KIUNSYS

innovation in mobility

company profile, offering, projects

AZIENDA SPINOFF DELL'UNIVERSITÀ DI PISA

TTS ITALIA Italian ITS Association

AWARD 2009 RFID

ITALIA

Smau Mob App Awards Roma 2012 smau

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**

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Market pains

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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?
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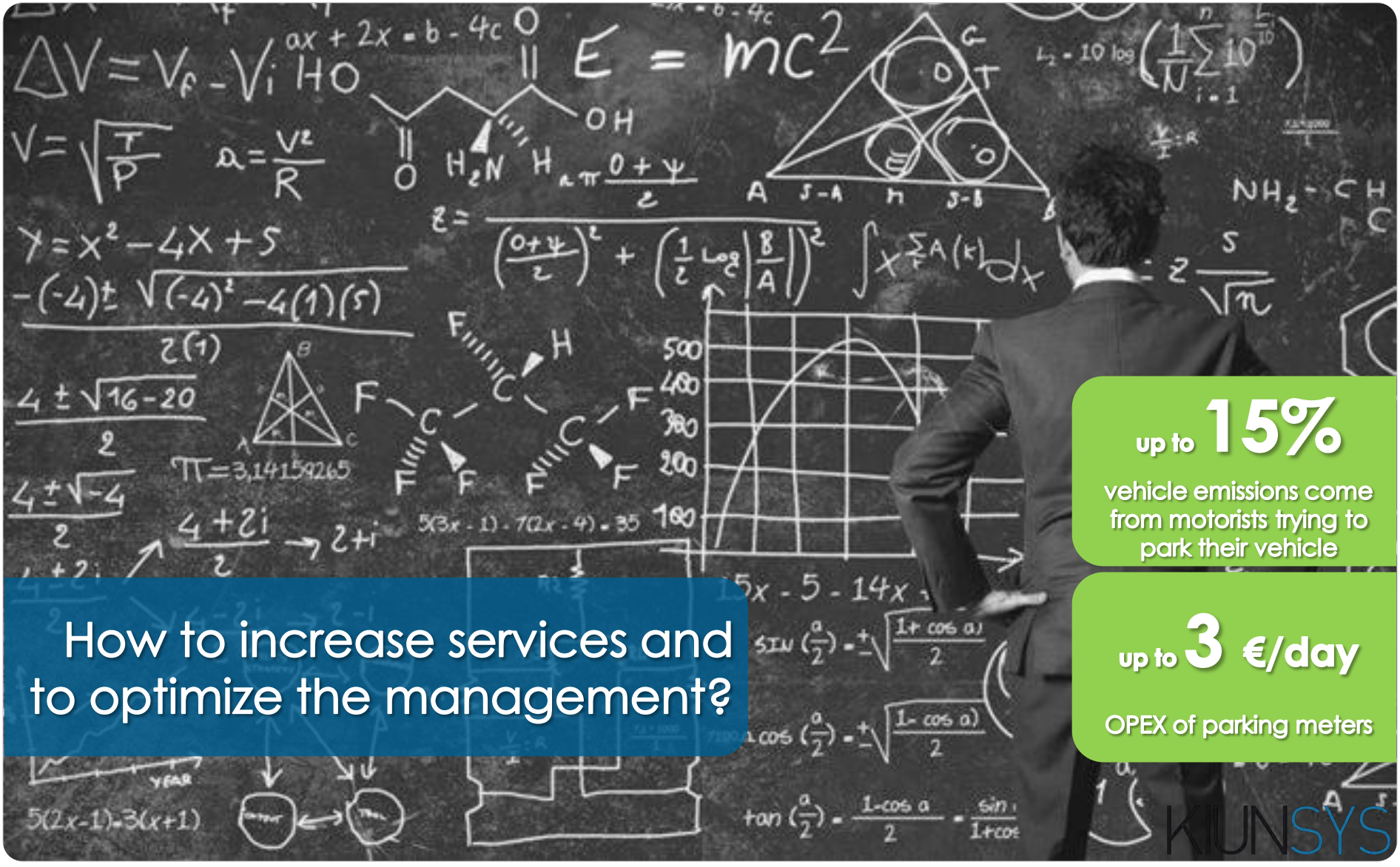
How to increase services and to optimize the management?
up to 15%
vehicle emissions come from motorists trying to park their vehicle
up to 3 €/day
OPEX of parking meters
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Offering

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A suite of products to make…

INeS Cloud
customers mgmt,
vehicle/motorcycle/bus
permits,
payments,
wallet, fines, …

Tap&Park
Tap&Park ADV
mobile payments,
infoparking,
infomobility ,
geo advertising

Mobility Pass
passive UHF RFID for
vehicle, people and
goods identification

Parking Spot Sensor
detection
of free/busy
parking spots

Smartphone
Handeld
on street controls
by law enforcement

UHF Mobility Gate
free flow,
fleet mgmt,
city logistics,
street flow analysis

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Solutions (1/2)

Solution	PARKING APP MANAGEMENT	FREE PARKING MANAGEMENT	APPS AND SENSOR MANAGEMENT	PUBLIC PARKING MANAGEMENT
Brief Description	▪ Use of Tap&Park to find and pay for available parking places. ▪ Enables law enforcement to track legal occupancy of parking places.	▪ Equips public parking spaces with sensors. ▪ Uses Tap&Park to find available parking places through the use of sensors.	▪ 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.	▪ 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	✓		✓	✓

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Solutions (2/2)

	PUBLIC / ON-STREET			COMMERCIAL / OFF-STREET
Solution	**PERMIT MANAGEMENT**	**DYNAMIC PERMIT MANAGEMENT**	**PARKING AND MOBILITY MANAGEMENT**	**COMMERCIAL PARKING MANAGEMENT**
Brief Description	▪ Uses RFID based card management. ▪ Enables law enforcement to track and monitor use of permits with portable devices. ▪ Allows citizens to use Tap&Park.	▪ 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.	▪ 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.	▪ 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 Screnario	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	✓	✓	✓	

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Offering insights

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INeS CLOUD | front end

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

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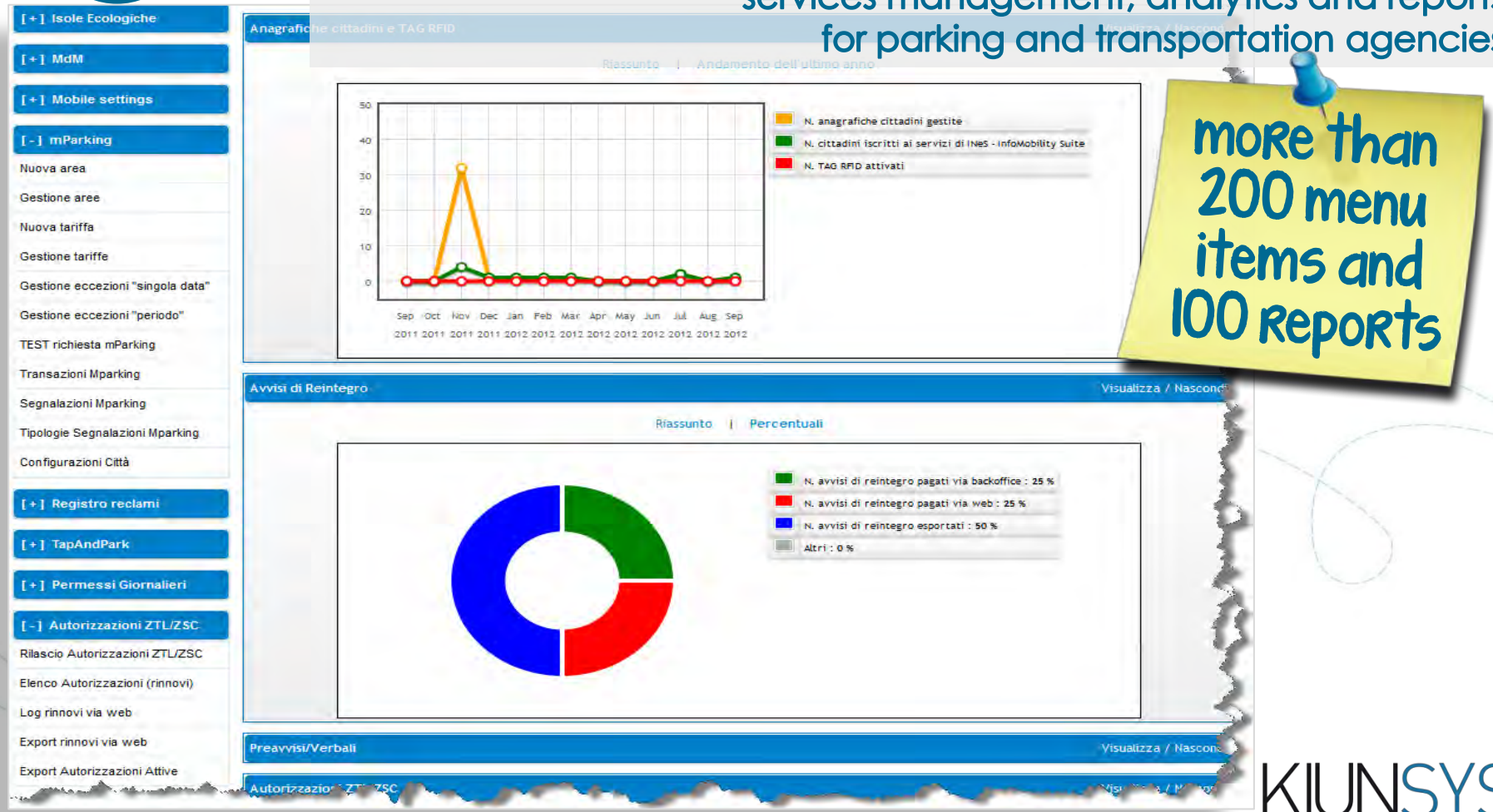
INeS CLOUD | back end

services management, analytics and reports for parking and transportation agencies



more than 200 menu items and 100 reports

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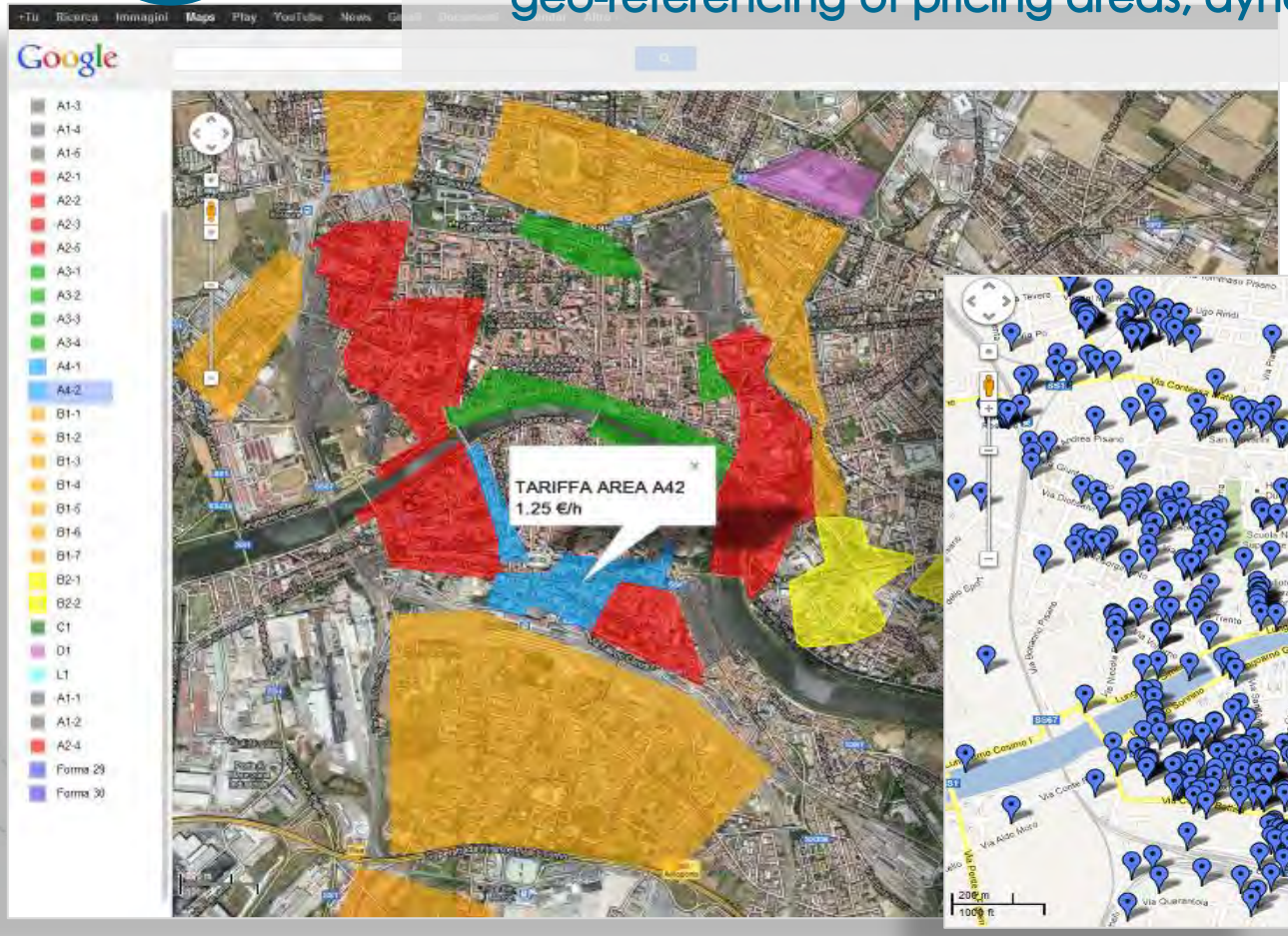
INeS CLOUD | back end

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



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MOBILITY PASS

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

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MOBILITY PASS

AWARD 2009 RFID

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

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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

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TAP&PARK + TAP&PARK Advertising

Smau Mob App Awards Roma 2012 — finalista

parking payments, infoparking, geo advertising

PARK

SEARCH

REMIND

GEO ADV

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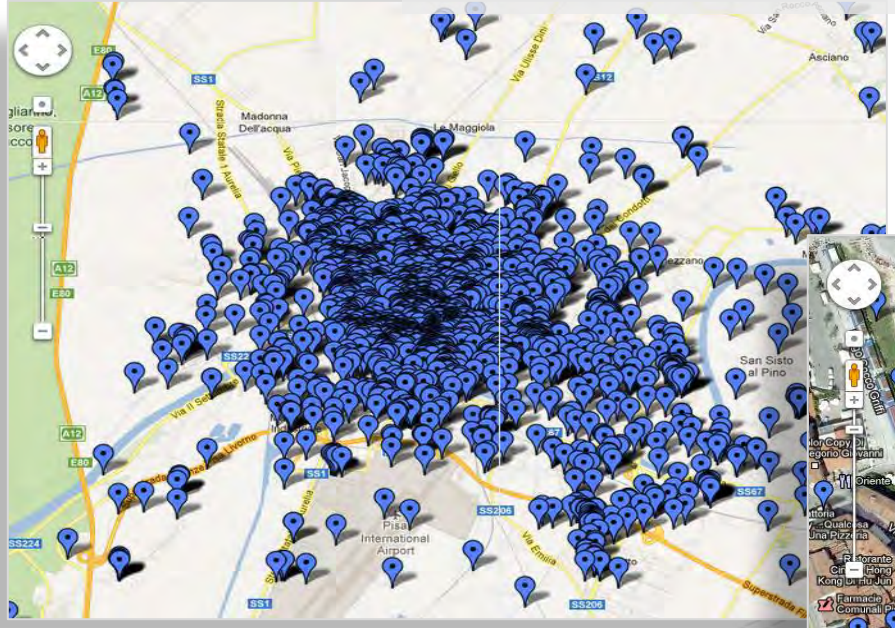
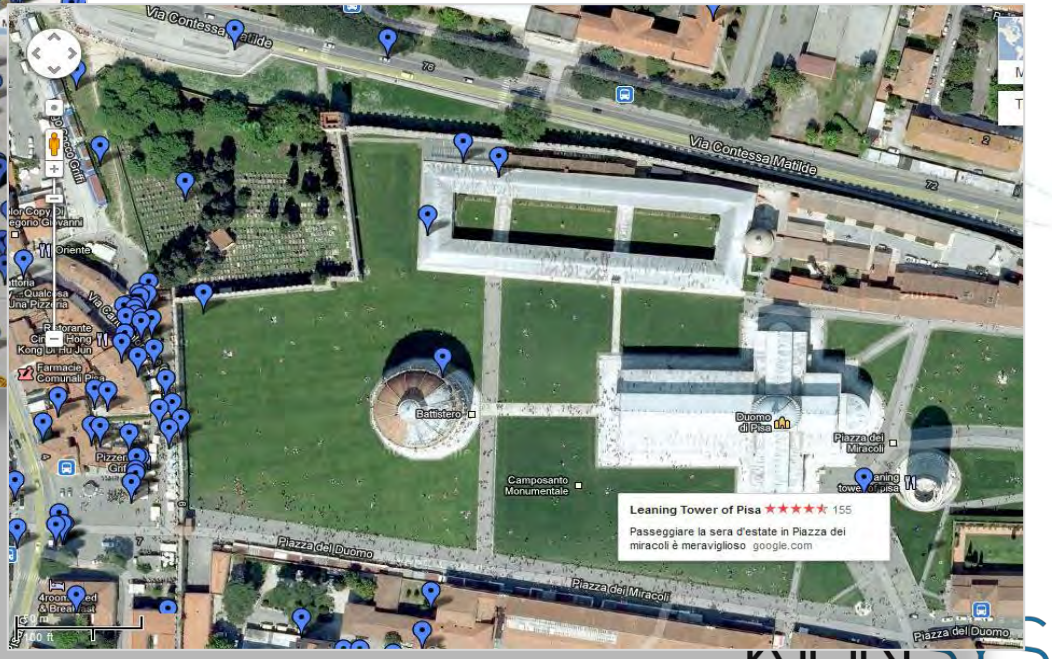
TAP&PARK Analytics

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

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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)

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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

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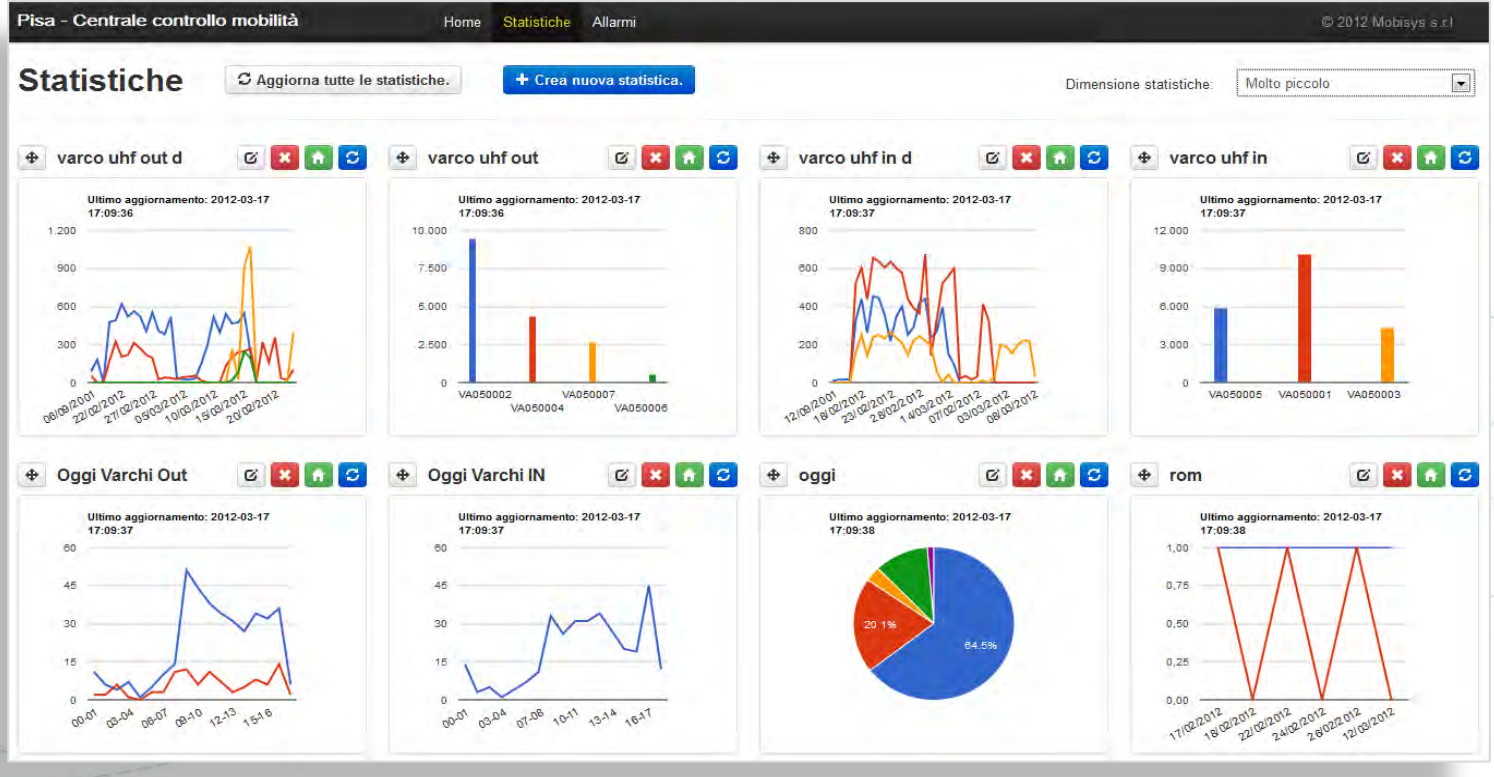
INeS Cloud – Analytics (1/2)

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



Traffic dashboard: sensors, flows and gates

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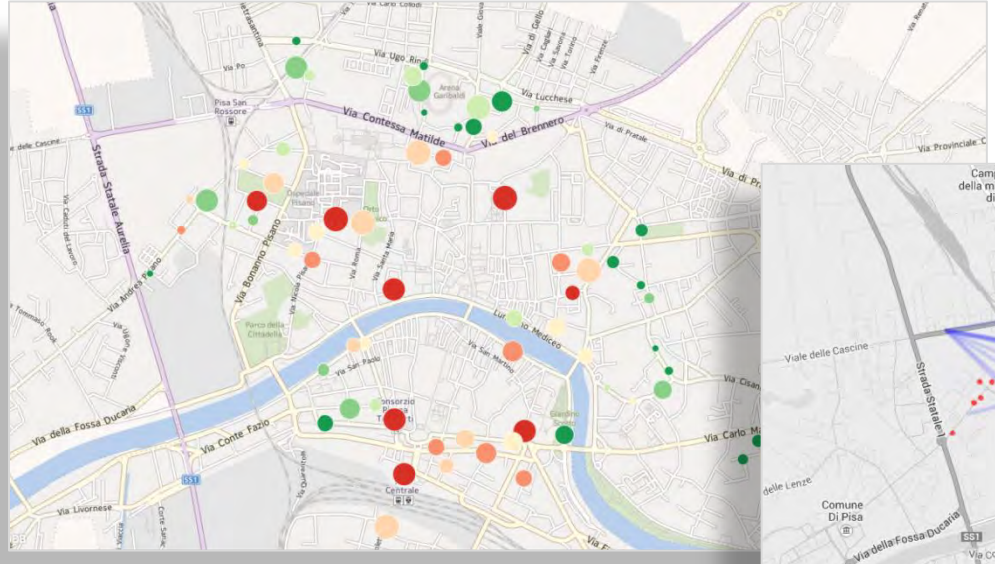
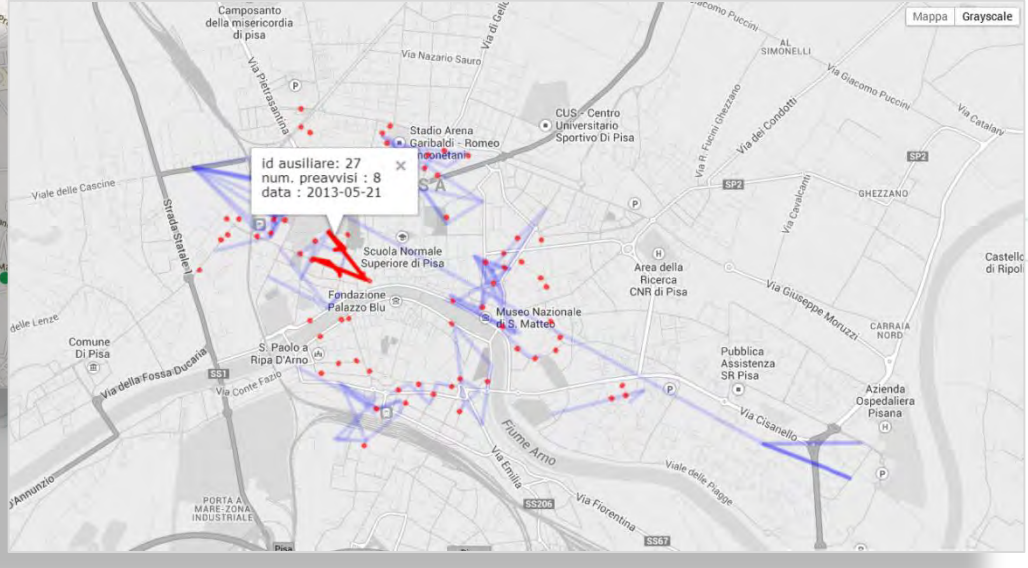
INeS Cloud – Analytics (2/2)

big data analysis of
law enforcement smartphone readings and sanctions



distribution of sanctions



tracking of police men

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Benefits

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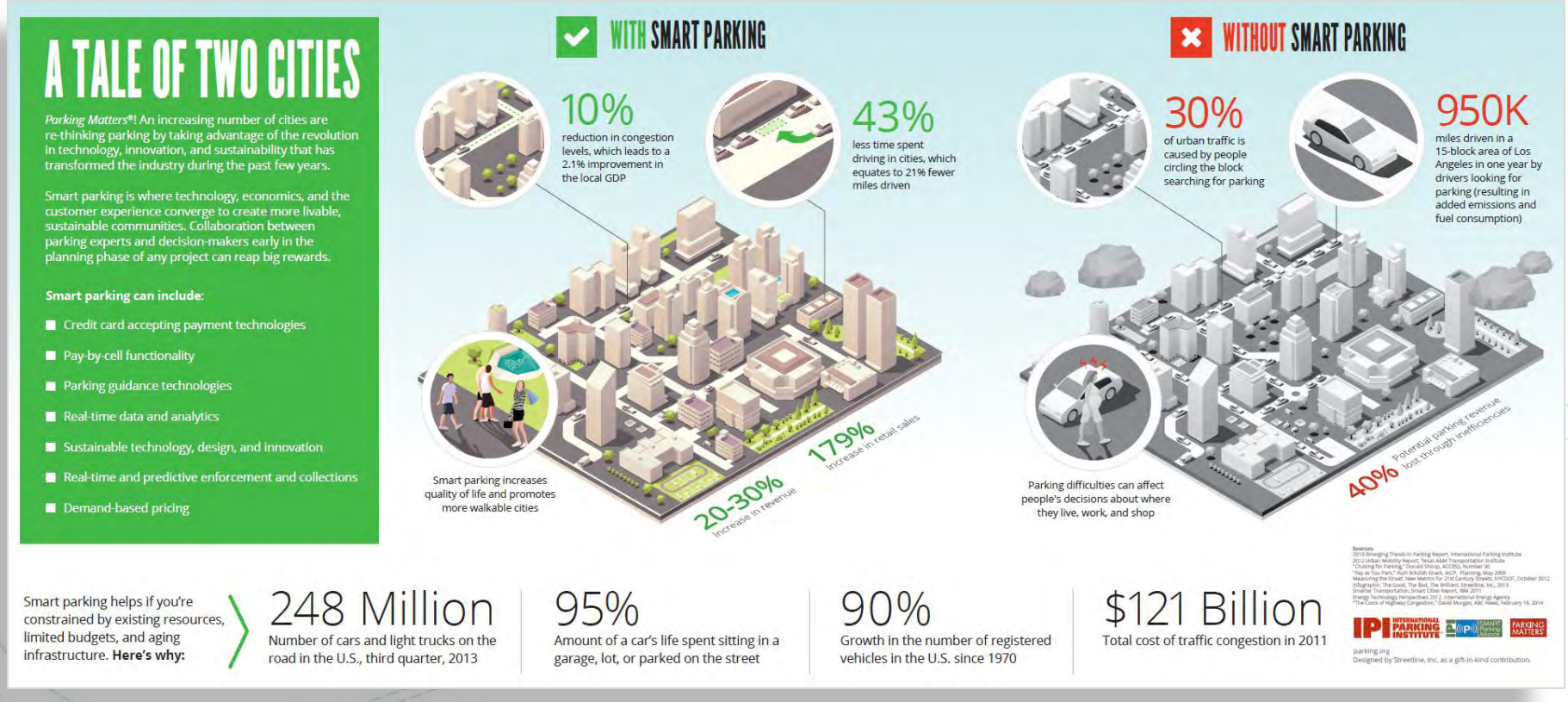
GOVs and Traffic Agencies: benefits overview



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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

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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	
trafic and environement	- reduction of citizens at the counter : up to -60% - reduction of veichles trafic 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
- Tecnologies rolled out: INeS + PSS + Gate + smartphone + 5 ys maintenance

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