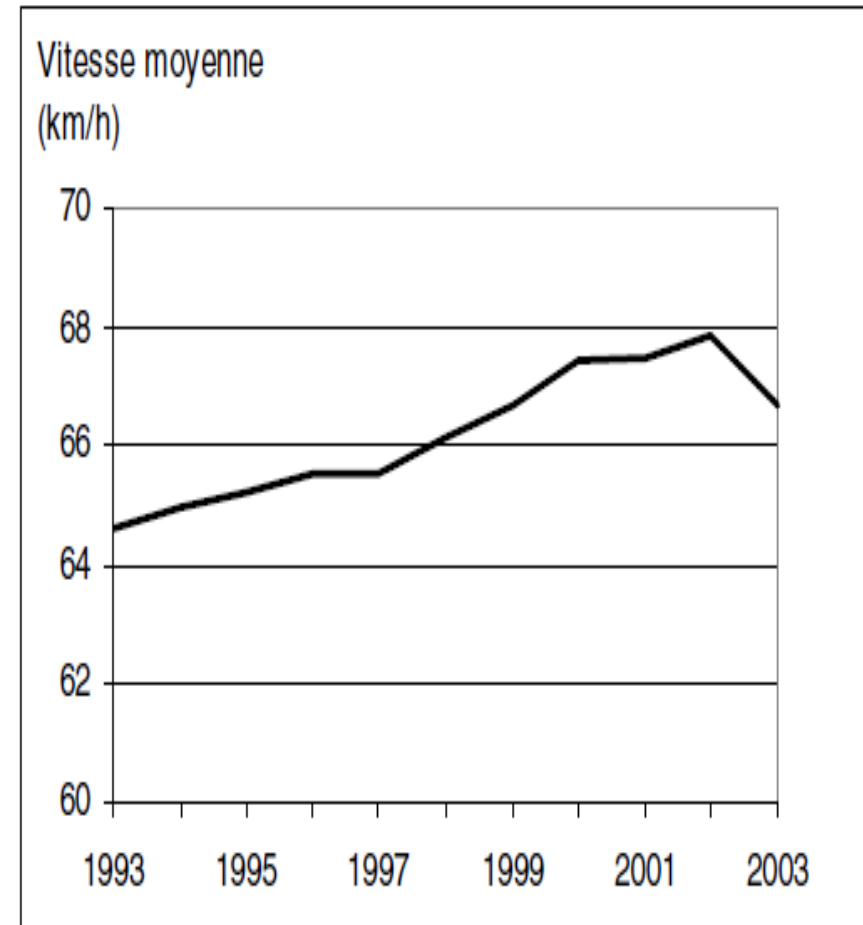
# Data on Car transport : Relation between Speed and fuel/km

Graphique 4 - Consommation unitaire des VP en fonction de la vitesse



Source : European Environment Agency



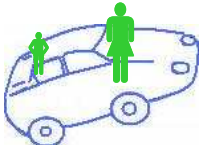

Graphique 5 - Vitesse moyenne pratiquée par les VP sur l'ensemble des réseaux routiers



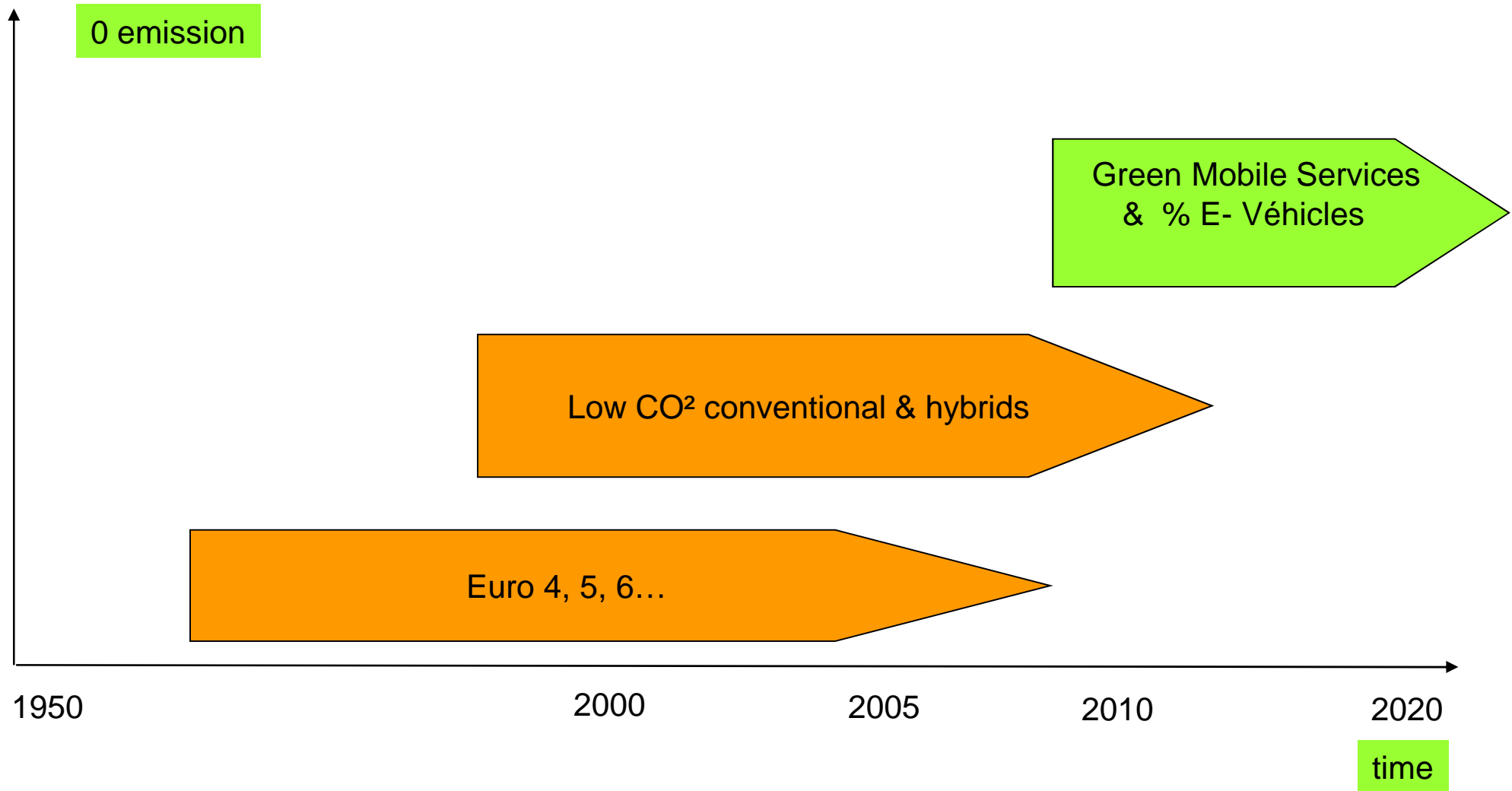
Sources : ONISR, calculs SES

[http://www.statistiques.equipement.gouv.fr/IMG/pdf/NS157-13-18\\_cle6ab1f1.pdf](http://www.statistiques.equipement.gouv.fr/IMG/pdf/NS157-13-18_cle6ab1f1.pdf)

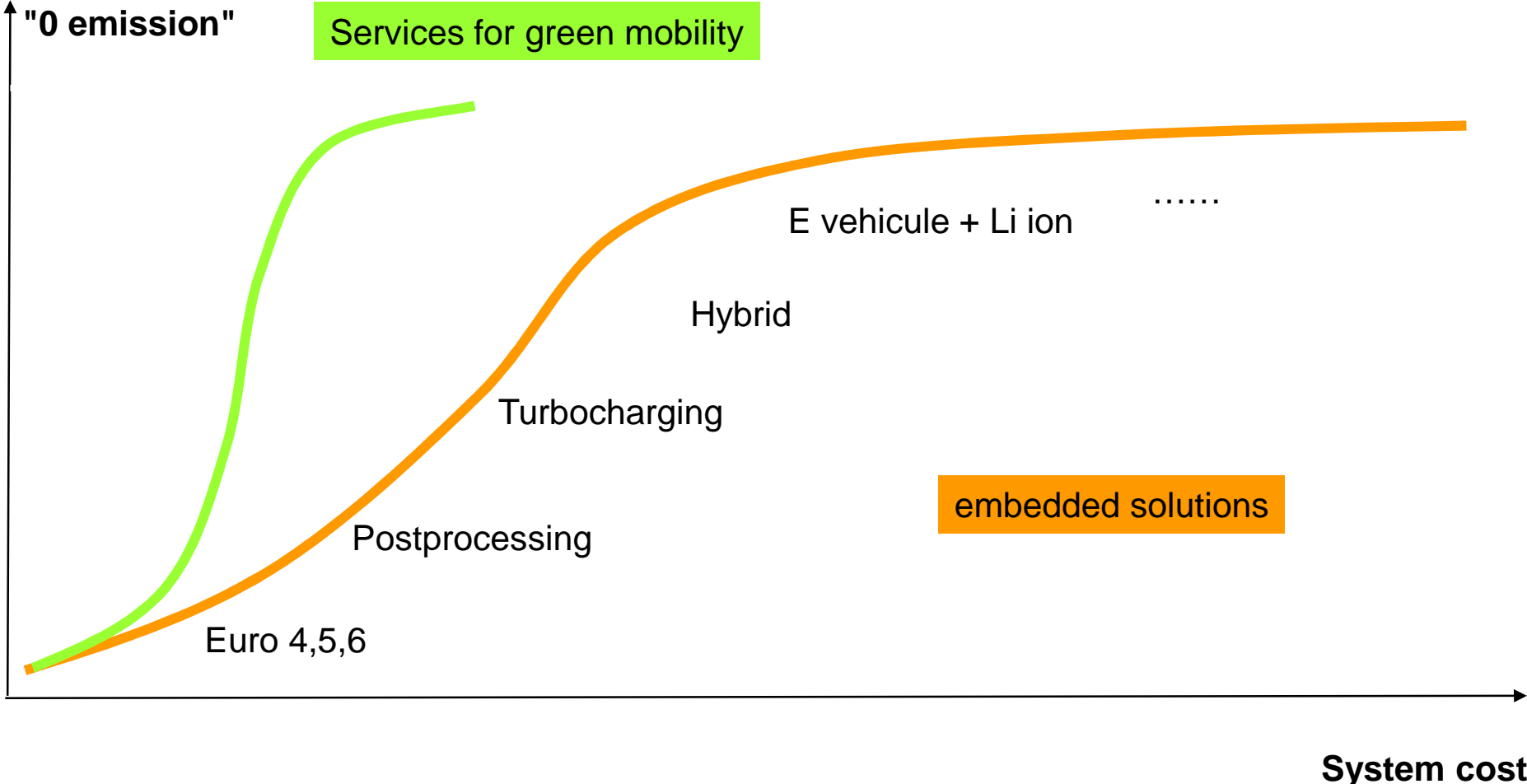
# Evaluation of Mobility concepts on « Sustainable transport »

	France 2007	engine Low CO <sup>2</sup>	Eco Driving	20% of E -CAR	multi- mode	people per car	→ all
Improvement ratio		-20%	-20%	-20%	-20%	20%	
Replac <sup>t</sup> mode efficiency				95%	75%	80%	
= Net improvement		-20%	-20%	-19%	-15%	16%	
	<b>172 g/km</b>	<b>138</b>	<b>138</b>	<b>139</b>	172	172	<b>89</b>
 ×	<b>8 000 km/yr</b>	8 000	8 000	8 000	<b>6800</b>	8 000	<b>6 800</b>
 ÷	<b>1,2</b>	1,2	1,2	1,2	1,2	<b>1,4</b>	<b>1,4</b>
 =	<b>1,14 t. of CO2</b>	<b>0,91</b>	<b>0,91</b>	<b>0,92</b>	<b>0,97</b>	<b>0,98</b>	<b>0,43</b>
2012	<b>0,97 t. of CO2</b>	<b>94%</b>	<b>94%</b>	<b>95%</b>	<b>100%</b>	<b>101%</b>	<b>45%</b>
2020	<b>0,68 t. of CO2</b>	<b>134%</b>	<b>134%</b>	<b>136%</b>	<b>143%</b>	<b>145%</b>	<b>64%</b>
2050	<b>0,24 t. of CO2</b>	<b>376%</b>	<b>376%</b>	<b>381%</b>	<b>400%</b>	<b>406%</b>	<b>179%</b>
KYOTO	(*) electricity used is generated with "CO2-free" sources (-95%).						
	(**) CO2 emissions are reduced by 75% with the alternative mode (bus, trains in UK).						
	(***) limit also traffic jam, w/ same nbr of people transported by car.						

# « 0 émissions »

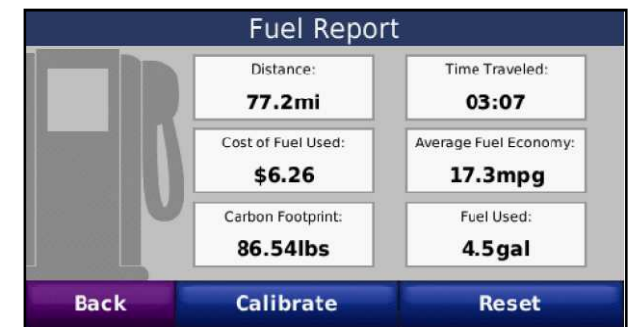
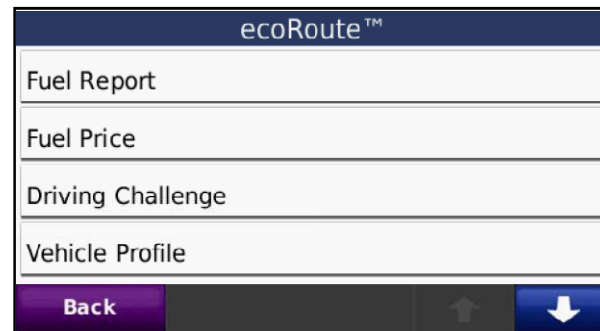


# From Low CO<sub>2</sub> to "0 emission"





- eco ROUTE suggests fuel-efficient navigation to any destination
- ecOROUTE provides a Fuel Report and Mileage Report to track usage over time and per trip
- eco ROUTE offers a Driving Challenge that helps drivers improve driving habits and increase fuel efficiency





Use of vehicle engine data provides real fuel economy to display and build routing data as well as display the real driving style for improvement .



# iPhone app ECO driver : example of warning reporting



# I Phone app ECO driver : example of performance reporting

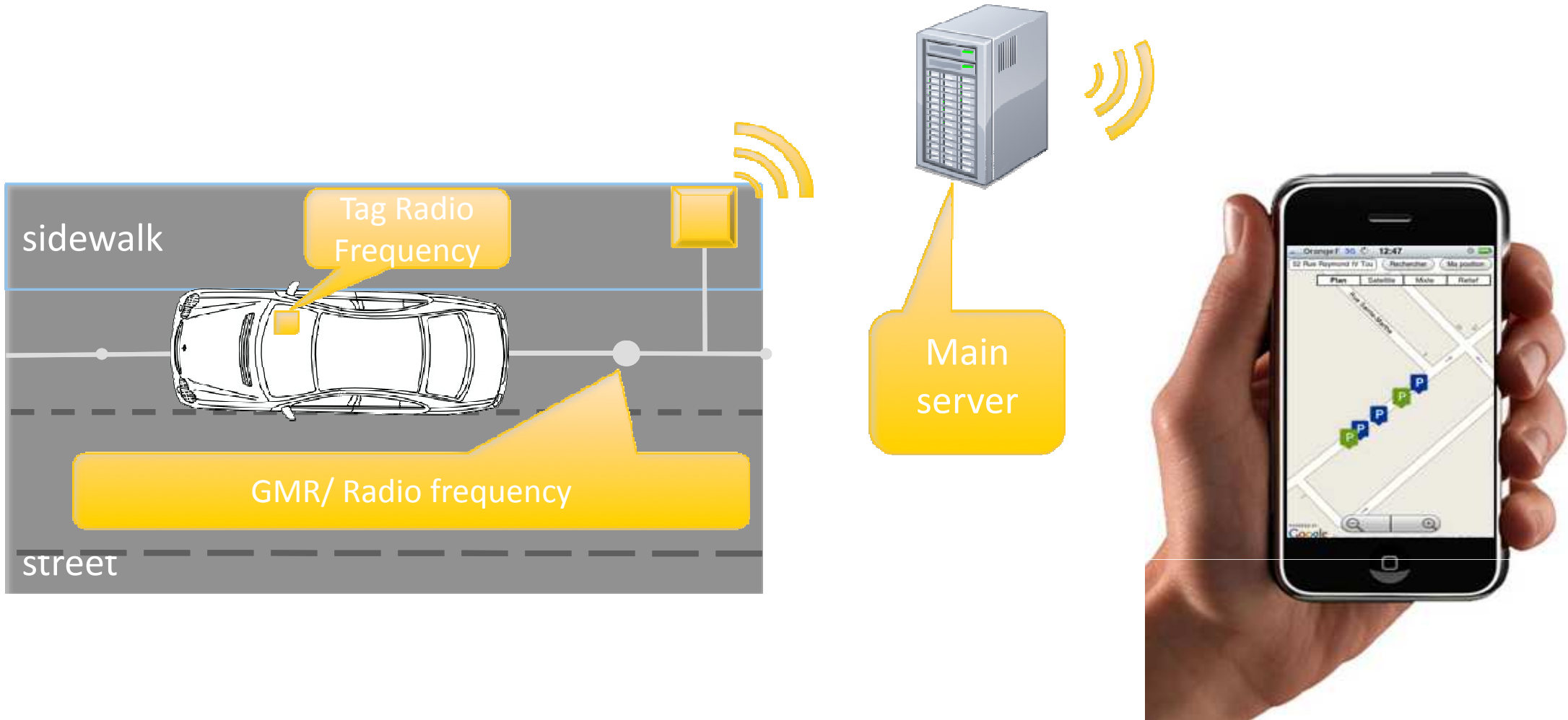


# In city Vehicle Parking Detection with courtesy of LIBERTA

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- ▶ An infrastructure on the ground within the city allows vehicle parking recognition, its precise location and its identification.
- ▶ Technology issued from French National Space Center
- ▶ A city information system allowing customers to know all available parking spaces on public streets.
- ▶ A communication between City operators and customers through mobile phones and/or lap tops allowing automatic payment of parking fees.

# An upgrade of existing infrastructure !

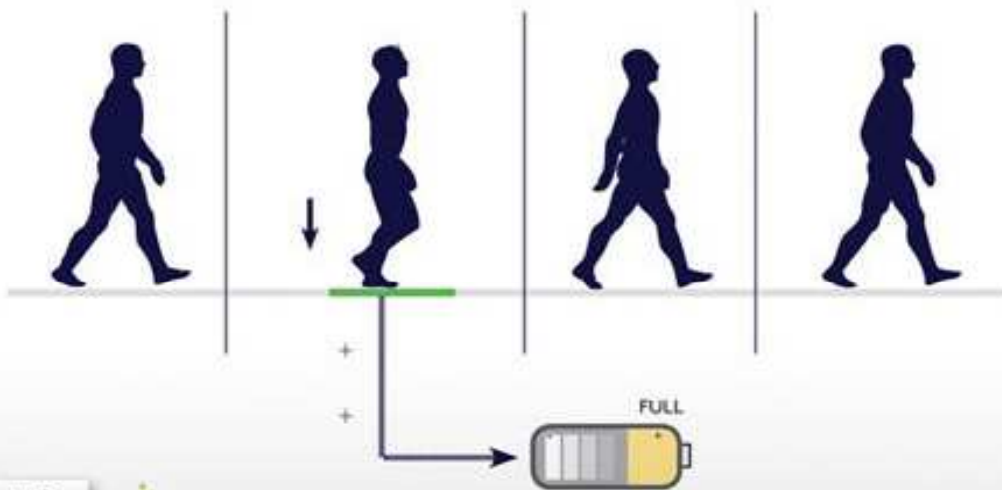


# Green Infrastructure with Energy Recovery



## About

The pavegen slab moves under 5mm from each footstep. It converts the kinetic energy to electricity that is stored within the slab.



NEXT

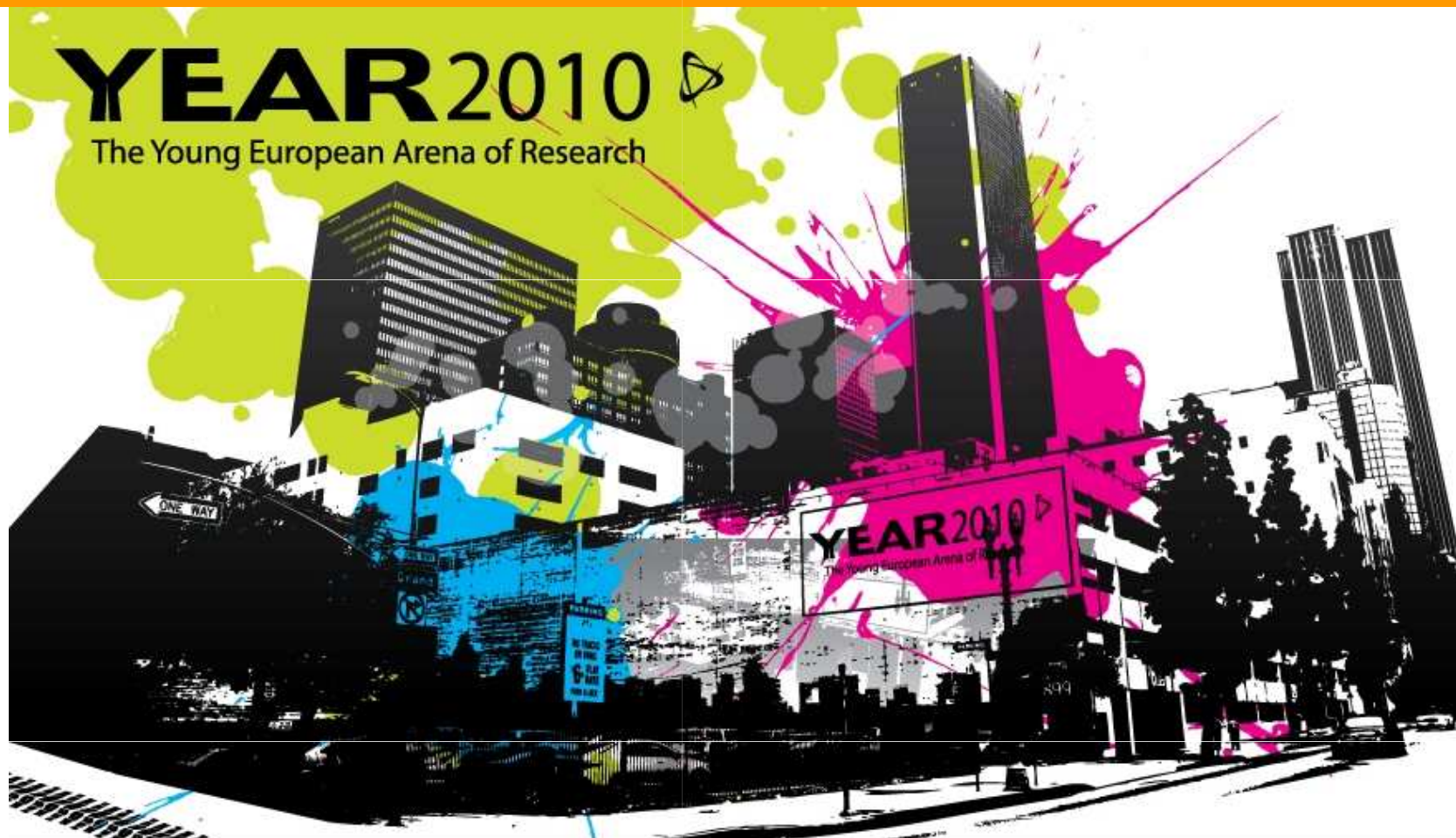


# Major Steps to change the world of Mobility

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- **Extend living labs concepts to complete new cities under construction**
- **Create system engineering teams with all process ,methods and tools to optimize system architecture under Design constraints .**
- **Educate Develop and Mature :**
  - **System Architects**
  - **System Designer**
  - **System integrator**
  - **System innovators**

They will design our future : We need to encourage them



The Young European Arena of Research 2010 is a competition for early-stage researchers who are exploring the area of surface transport within their research. The competition will give the students an opportunity to showcase their work to experts within the field, both on the web and, for the best applicants, at the Transport Research Arena conference, TRA2010 in Brussels in June 2010.