

KIUNSYS

i n n o v a t i o n i n m o b i l i t y

company profile, offering, projects



Company Profile

- Kiunsys offers integrated HW-SW-RFID technologies for **Smart Urban Mobility, Smart Parking** and **City Logistics**

- **Outcomes**
 - 2014: **University of Pisa Spin off**
 - 2014: **UE sales agreement with Deutsche Telekom AG**
 - 2014: **more than 600,000 UHF RFID Mobility Pass distributed**
 - 2013: **admission to TTS Italia – Italian ITS Association**

 - more than **10 R&D projects**



Market pains



up to **30%**

traffic caused by drivers
looking for parking

up to **51%**

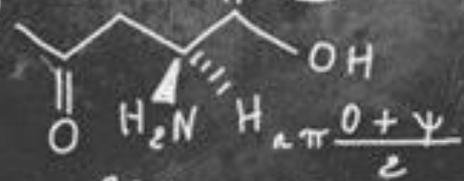
motorists turning their
backs on city centers

It's impossible to find parking?
Too much time lost in vain?

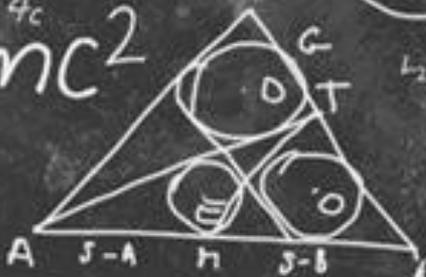
KIUNSYS



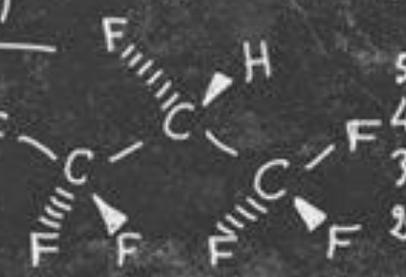
$$\Delta V = V_f - V_i$$
$$V = \sqrt{\frac{T}{P}}$$
$$a = \frac{v^2}{R}$$
$$y = x^2 - 4x + 5$$
$$\frac{-(-4) \pm \sqrt{(-4)^2 - 4(1)(5)}}{2(1)}$$
$$\frac{4 \pm \sqrt{16 - 20}}{2}$$
$$\frac{4 \pm \sqrt{-4}}{2}$$
$$\frac{4 + 2i}{2} \rightarrow 2 + i$$



$$E = mc^2$$



$$L_2 = 10 \log \left(\frac{1}{N} \sum_{i=1}^N 10^{\frac{L_i}{10}} \right)$$



up to **15%**

vehicle emissions come from motorists trying to park their vehicle

up to **3 €/day**

OPEX of parking meters

How to increase services and to optimize the management?



Offering

KIUNSYS

A suite of products to make...

Tap&Park

Tap&Park ADV

mobile payments,
infoparking,
infomobility,
geo advertising



Parking Spot Sensor

detection
of free/busy
parking spots



UHF Mobility Gate

free flow,
fleet mgmt,
city logistics,
street flow analysis



INeS Cloud

customers mgmt,
vehicle/motorcycle/bus
permits,
payments,
wallet, fines, ...



Mobility Pass

passive UHF RFID for
vehicle, people and
goods identification



Smartphone

Handeld

on street controls
by law enforcement



Solutions (1/2)

Solution	PARKING APP MANAGEMENT	FREE PARKING MANAGEMENT	APPS AND SENSOR MANAGEMENT	PUBLIC PARKING MANAGEMENT
Brief Description	<ul style="list-style-type: none"> Use of Tap&Park to find and pay for available parking places. Enables law enforcement to track legal occupancy of parking places. 	<ul style="list-style-type: none"> Equips public parking spaces with sensors. Uses Tap&Park to find available parking places through the use of sensors. 	<ul style="list-style-type: none"> Equips public parking spaces with sensors. Uses Tap&Park to find and pay for available parking places using sensors. Enables law enforcement to track legal occupancy of parking places. 	<ul style="list-style-type: none"> Manages any kind of parking policy in regulations issued by a city. Uses RFID to integrate parking permit management and monitoring.
Use Case Scenario	Cities willing to digitize the management of parking payments without excessive investments.	Cities willing to have real time knowledge of free parking availability.	Cities willing to digitize the parking payment process and monitor in real time parking availability.	Cities willing to digitally manage all aspects of their parking services.
Hardware Components				
Parking sensors		✓	✓	✓
Data collector		✓	✓	✓
RFID cards				✓
RFID gates				
RFID reader				✓
Software Components				
Manage parking spaces	✓	✓	✓	✓
Manage permits				✓
Analyze mobility data				
App for drivers	✓	✓	✓	✓
Regulation enforcement	✓		✓	✓

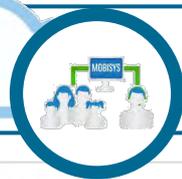
Solutions (2/2)

Solution	PUBLIC / ON-STREET			COMMERCIAL / OFF-STREET
	PERMIT MANAGEMENT	DYNAMIC PERMIT MANAGEMENT	PARKING AND MOBILITY MANAGEMENT	COMMERCIAL PARKING MANAGEMENT
Brief Description	<ul style="list-style-type: none"> ▪ Uses RFID based card management. ▪ Enables law enforcement to track and monitor use of permits with portable devices. ▪ Allows citizens to use Tap&Park. 	<ul style="list-style-type: none"> ▪ Uses RFID based card management. ▪ Uses RFID gates to track mobility of driver categories across city areas. ▪ Enables law enforcement to track and monitor use of permits with portable devices. ▪ Allows citizens to use Tap&Park. 	<ul style="list-style-type: none"> ▪ Monitors how categories of parking permit owners use their permits moving across the city. ▪ Uses RFID gates to track mobility of driver categories across city areas. 	<ul style="list-style-type: none"> ▪ Integrates different modules in existing infrastructures to optimize information on occupancy and increase efficiency. ▪ Uses RFID technology to improve customer service and retention.
Use Case Scenario	Cities needing to digitize management of parking permits for businesses and citizens	Cities needing to digitize and monitor in real time the management of permits issued to businesses and citizens	Cities willing to digitally manage and monitor in real time all aspects of their parking services	Businesses willing to digitize the management of their commercial parking services
Hardware Components				
Parking sensors			✓	✓
Data collector			✓	✓
RFID cards	✓	✓	✓	✓
RFID gates		✓	✓	✓
RFID reader	✓	✓	✓	
Software Components				
Manage parking spaces			✓	✓
Manage permits	✓	✓	✓	✓
Analyze mobility data		✓	✓	✓
App for drivers			✓	✓
Regulation enforcement	✓	✓	✓	



Offering insights

KIUNSYS



INeS CLOUD | front end

e-gov services for citizen and companies: information, payments and direct management of own services



Registrati | Persa la password?

- HOME
- CHI SIAMO
- BANDI E GARE
- NEWS
- LAVORA CON NOI
- DICONO DI NOI
- CONTATTI

Cerca nel sito



News

8 febbraio 2012
Stop alle auto in centro giovedì 9 febbraio
 Il blocco si intende valido tutti i giovedì fino a fine gennaio. Per informazioni e per il calendario di rettifiche comunicate di volta in volta.

News viabilità

10 gennaio 2012 - 10 febbraio 2012
Via Voltorno

Sono iniziati i lavori per la riqualificazione di Via Voltorno; nei tratti di volta in volta in marcia è ristretta.

Mappe Servizi

- Mappe Info/Traffico
- Carta dei servizi
- Regolamenti parchi e servizi
- Parcheggio Piazza dei Miracoli
- Parcheggio Stazione FS
- Parcheggio Bus turistici
- Parcheggio Pal. Congressi
- Parcheggio pubblica via

Parcheggio € 1,50 → elenco → [PDI navigatore](#)
 Posti-bici coperti custoditi → elenco → [PDI navigatore](#)
 Rastrelliera bloccata/ciclo → elenco → [PDI navigatore](#)
 Rastrelliera normale → elenco → [PDI navigatore](#)
 Riparazione- vendita cicli → elenco → [PDI navigatore](#)
 Vendita FT → elenco → [PDI navigatore](#)
 ZTL → elenco

Mappe Servizi
 Mappa Satellite
 Mappa Ibrida

Sosta e Transiti

- › Piano Sosta
- › Permessi di Sosta e Transito
- › Varchi elettronici
- › Parcheggi
- › Rimozione veicoli
- › Telepark
- › Modulistica
- › Informazioni

Mobilità Sostenibile

- › Mobilità sostenibile a Parma
- › Car Sharing
- › Bike Sharing
- › Mobilità Ciclabile
- › Mobility Management
- › Ecocity
- › Progetti Europei e Nazionali
- › Zero Emission City
- › Car Pooling
- › Mobility Card
- › Iniziative

Infotraffico e Viabilità

- › News sul traffico viabilità
- › Wi Move
- › Blocco del Traffico Generale 2011/2012
- › Blocco del Traffico - GIOVEDÌ SENZA AUTO - Gen-Mar 2012
- › Mappe viabilità
- › Tangenziale

Assistenza Online - chat live

LIVE HELP OFFLINE

homepage

Benvenuto
Paola Ponticelli
[LOGOUT]

Impostazioni

- modifica i dati personali
- modifica i dati di fatturazione
- attiva/disattiva servizi informativi
- elenco PisaPass in possesso
- modifica la tua password
- richiedi cambio dati
- stato richieste cambio dati

Abbonamenti

- acquista
- elenco acquisti via web

Prenotazione Permessi Giornalieri

I campi contrassegnati con (*) sono obbligatori.

Specifica le informazioni del tuo permesso

In quale giorno hai bisogno del permesso? (*)

Da che ora dovrà essere valido il permesso? (*)

00 ore 00 minuti

Quante ore dovrà durare il permesso? (*)

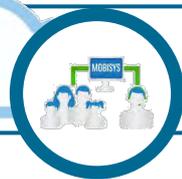
1 ore

In quale settore della città dovrà essere valido il permesso? (*)
 N.B.consulta la [Mappa Servizi](#) per visualizzare i settori nella città

settore A: S. Francesco
 settore B: S. Maria
 settore C: S. Antonio
 settore D: S. Martino

Per quale motivo hai bisogno del permesso? (*)

lavoro artigianale



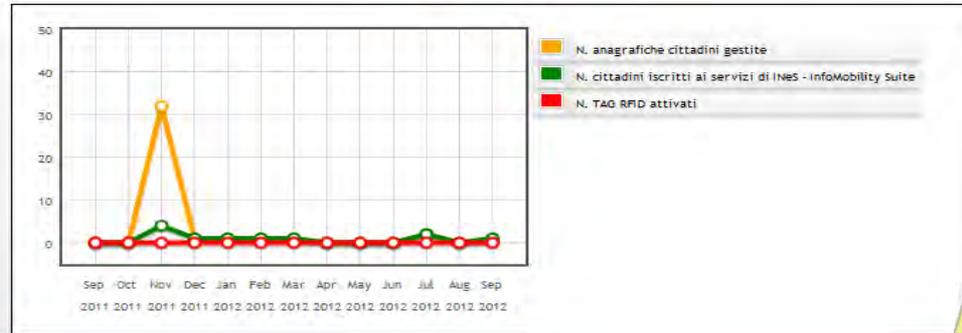
INeS CLOUD | back end

services management, analytics and reports
for parking and transportation agencies

- [+] Isole Ecologiche
- [+] MdM
- [+] Mobile settings
- [-] mParking
 - Nuova area
 - Gestione aree
 - Nuova tariffa
 - Gestione tariffe
 - Gestione eccezioni "singola data"
 - Gestione eccezioni "periodo"
 - TEST richiesta mParking
 - Transazioni Mparking
 - Segnalazioni Mparking
 - Tipologie Segnalazioni Mparking
 - Configurazioni Città
- [+] Registro reclami
- [+] TapAndPark
- [+] Permessi Giornalieri
- [-] Autorizzazioni ZTL/ZSC
 - Rilascio Autorizzazioni ZTL/ZSC
 - Elenco Autorizzazioni (rinnovi)
 - Log rinnovi via web
 - Export rinnovi via web
 - Export Autorizzazioni Attive

Anagrafiche cittadini e TAG RFID

Riassunto | Andamento dell'ultimo anno

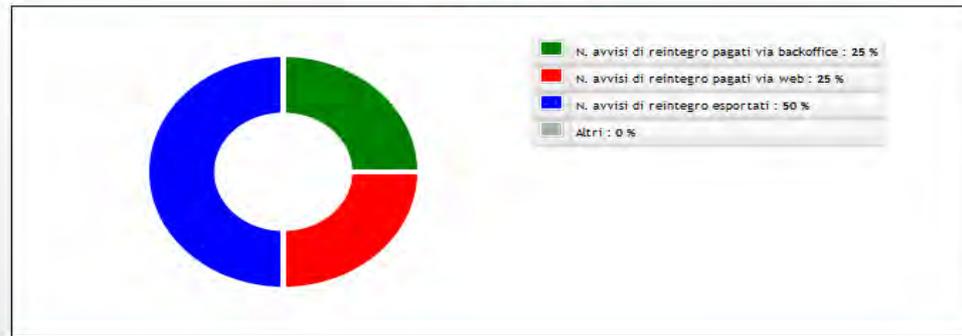


more than
200 menu
items and
100 reports

Avvisi di Reintegro

Visualizza / Nascondi

Riassunto | Percentuali



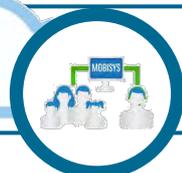
Preavvisi/Verbali

Visualizza / Nascondi

Autorizzazioni ZTL/ZSC

Visualizza / Nascondi

KIUNSYS



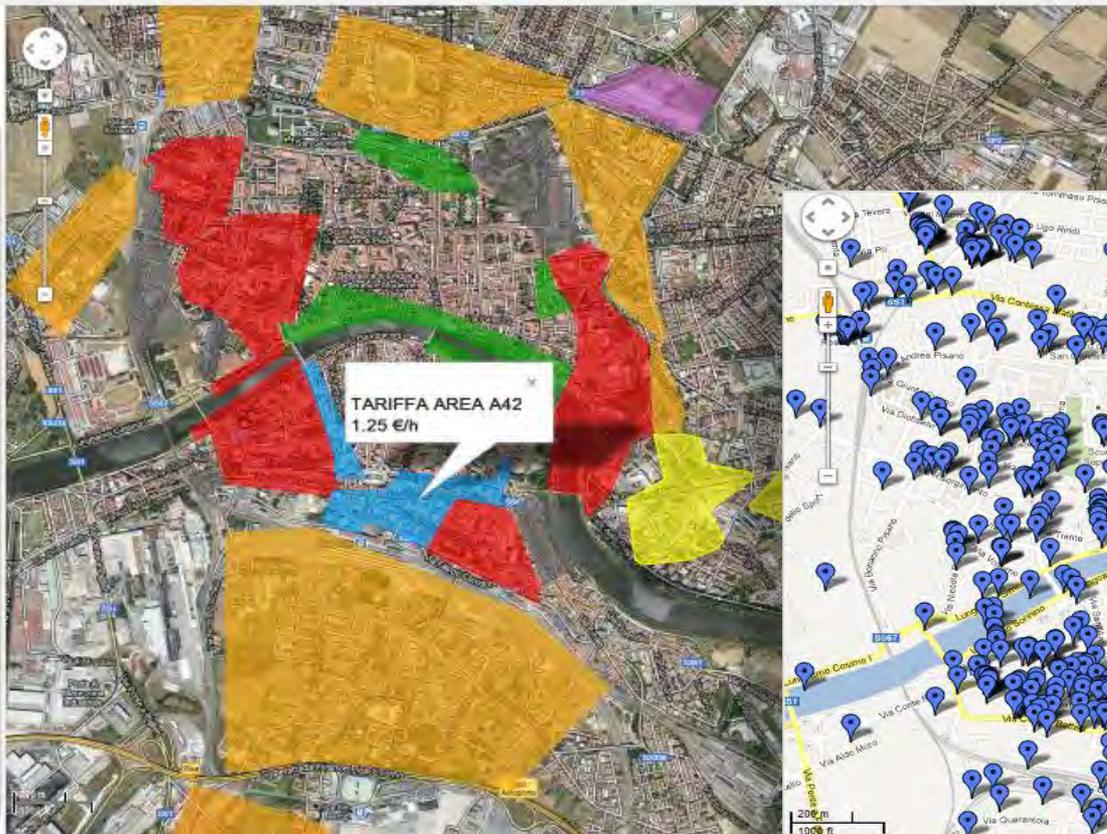
INeS CLOUD | back end

geo-referencing of pricing areas, dynamic pricing, RFID controls, mobile parking payments

Tu Ricerca Immagini Maps Play YouTube News G

Google

- A1-3
- A1-4
- A1-6
- A2-1
- A2-2
- A2-3
- A2-6
- A3-1
- A3-2
- A3-3
- A3-4
- A4-1
- A4-2**
- B1-1
- B1-2
- B1-3
- B1-4
- B1-6
- B1-7
- B2-1
- B2-2
- C1
- D1
- L1
- A1-1
- A1-2
- A2-4
- Forma 29
- Forma 30





MOBILITY PASS



passive UHF RFID transponders for identification of vehicles, disabled, commercial vehicles, goods and any other city assets



more 600,000 RFID

KIUNSYS



MOBILITY PASS



paper badge with
passive UHF RFID + QR Code + barcode + serial number

QR CODE



City of ABCDEFGH



City Mobility Pass

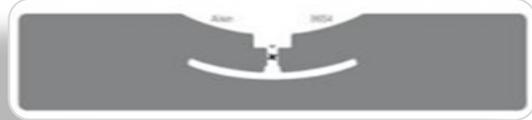
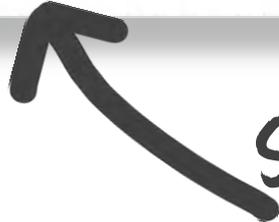


E2003412012EF50003EF2D8B

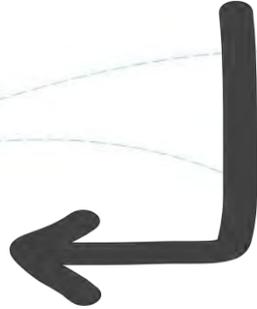
BARCODE



SERIAL NUMBER



UHF RFID TAG



inside
the badge



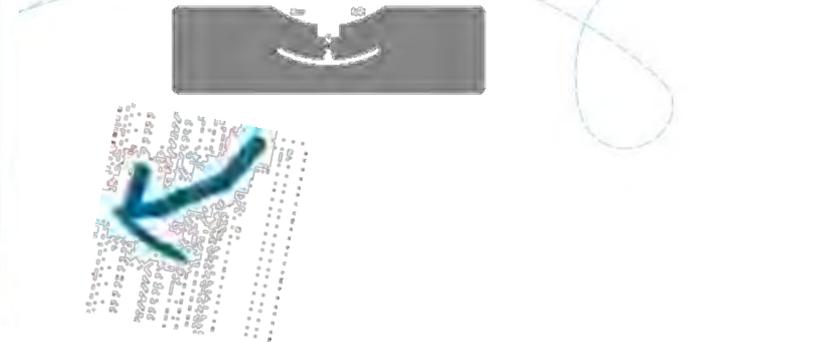
Disabled Blue Badge

EU Recommendation 98/376/EC
Italian Government D.P.R. July 30, 2012, n. 151

- the European Disabled Blue Badge can be provided with an electronic chip in order to prevent any counterfeiting activities: no more intrusions in the LTZ, no more illegal parking in the reserved parking area for disabled



RFID tag inside
disabled blue badge





TAP&PARK + TAP&PARK Advertising



parking payments, infoparking, geo advertising

PARK



SEARCH



REMIND



GEO ADV





TAP&PARK Analytics

geo analysis: parking information collected by Tap&Park



Use of Tap&Park in Pisa



Parking activity close to the Tower



LAW ENFORCEMENT

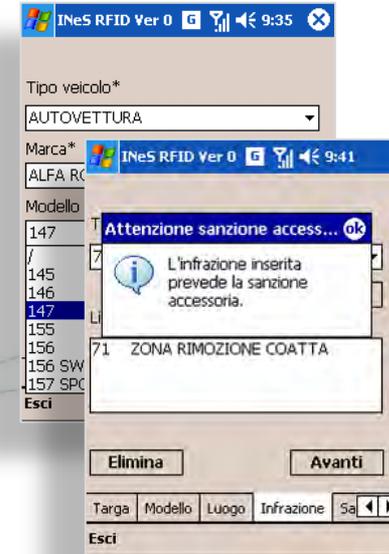
Identification (by plate number or MobilityPass reading),
integrated with INeS CLOUD for controls and fines



Smartphone Android



Rugged handheld





UHF RFID GATE

access control (e.g. disabled blue badge, commercial vehicles, ...),
free flow payments, flow analysis



RFID-UHF antenna
Reading up to 6 m and 120km / h
according to UE law (2W ERP)



PARKING SPOT SENSOR

detection of full/empty parking spots for infoparking, geo analysis and services prediction



customer (city)
logo

ultrasonic sensor

discharge water

fixing screw

retroreflector

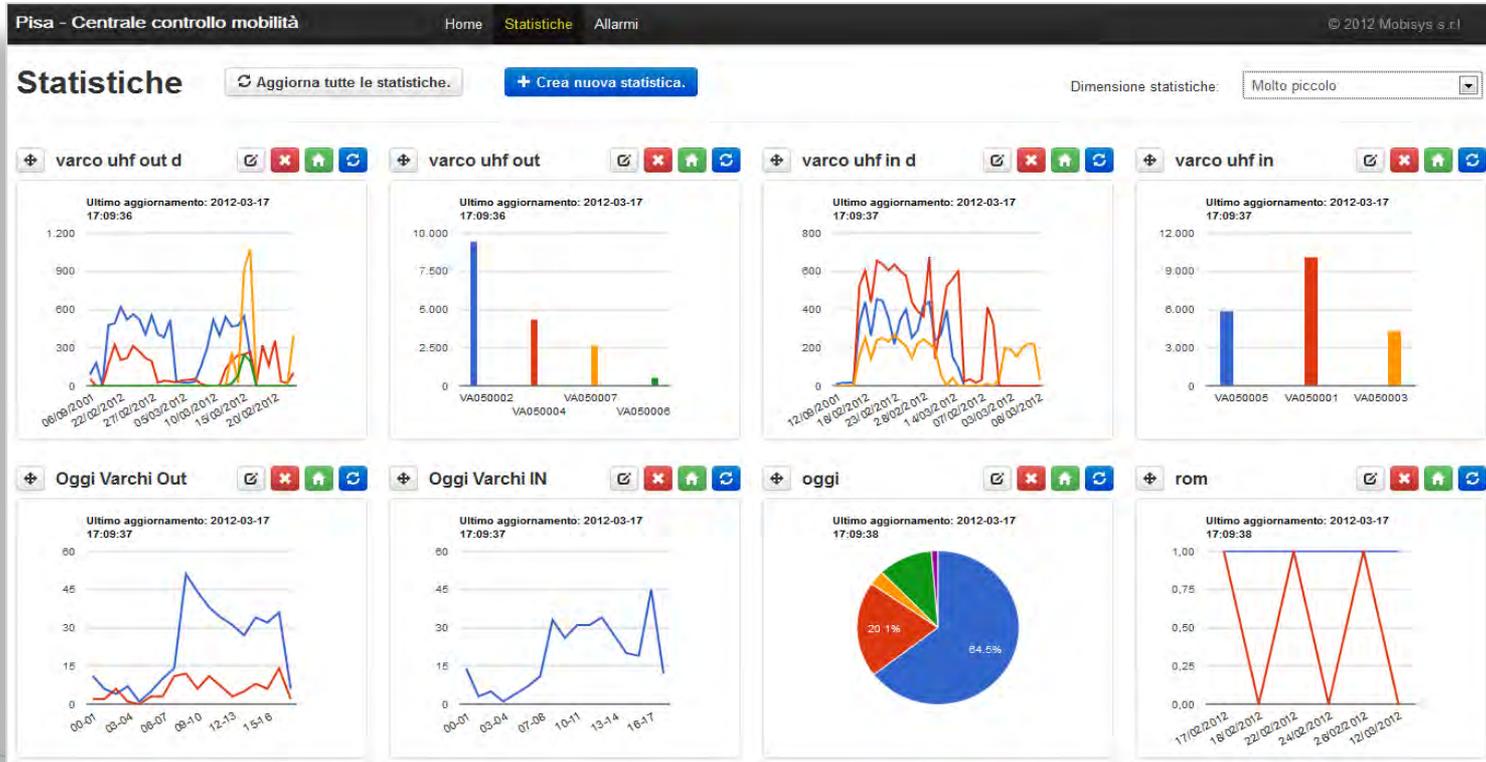
Pat. N.: FI2012A000223
22/10/2012

KIUNSYS



INeS Cloud – Analytics (1/2)

big data analysis collected from
UHF RFID Gates and Parking Spot Sensors



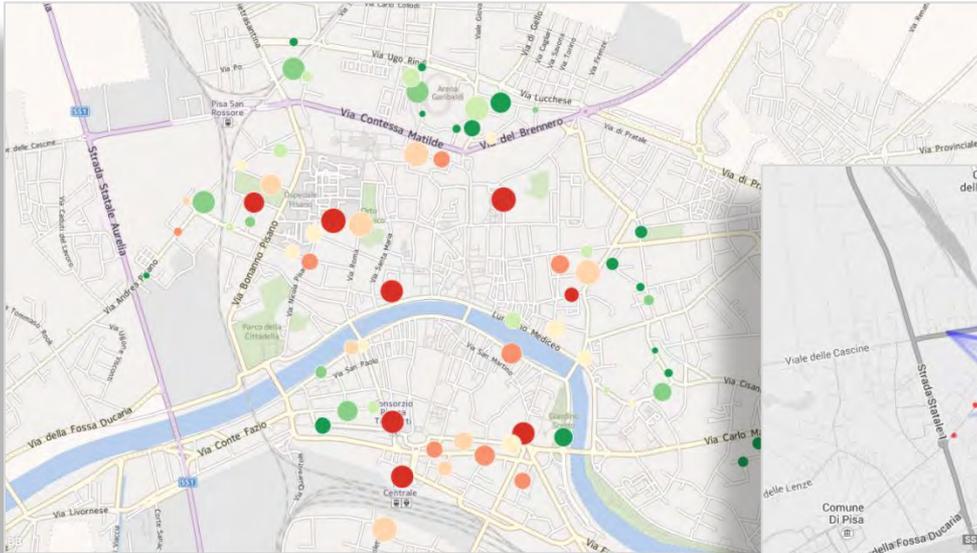
Traffic dashboard: sensors, flows and gates

KIUNSYS

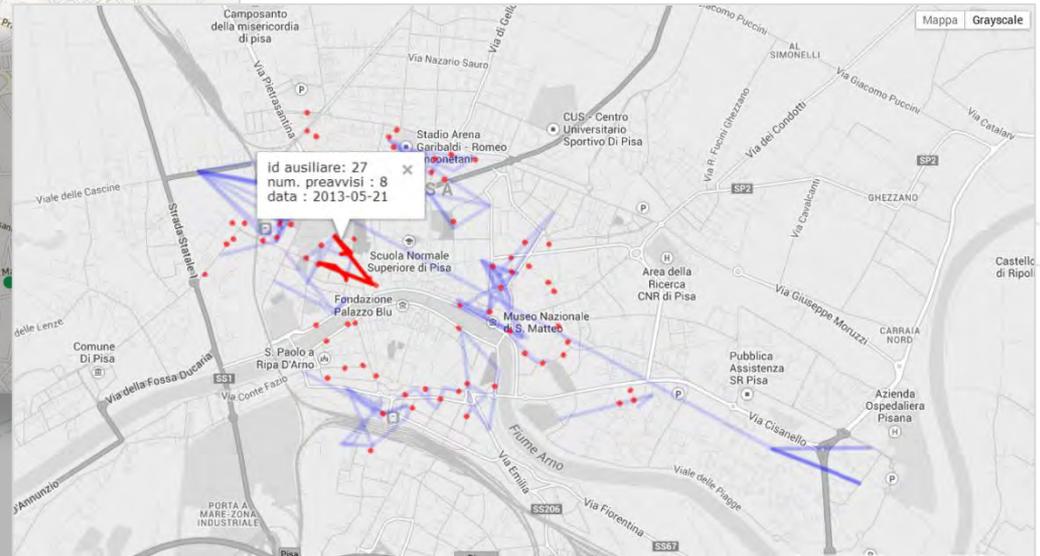


INeS Cloud – Analytics (2/2)

big data analysis of
law enforcement smartphone readings and sanctions



distribution of sanctions



Tracking of police men



Benefits

GOVs and Traffic Agencies: benefits overview

A TALE OF TWO CITIES

Parking Matters^{®1} An increasing number of cities are re-thinking parking by taking advantage of the revolution in technology, innovation, and sustainability that has transformed the industry during the past few years.

Smart parking is where technology, economics, and the customer experience converge to create more livable, sustainable communities. Collaboration between parking experts and decision-makers early in the planning phase of any project can reap big rewards.

Smart parking can include:

- Credit card accepting payment technologies
- Pay-by-cell functionality
- Parking guidance technologies
- Real-time data and analytics
- Sustainable technology, design, and innovation
- Real-time and predictive enforcement and collections
- Demand-based pricing

✓ WITH SMART PARKING



10%
reduction in congestion levels, which leads to a 2.1% improvement in the local GDP



43%
less time spent driving in cities, which equates to 21% fewer miles driven



Smart parking increases quality of life and promotes more walkable cities

20-30% Increase in revenue
179% Increase in retail sales

✗ WITHOUT SMART PARKING



30%
of urban traffic is caused by people circling the block searching for parking



950K
miles driven in a 15-block area of Los Angeles in one year by drivers looking for parking (resulting in added emissions and fuel consumption)



Parking difficulties can affect people's decisions about where they live, work, and shop

40% Potential parking revenue lost through inefficiencies

Smart parking helps if you're constrained by existing resources, limited budgets, and aging infrastructure. **Here's why:**

248 Million
Number of cars and light trucks on the road in the U.S., third quarter, 2013

95%
Amount of a car's life spent sitting in a garage, lot, or parked on the street

90%
Growth in the number of registered vehicles in the U.S. since 1970

\$121 Billion
Total cost of traffic congestion in 2011

Sources:
2013 Driving Trends in Parking Report, International Parking Institute
2012 Urban Mobility Report, Texas A&M Transportation Institute
"Cracking the Parking" - Global Street, ACCESS Number 20
New York Times, "Park Blocks Search-NOV", Bloomberg, May 2009
"Measuring the Smart" - New Metrics For 21st Century Streets, NYC DOT, October 2012
"SmartCity: The Good, The Bad, The Ugly", Strategize, Inc. 2013
Global Transportation, Smart Cities Report, IBM 2011
Energy Technology Perspectives 2012, International Energy Agency
"The Costs of Highway Congestion", David Morgan, AEC-News, February 13, 2014

IPI INTERNATIONAL PARKING INSTITUTE **IP** SMART PARKING **PARKING MATTERS**
parking.org
Designed by Streetline, Inc. as a gift-in-kind contribution.

GOVs and Traffic Agencies: intangible benefits

■ investment and OPEX cost reduction

- cloud architecture: **no investment in ICT infrastructure**
- Kiunsys' technologies and skills: rapid roll out of the project

■ management cost reduction (saving)

- more than **200 menu items** and over **100 reports**
- financial analytics
- high reduction in paper
- less staff at the counter
- complaints reduction

■ interoperability

- rapid integration with third-part systems: municipal registry, LTZ gates, parking meters, etc.

■ real time control and monitoring

- full/empty parking areas
- thanks to MobilityPass, detailed origin-destination matrices (Mobility Pass)
- productivity of personnel at the counter and parking enforcement

GOVs and Mobility Agencies: economic benefits

	KIND OF BENEFIT	ECONOMIC BENEFIT
parking meter	- TCO reduction	
permits management	- Cost saving with dematerialization based on e-services	
complaints management	- significant complaints reduction	
personnel at the counter and parking enforcement	- Monitoring productivity	
parking meters revenues	- Grow revenues due to accurate street controls	
traffic and environment	- reduction of citizens at the counter : up to -60% - reduction of vehicles traffic and CO2 - compliant with Italian Gov Directive for ITS diffusion - compliant with UE Directive 2010/40/UE	
Return on Investment	- aprox. 1 year	~ € 500.000/y

Hypothesis

- citizens: aprox. 100,000
- Traditional management
- Technologies rolled out: INeS + PSS + Gate + smartphone + 5 ys maintenance

KIUNSYS

i n n o v a t i o n i n m o b i l i t y

www.infomobilitysuite.com
info@infomobilitysuite.com

