company profile, offering, projects
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
It’s impossible to find parking? Too much time lost in vain?

Traffic caused by drivers looking for parking: up to 30%

Motorists turning their backs on city centers: up to 51%
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
A suite of products to make...

**Tap&Park**
- 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**
- Customer management, vehicle/motorcycle/bus permits, payments, wallet, fines, ...

**Mobility Pass**
- Passive UHF RFID for vehicle, people, and goods identification

**Handeld**
- Smartphone on street controls by law enforcement
## Solutions (1/2)

<table>
<thead>
<tr>
<th>Solution</th>
<th>PARKING APP MANAGEMENT</th>
<th>FREE PARKING MANAGEMENT</th>
<th>APPS AND SENSOR MANAGEMENT</th>
<th>PUBLIC PARKING MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brief Description</strong></td>
<td>Use of Tap&amp;Park to find and pay for available parking places.</td>
<td>Equips public parking spaces with sensors.</td>
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<td>Manages any kind of parking policy in regulations issued by a city.</td>
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<tr>
<td></td>
<td>Enables law enforcement to track legal occupancy of parking places.</td>
<td>Uses Tap&amp;Park to find available parking places through the use of sensors.</td>
<td>Uses Tap&amp;Park to find and pay for available parking places using sensors.</td>
<td>Uses RFID to integrate parking permit management and monitoring.</td>
</tr>
<tr>
<td><strong>Use Case Scenario</strong></td>
<td>Cities willing to digitize the management of parking payments without excessive investments.</td>
<td>Cities willing to have real time knowledge of free parking availability.</td>
<td>Cities willing to digitize the parking payment process and monitor in real time parking availability.</td>
<td>Cities willing to digitally manage all aspects of their parking services.</td>
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<tr>
<td><strong>Hardware Components</strong></td>
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<tr>
<td>Parking sensors</td>
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<tr>
<td>Data collector</td>
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<tr>
<td>RFID cards</td>
<td></td>
<td>✔</td>
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<tr>
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<td></td>
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</tr>
<tr>
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<td><strong>Software Components</strong></td>
<td></td>
<td></td>
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<td>Manage permits</td>
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<tr>
<td>Regulation enforcement</td>
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## Solutions (2/2)

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<th>COMMERCIAL / OFF-STREET</th>
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<td></td>
<td>PERMIT MANAGEMENT</td>
<td>DYNAMIC PERMIT MANAGEMENT</td>
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</table>
| 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 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

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</table>
e-gov services for citizen and companies: information, payments and direct management of own services
INeS CLOUD | back end

services management, analytics and reports for parking and transportation agencies

more than 200 menu items and 100 reports
INeS CLOUD | back end

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

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

City of ABCDEFGH

City Mobility Pass

paper badge with passive UHF RFID + QR Code + barcode + serial number
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
TAP&PARK + TAP&PARK Advertising

parking payments, infoparking, geo advertising

PARK

SEARCH

REMIND

GEO ADV

KIUNSYS
Use of Tap&Park in Pisa

geo analysis: parking information collected by Tap&Park

Parking activity close to the Tower
Identification (by plate number or MobilityPass reading), integrated with INeS CLOUD for controls and fines
RFID-UHF antenna reading up to 6 m and 120km/h according to UE law (2W ERP)

UHF RFID GATE

access control (e.g. disabled blue badge, commercial vehicles, ...), free flow payments, flow analysis
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
INeS Cloud – Analytics (1/2)

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

Traffic dashboard: sensors, flows and gates
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! 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.

**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 21.6 fewer miles driven

**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)

**Smart parking increases quality of life and promotes more walkable cities**

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:
- 95%: U.S. DOT, 2012
- 90%: IPI Parking Information
- $121 Billion: IPI Parking Information
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

<table>
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<tr>
<th>KIND OF BENEFIT</th>
<th>ECONOMIC BENEFIT</th>
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<tbody>
<tr>
<td>parking meter</td>
<td>- TCO reduction</td>
</tr>
<tr>
<td>permits management</td>
<td>- Cost saving with dematerialization based on e-services</td>
</tr>
<tr>
<td>complaints management</td>
<td>- significant complaints reduction</td>
</tr>
<tr>
<td>personnel at the counter and parking enforcement</td>
<td>- Monitoring productivity</td>
</tr>
<tr>
<td>parking meters revenues</td>
<td>- Grow revenues due to accurate street controls</td>
</tr>
</tbody>
</table>
| 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
Contacts

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info@infomobilitysuite.com