



# SCS

**SMART CITY SOFTWARE IS THE APPLICATION PLATFORM THAT ALLOWS THE MANAGING OF STREETLIGHTING SYSTEMS AND SMART CITY SERVICES VIA CLOUD COMPUTING**

SCS is the application platform that allows operators, administrators and citizens to interact, according to their role, with the street lighting system and the smart city services.

SCS **produces information** and **delivers** it to any single streetlamp and/or smart city device so that they can adapt their behaviour to the requests or, viceversa, provide themselves information to the citizen or the SCS itself.

Conversely SCS **retrieves data from streetlights and sensors distributed in the area** (the so-called Internet of Things) and, if necessary, it reacts in real time according to their content; for instance, it can provide the service of car park booking in response to the request of a citizen or warn

the streetlighting manager about a critical situation related to one or more lamps or monitored sites, i.e., for air quality or flooding or similar.

SCS aggregates and also uses this information to be **supportive in various management activities** related to streetlighting: **performance monitoring, operational monitoring** up to the **accurate and timely remote management** of streetlighting and smart city services.

SCS is available in the cloud: it is **accessible from any device**, including smartphones and tablets, **from anywhere in the world**, through an internet link.



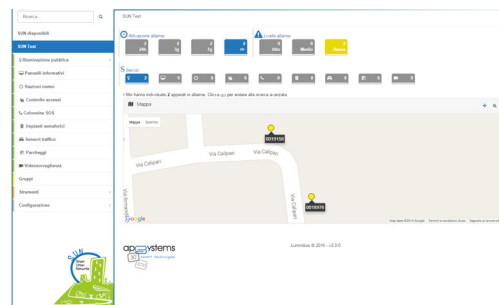
[www.apkappa.it](http://www.apkappa.it)

## Remote point-to-point management

With SCS you can monitor and check each device in the system (point to point), or groups of them or all schemes depending on the situation. The punctual management helps to profile and set the behavior of each point light to turn on, turn off, dimming the lamp, or get an extra update on its operational status or on the electrical measurements.

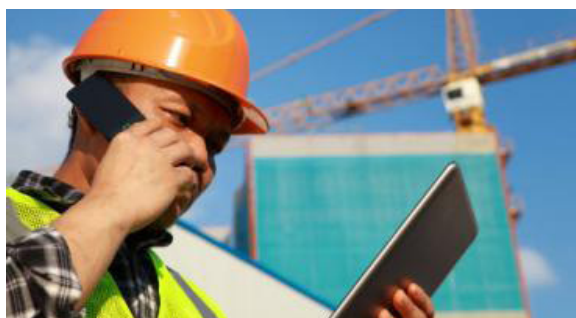
All devices can be programmed; in particular for each streetlight it is possible to define up to 12 luminous profiles, with 8 variations per profile.

A consequent feature of the remote point-to-point management is the **point-to-point diagnostics**; in fact SCS allows you to configure alarm states and their operations at individual device level. SCS is able to obtain and represent alarm situations sent by on-premises devices and to send them by email and/or other communication channels.



## SCS is a multi-scheme and multi-service platform

you can manage different schemes and many services at the same time with the same interface.



## APP for mobile

SCS is also available as an APP for smartphones to coordinate maintenance activities in the field. With it you can not only have service orders and retrieve information on the activities carried out but also get data for geo-referring of the device, rather than the pictures of itself (e.g. to evidence the damage as a result of vandalism or natural disasters).

## Ticket & storehouse

SCS also provides a ticketing system to collect reports and support the organization for maintenance activities. SCS also includes a section dedicated to the **life cycle of the equipment** used in the field for the remote management and smart city services; you can set and update the life stages that concern it with information on the storage, installation, maintenance and disposal of itself.

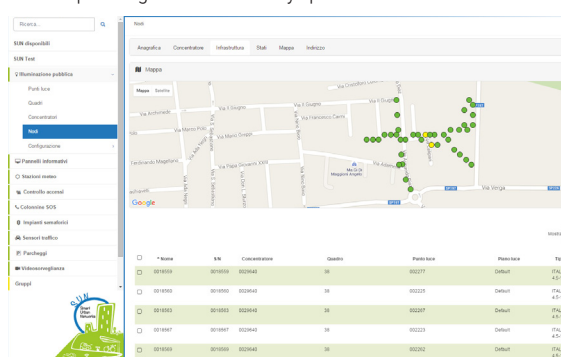
## Main technical features

- 3-tier architecture
- service oriented platform (SOA) managed via a web-based terminal
- standard technology (C#.NET, HTML5, CSS, Javascript, HTTP RESTful WS)
- interoperability (HTTP transport, RESTful WS, JSON/XML formats)
- security (HTTPS, TLS/SSL)
- performance (.NET, APS.NET MVC, SQL Server)
- scalability (scalable session state mgmt, stateless ws, database cluster)
- strength (failover and high availability architectures supporting)
- expandability (1 service = 1 plug-in)
- multi-tenant supporting
- multi-channel supporting (web app, mobile app)
- optimized management for exercise and balance based on db operation, datawarehouse and business intelligence platform
- reliability (closed ALM cycle, development environment/integrated test, monitoring/log/trace tool available)
- integrated management of a web mapping engine

## Mapping of devices, diagnostics, smart city, infrastructure and services

SCS integrates a web mapping engine to represent georeferenced devices. The operator can then locate the devices on the map and, depending on the icon that represents them, understand at a glance any critical operating states. It is always possible to click on the device

icon to enter into the detail of its configuration, its operational status and its history; in this context the operator may examine the devices or even modify their behavior. SCS allows you to simplify the representation by reducing it to the single infrastructure (eg. only to information panels or SOS points or electric car charging stations and similar).



## Performance Analysis

For those who supervise the performance of the street lighting schemes and the smart city services, SCS offers a section to perform **basic and advanced reporting** as well as the service history **data analysis** and release of **service energy consumption certifications**. These statistics can be made dynamically with informative reports also on a web page of the corporate website to inform the citizens.

## Field Devices

SCS interacts with other components of LUMINIBUS: concentrators CB200, the Luminibus streetlight controllers and smart city/wireless sensors network devices that transform the lighting system in a data communication network in mixed technology (PLC, RF, NBloT and public wireless networks) for remote management and smart city.

