

Mobile to Mobility: improve road safety by info-emotional process

Raimondo Polidoro

r.polidoro@tmsconsultancy.org

Basic motivations for sharing safety

- The driver looking for automotive services safe, efficient, effective
- The driver is the best safety controller, it measures what it perceives.
- The driver is willing to participate in a strategy of security control

Basic hypotesis for sharing safety

- The driver chooses and work to perfect, behavioral safer strategies
- The new development is to design and will make available the information on vehicle safety effective, efficient and dynamic
- To lead an increased level of attention
- To lead in-car safer strategies
- To produce safety-oriented behavioral

Basic action for sharing safety

- Lead an increased level of attention
- lead in-car safer strategies
- Produce safety-oriented behavioral

Transmitt this information by in-car equipments.

To have:

- positive impacts
- reducing distractions

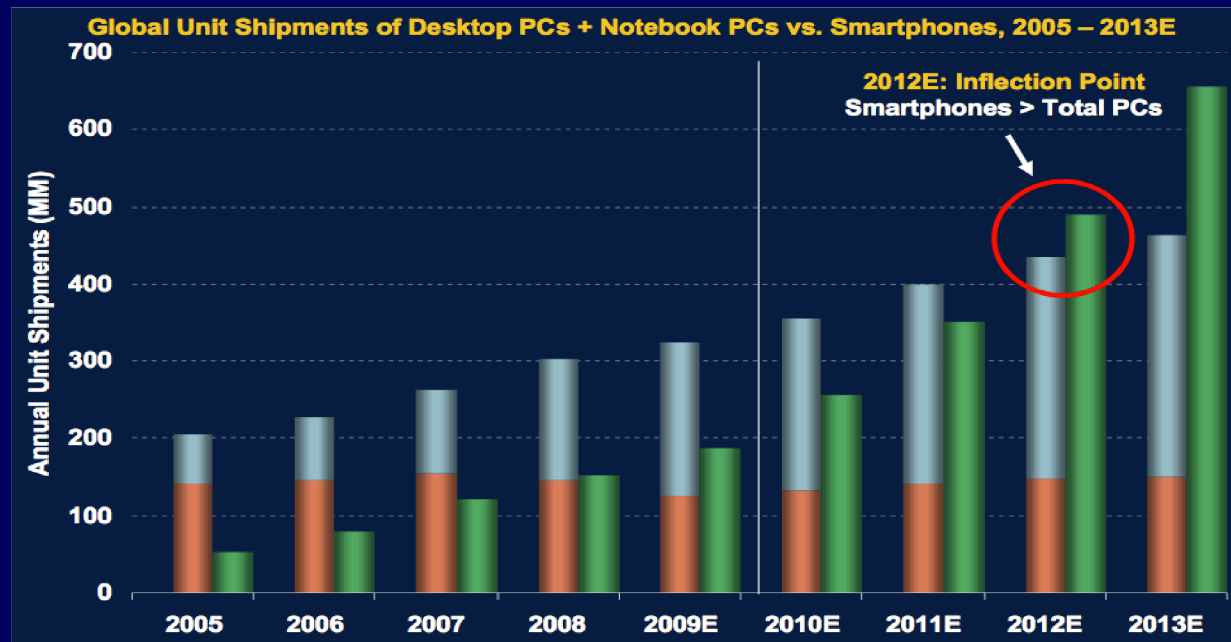
Quality of safety driving

Italian scenario

- From few years we some developments of systems e-government.
- Mostly are passive e.services: the user can pick up some documents and services but the user are not involved in the production of this utilities
- Rare and recent are applications of user co-production-services only some experimental application on user-generated services

But Italy is among the first markets in the social network, web technologies and newer mobile application

The market



By: Morgan Stanley Research

- The smartphone is the main gateway to the web
- Italy: 4° world market (over 34 milioni of units, 40% penetration rate, 21% growth in 2011)
- (August 2010, in Italy in the mobile web-users has surpassed based web-users)
- (February 2011, smartphone sales surpassed sales of desktop+laptop)

Social network



2011 Gen, Italy:
FBuser/Inhabitants = 29,35%

Safety

- Safety is a primary need ancestral
- The human is willing to cooperate to
- obtain and maintain security
- have an improvement of the common space of coexistence

Choice

- The human choice is emotional:

I like it

- In all times our needs are pursued through the acquisition of information
- Our choices and satisfaction are amplified by the enormous availability of information

But I like, because...

- In all times our needs are pursued through the acquisition of information
- Our choices and satisfaction are amplified by the enormous availability of information

I know

Today we know...

Today if you have any question by the first you ask to...

INTERNET

Our choice is: Info-emotional

- We Choose from a mix of information and emotions
- In every field and aspect of our daily life
- In any short or long term program
- The abundance of free information enables us to live in an augmented reality enhances our sensitivity

Each choice is info-emotional

- The dissemination of information increasingly clear information everywhere and our emotion

User-player and user-generated

- development of social networks, business models created by the customer, is powerful phenomenon and have great interest for safety.
- production became a co-production: the customer participates in the creation and production of what want to consume.
- In any field, there is an appeal to the human emotional part, the part less than rational.
- Is ended a century of scientific faith pure.
- Now begin an era to make decisions by the access to large amounts of information.

Utente partecipe SE partecipato

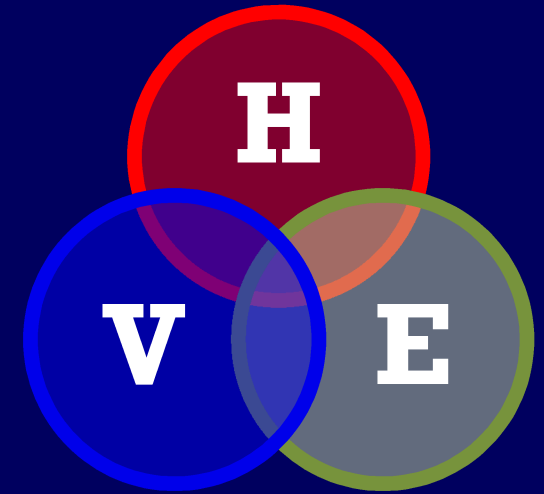
- The user is willing to share information
- The user expects more and better information
- The user participates in the monitoring of the effects

The trigger for this virtuous cycle is determined by the ability to activate a SHARING PROCESS between the safety management and user

A new point of view:

...Info, Tecno, Emotion, ...

Basic assumptions for
road safety strategies:



- The approach HumanVehicle-Environment is obsolete
- The rapid diffusion and availability of information is the new driver of the user's choices in all areas
- The choice is immediate emotional and satisfying
- Information is now available in abundance at almost zero cost
- Road safety can have a competitive advantage by using the info-emotional lever

Hot to:

iRoadSafety



- It is a service for smartphone user-generated
- Users can share information on BlackSpots (road sites with many accidents)
- User can catch a photo of hazard scenario and share
- Provides to Road Safety Manager a precise location of the sites with the problems reported (perceived) by users
- The Road Safety Manager have a two-way infomobility channel with the users
- The users can to be alerted on an approach to a dangerous site
- Integrates a system of personal infomobility

How to iRoadSafety



- Can capture information on the dynamics of motion (speed, acceleration) by GPS built-in smartphone
- Can use all the information through the web
- It's a cross-platform application: it can work with all operating systems of all smartphones
- It's a cross-device application: can be operated using the best hardware for all smartphones
- Can connect with other devices (on-board systems, navigation systems, ...)
- Can access and share data with various databases (mobile information, police, local authorities, ...)



Identifying critical scenario

- capture photos
- specifies the level of priority

Localization

- GPS, WiFi, GSM, memory
- Verify and reliability

Tagging problem

- By predefined tags

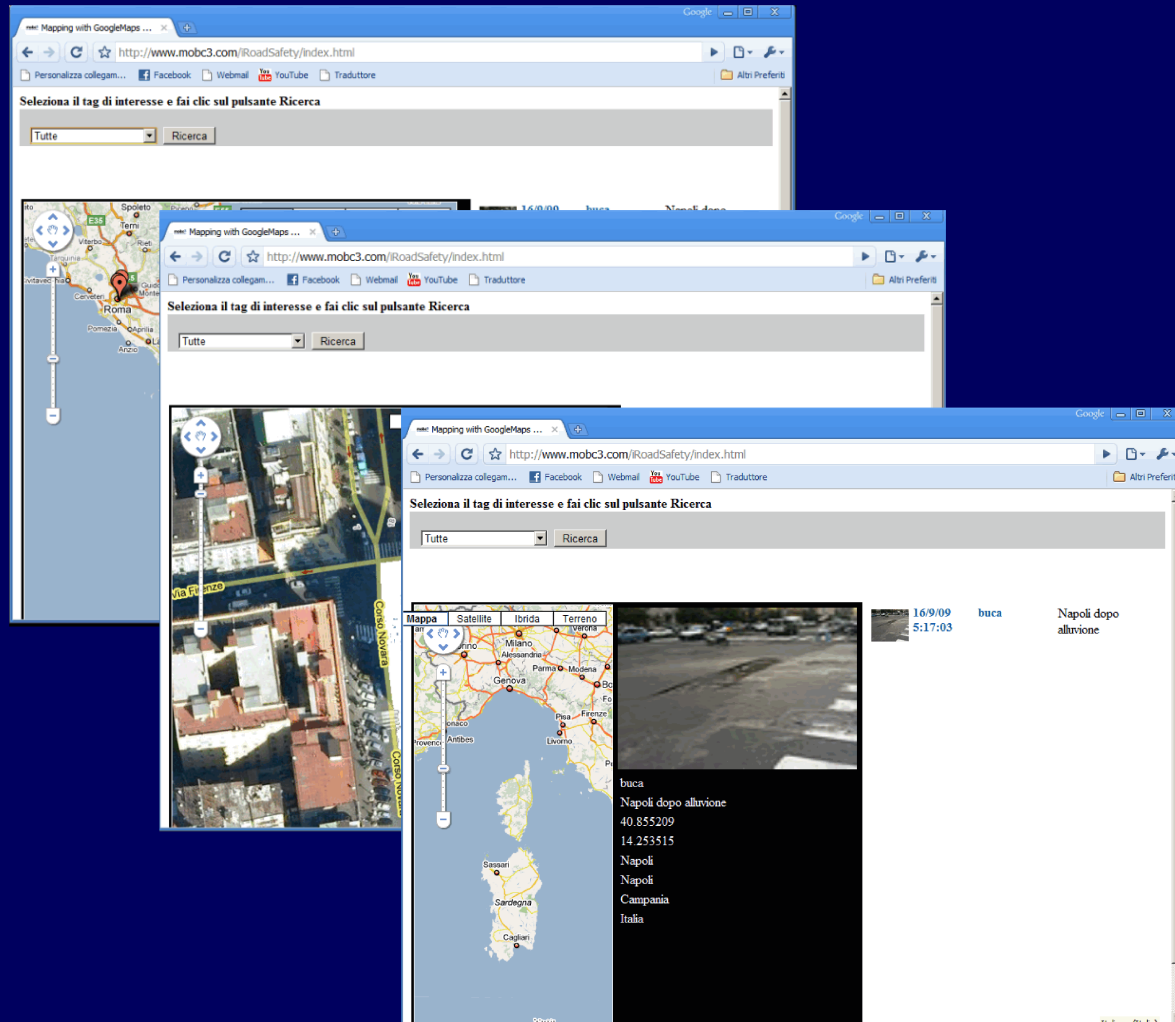
Detail problem

- Free comments
- Revision priority level
- Other info

Uploading

- Certified time and location
- Send to DB by WEB or SMS/Text

iRoadSafety .ROMA





Example of BlackSpot map by iRoadSafety:



- Precise
- Dynamic
- Interactive

A new evolution of iRoad



M2M – mobile to mobility
PON Ricerca 2007 – 2013

Proactive mobility platform

M2M



- Main lines of research:
 - development of integrated security platforms
 - Development on the in-car risk-chain
 - Acquisition and analysis of data collected from vehicles, useful for the prevention of road accidents
 - Designing and testing multi-profile driver/user-database
 - M2M application for smartphones, specialization of iRoadSafety
 - Assessment legal, patent protection and market strategy for freeuser application
 - Test site: Calabria Region in south of Italy
 - 5.5 million Euro (50% by private)
 - 2 years of activity (end in June 2013)
 - 40 Technicians and Researcher involved

- From DB with geo-analysis of inertial data and accident data it's possible to give continuously supply at DB of road sites with high probability of conflict (hard braking, queues, ...)
- The SafetyDriver can analyze its behavior in relation by inherent-risk level of infrastructure and in correlation with his safety drive-style and his safety strategies
- iRoadSafety, M2M now, will be a first user-generated database populated with information about the perception level of risk by the users reported by highly popular technological tools, flexible and personal (smartphone)

Integration in Google

Testing on DB of about 11'000 UserBlackSpots:

- ANIA: 4091 BlackSpots, 930 duplicate info (23%)
- Poi GPS: 9941 BlackSpots, 925 duplicate info (9%)
- PoiGPS+ANIA: 11'844 BlackSpots (3% duplicate info)
- TMS Consultancy DB
 - On 12'000 km of various road network analyzed by Road Safety Audits techniques (geo-tagged pict)
 - Over 30'000 BlackSpots, 0 duplicate

**Selected about 11,000 points
for testing iRoadSafety**

Testing with Google™

Video on site <http://www.tmsconsultancy.org/vid/bs.wmv>

Video on YouTube <http://youtu.be/tQ9ZEo5JBvs>



Consultancy Italy

Servizi e Consulenze per l'ingegneria
della sicurezza e dei sistemi di trasporto

**c/o MBE Via A.M. Sacchini 6/b
80078 Pozzuoli (NA)**

Roma - IT

T. +39 06916500444 F.+39 06233237437

Via Nizza 92 - 00198 Roma

Loiri - IT

T. +39 07891776111 F. +39 07890998043

Via La Maddalena 64 - 07020 Loiri Porto San Paolo

London - UK

T.+44 7509106539 F.+44 2078554253

