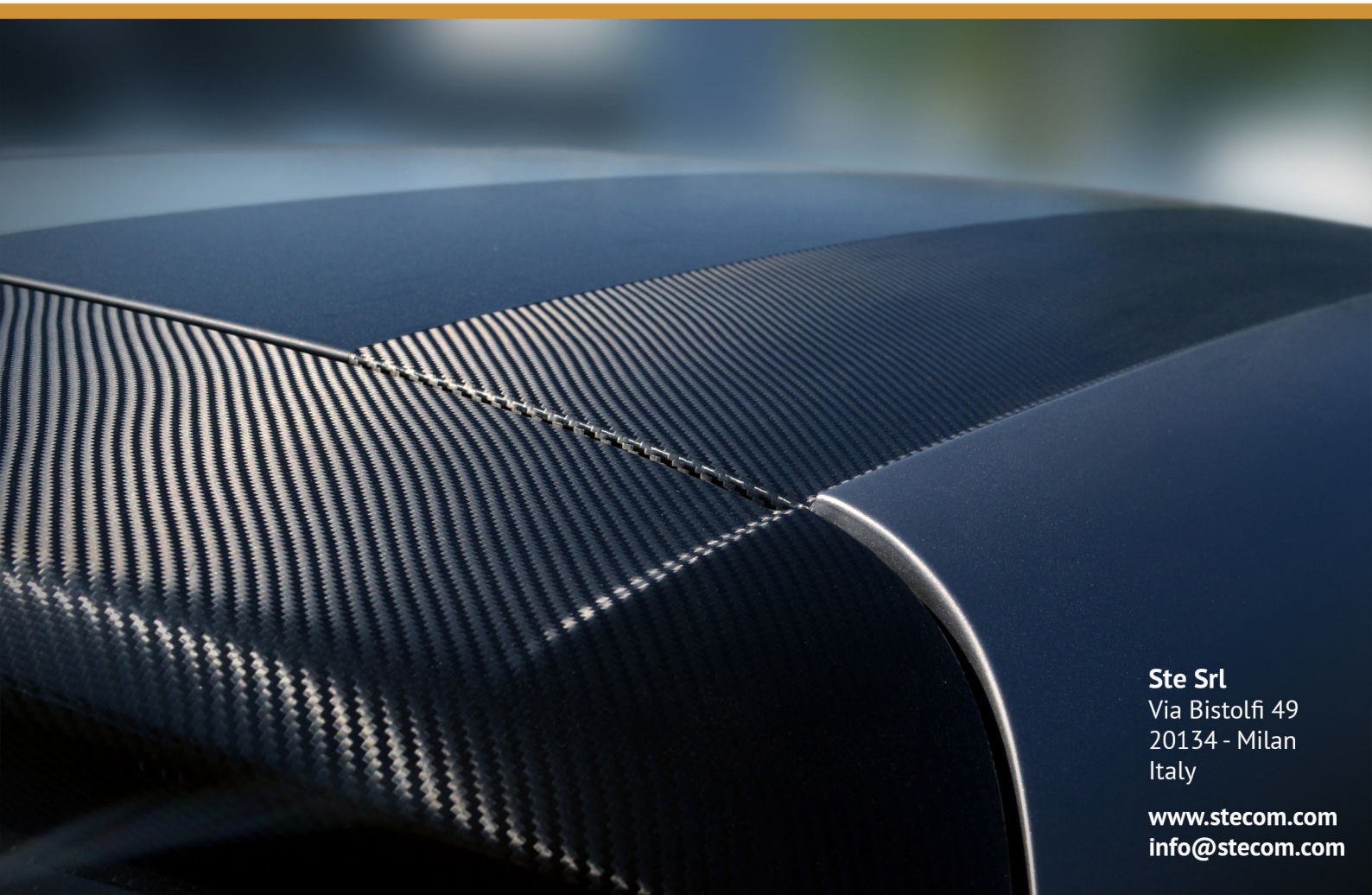
casehistory



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Smart City & Parking lot management

Wireless Sensors for enhance a life for the city of the future.

Vosystem product
In partnership with Spagnolo Srl

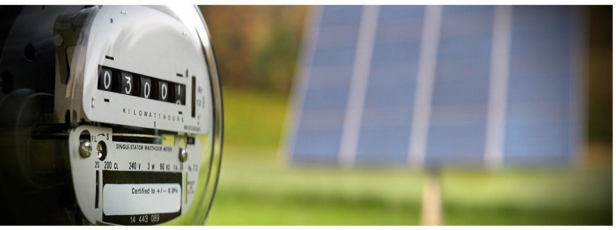
"CONNECTING INNOVATION FOR INTELLIGENT WIRELESS"

Ste
Engineering Department
2014

smart city

Smart City

Smart city is an urban environment aimed to improve the quality of life. **Smart city** manages to reconcile and meet the needs of citizens, businesses and institutions, thanks to a widespread and innovative use of ICT, particularly in the fields of communication, mobility, environment and energy efficiency.



Smart Meter

STE has been developing applications and meter-reading oriented products since more than 10 years.
Today, thanks to the experience and knowledge gained through the years, CUBY can be used as a gateway compatible with Wireless M-Bus systems.
Users can quickly collect and manage data transmitted by wireless nodes located across the territory.

Smart Parking

Thanks to extremely performing sensors it becomes possible to put in place a network to wisely manage and control parking lots and traffic flows.
The sensor can be used either hidden underground underneath the pavement or glued to the pavement at street level.

Smart Traffic Management

Traffic management is one essential daily issue for future urban environments. Thanks to the right network it will be possible to keep track of traffic volumes, to control traffic lights as well as remotely manage car accidents and general failures. On top of all these instruments we can also consider a smart management of parking lots which will daily ease the convoluted and congested traffic of our cities.

Smart Home

MicroSp low consumption technology along with CUBY flexible scalabilty enable the final user to easily and quickly realize a huge amount of domotics applications.

Smart Sensors Networks

"Wireless Sensors Network" concept is tightly bound to the SMART CITY one. There are several potential applications suiting Urban environment needs: air quality control,Temperature control and lightning and proximity sensors. All this can be easily managed by few gateway located across the urban territory.

Smart Wearable Sensors

Thanks to the implementation of innovative radio solutions today it is possible to literally wear very tiny sensors which are able to manage different parameters which could be sent as alarms to external devices. To collect and manage data from remote becomes real within the Smart-city environment.

sp.net
wireless sensors

parking lot management

Magnetometer Wireless Plate Sensor

STE has developed through the years two different parking sensors:

- Magnetometer embedded in-ground Wireless Sensor
- Magnetometer Surface Wireless Sensor

Both systems take advantage of STE proprietary technologies.
Thanks to an extremely intelligent and flexible firmware the sensor can self-calibrate whilst calculating the temperature ratio.
All this results in a quite wise management of the magnetometer sensor.
The two sensor transmit data through an extremely efficient low consumption radio module at 169 Mhz with narrow bands.
These features guarantee quite a long life expectancy for the system: more than 10 years for the embedded in-ground sensor and 5 years for the surface one.

LONG TRANSMISSION RANGE
IMPROVED OBSTACLES PERMEABILITY
RESERVED BAND FOR SPECIFIC APPLICATIONS
FREE BAND – NOT IN USE FOR CONSUMER TECHNOLOGIES
IT'S EASY TO CREATE PERFORMING SYSTEMS.
REGULATION 2005/928/CE – EN300-220

Designed in partnership with Spagnolo Srl

Outdoor Cuby Gateway

Cuby collects data from multi-technology sensors and manages them individually at the same time.
It can be used both indoors and outdoors.
It is a scalable solution and usable in different contexts.
It can be powered by a solar panel, both by a battery or directly connected to the power line.

Web Server interface

Cuby uses a Wifi technology and/or GSM to post to Internet the data collection and make them easily to access.
Thanks to the Web server interface it's easy to access to the data .
Thus you can manage the sensors of your wireless sensors network from any devices commonly used such as smartphone or tablet.

Application features:

> Database & Web oriented
> Access from remote
> Graphic display
> Dynamic database

type of sensors

Surface sensor

Disk sensor suitable for street surface installation.
The magnetometer reads the magnetic field change which is triggered by a car driving over the sensor. The disk is easy to install. No drilling on the ground needed. The sensor can be used in almost any environmental situation thanks to its extremely small size and to its strong structure. The magnetometer reads the magnetic field change which is triggered by a car driving over the sensor. The 169Mhz technology allows the system to keep track of free/engaged status and to communicate the data within a long distance range. All this results in a limited numbers of gateway neede with a consequent sensible reduction of costs.

Life time 5 years

Embedded in-ground sensor

Embedded in-ground sensor suitable for permanent long lasting installations. This sensor is usually used either by municipalities or in case of new parking lots under construction. The magnetometer reads the magnetic field change which is triggered by a car driving over the sensor. Just a very small hole in the ground is needed to install the sensor. The sensor is entirely buried under the street surface. The sensor can be used in almost any environmental situation thanks to its extremely small size and to its strong structure. The 169Mhz technology allows the system to keep track of free/engaged status and to communicate the data within a long distance range. All this results in a limited numbers of gateway needed with a consequent sensible reduction of costs.

Life time 10 years

Smart Gateway

With Cuby is possible to manage different sensors at the same time. Cuby has on-board all technologies needed for the accomplishment of typical wireless infrastructure focused on a wireless sensors network.The system is able to simultaneously handle all on-board peripherals thanks to an extremely performant firmware. In this regard, either managing monodirectional low-consumption sensors or controlling data collecting hubs within an urban environment it becomes simply possible and real. User friendliness and the expansion capability turn the CUBY into an essential choice should you wish to realise an highly professional product.