



**SMART
PUBLICPOLE**
OPEN CITY CLOSER TO PEOPLE

EPOWERTECH

FUNCTIONALITY
SOFTWARE
IOT PLATFORM CITYSYS
SMART CITY STRUCTURE

SMART PUBLICPOLE

OPEN CITY CLOSER TO PEOPLE

Nowadays, all the cities and municipalities are facing new challenges. Every day, many citizens in cities have to face various problems which make their lives difficult and complicated. The biggest problems in cities are caused by parking, tailbacks, bad quality of roads, intensive draughts, floods, inefficient waste management, crimes, thefts, damage to property, unavailability of a Wi-Fi connection, small or minimum number of vehicle/phone charging points, excessive dustiness, bad quality of water and air, funding problems, low accessibility of information and many other difficulties which decrease the quality of life.

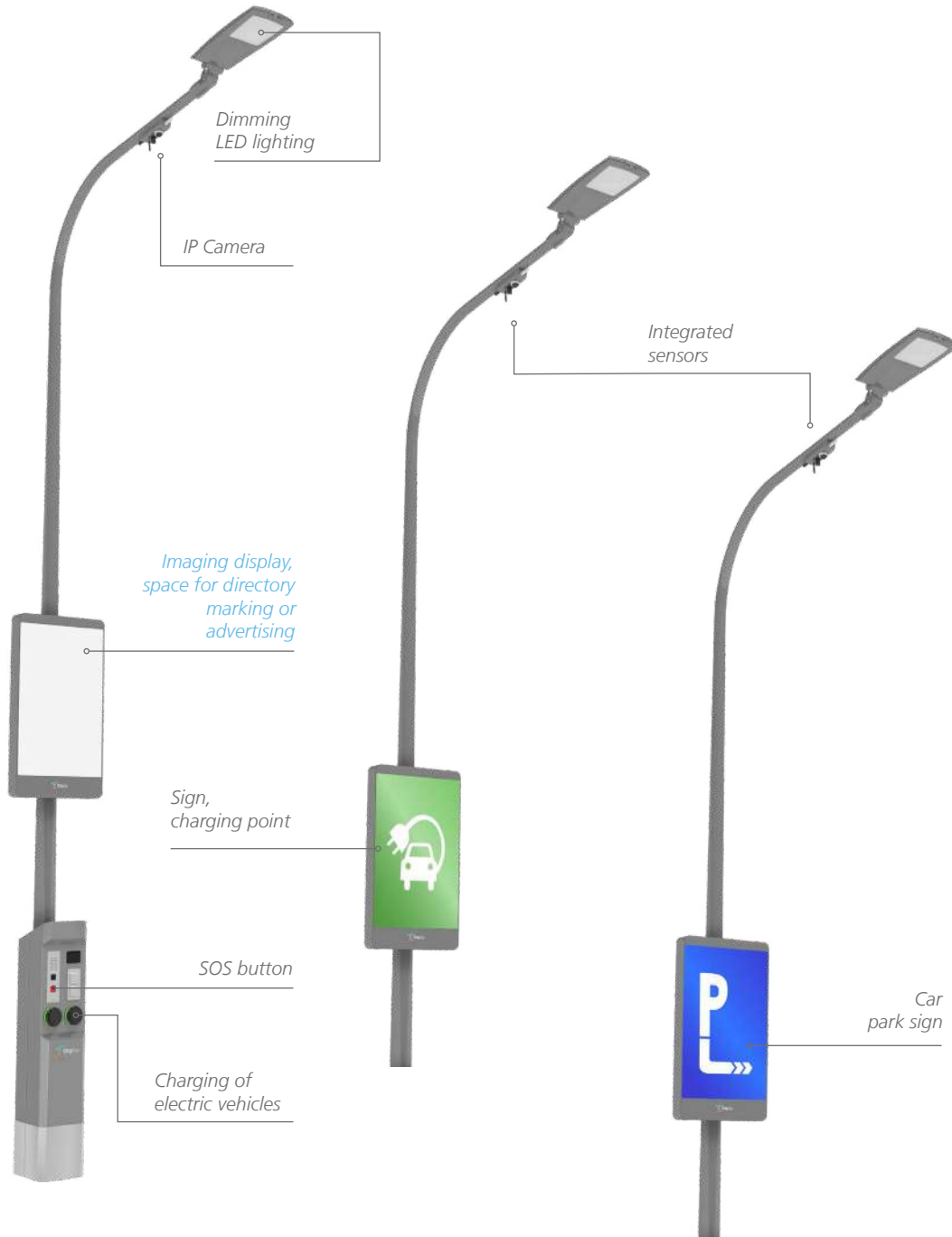
Many cities and municipalities are looking for solutions that could help them solve these problems in an effective and affordable way. The company EPOWERTECH, offers the integration of many solutions into a single unique product called the CitySys. It is an innovative and sustainable solution for cities and municipalities that want a „smart“ solution to their existing problems. One such „smart“ product is the **Smart Public Pole** by EPOWERTECH.

FUNCTIONALITY

This product with an interesting design called the Smart Public Pole can be installed in all parts of the city or municipality. This „lamp” offers more than just effective lighting of the space. It offers the possibility to monitor the surrounding area with the use of a 360° IP camera, which can be useful in the elimination of thefts or damage to property. With regard to the increased interest in the environment and electric vehicles, there is a demand for vehicle charging devices.

Many cities and municipalities are located far from petrol stations and charging stations. The installation of the Smart Public Pole secures EV charging anywhere, at car parks or any other place in large cities, smaller towns and even in small municipalities.

Integrated sensors enable the fast and effective collection of regular information e.g. about the quality of air, i.e. detection of the amount of CO₂, temperature, humidity, etc. The USB port can be used to charge your mobile phone while you are waiting at the bus stop or charging your electric vehicle.



Air quality sensor for the detection of CO₂, VOC, change of temperature and humidity

Security IP camera 360°
- CCTV camera with IP67
- wide observation angle
- polycarbonate structure
- remote control



Optional devices according to the city's needs

With regard to security improvement, the device offers a direct connection to the police or security service in the event of an emergency with the use of the **SOS function**.

Since it is an outdoor „smart” lamp, it would be a mistake not to use it as an interesting advertising space with the use of an advertising billboard. Device operator can use the available advertising space for their own advertising as well as for advertising activity of third parties.

SOFTWARE



Mini applications

Map

Lamp position

Information about operation

Information about consumption

Information about devices

Camera

Location

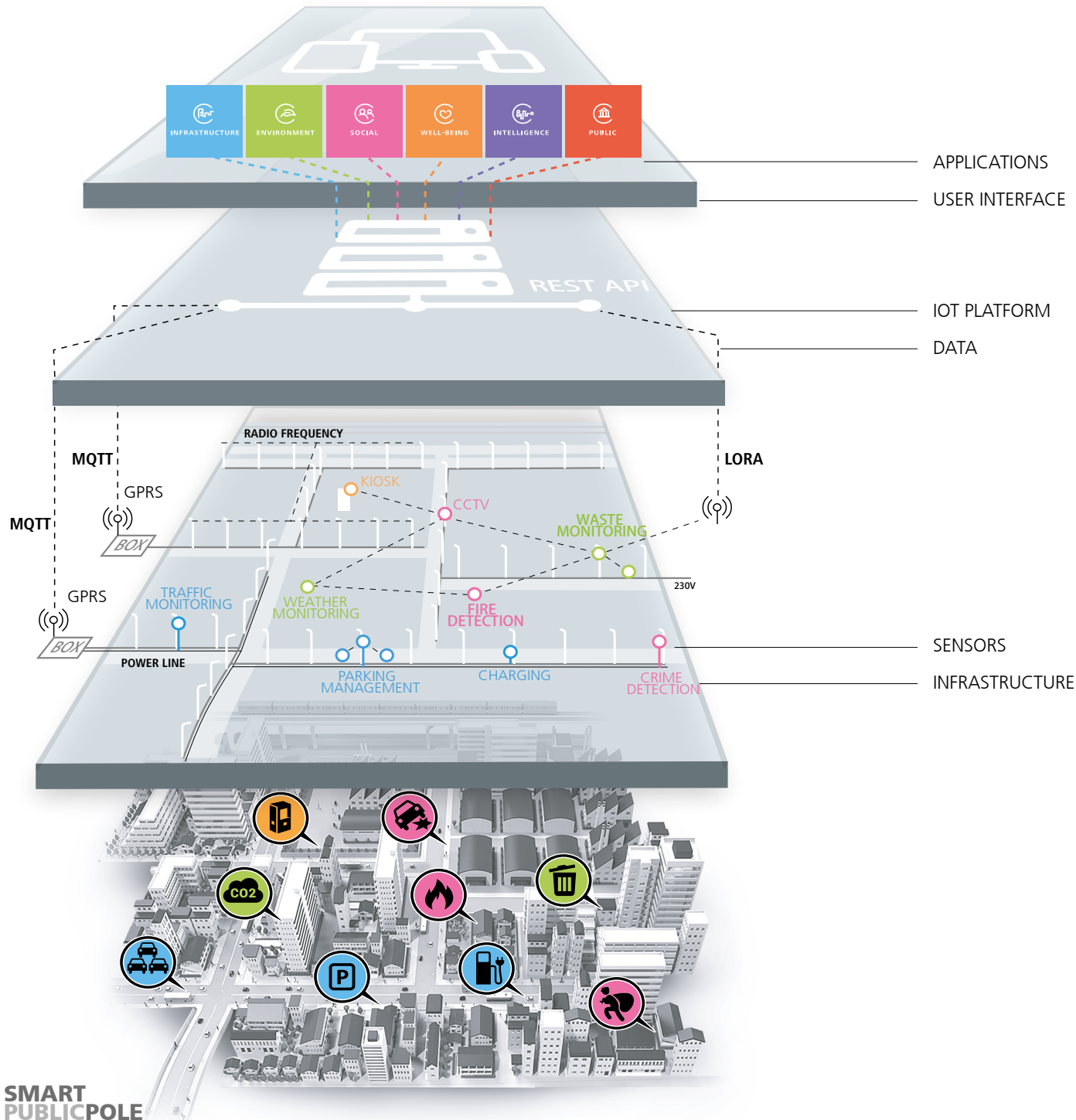
Applications



Our software can be connected to one device or to a group of devices. Therefore, the operators do not have to worry that they will have to manage several Smart Public Poles individually. It offers an intercloud Wi-Fi connection between individual devices as well as many „smart“ services which can be easily integrated into the device at any time. This means that every new sensor can be connected without excessive effort. CitySys uses a widget system (system of mini applications) which enables users to manage and adjust the graphical interface according to their needs. This system offers a “user-friendly” interface, in which

the user can regularly check and manage data about the Smart Public Pole gained via integrated sensors. An interactive map overview offer comprehensive information about the location of the device in the map, view of the entire map with all the devices, monitoring of the state of device, its electricity consumption, display of the state of individual charging actions as well as recordings from the individual cameras. The system includes many functions which, in addition to the easy operation, secure fast accessibility of necessary data and statistics.

CITYSYS IOT PLATFORM



CitySys is an open platform integrating many applications which create the smart city. The collection, transfer and evaluation of data are secured via the complex management system CitySys based on the ThingsBoard IoT platform in the OPC standard.

Open Platform Communication (OPC) represents a series of specifications from suppliers and developers of the software which define the interface between the clients and servers including the real-time access to data, monitoring of crisis situations, access to historical data and other applications. Its hardware offers a direct connection through standard interface and protocols, specifically: Powerline, Bluetooth, KNX, Z-Wave, ModBus RTU/TCP, BACnet IP, EnOcean, DMX, M-Bus, GSM, 1-wire, and DALI. It also offers the standardised interface REST API. Communication between lamps is carried out through an electrical system. This means that the communication signal is transferred through the standard 230 V supply network. With regard to the connection to systems of third parties, i.e. with systems already integrated in the city, the CitySys is open for communication protocols MQTT, JSON, XML, XMPP, SMTP and RSS. Collected data are stored in a cloud server.

SMART CITY STRUCTURE

All the city areas from which the data are collected can be divided into several modules: infrastructure, environment, society, quality of life, citizen and smart technologies. Modules have assigned applications which can evaluate, manage and adjust the collected data. CitySys is a platform which integrates all the applications into a single smart system.



MODULES

APPLICATIONS

FUNCTIONALITY

INFRASTRUCTURE	Lighting Urban planning Transportation Traffic Development (Building/housing) Energy saving and management Parking Charging	<ul style="list-style-type: none"> - Control, Monitoring, Planning, Optimisation, Maintenance - Urban Society Planning, Sustainable Urban Design - Transport Infrastructure, Autonomous Transportation, Smart Public Transport - Dynamic Traffic Control, Interurban Traffic - Communication network - Smart grids and metering utilities Electricity, Water, Gas - Integrated Vehicle Parking Management System - Cars, Bycikel, Mobile Phone 	
ENVIRONMENT	Waste Air Quality Green Areas Emissions Climate Change Natural disasters Weather Sewerage Renewable energies Drinking Water Quality Control	<ul style="list-style-type: none"> - Energy Fuel Waste, Compost Waste, Solid Waste, Water Waste - Air care, Environmental Data, Analyse the status of plants - Pollution, CO₂, Pollen - Climate & Calamity Detection - Temperature, Humidity, Wind, CO₂, Visibility 	
SOCIAL	Health & care Safety & security Accident analyses Crises Electronic service delivery	<ul style="list-style-type: none"> - Disease control, Emergency response, Patient authentication - Crime detection, Crowd control, CCTV 	
WELL-BEING	Cultural Leisure Entertainment Hospitality Shopping malls Event management		
PUBLIC	Citizens' Portal Electronic Services Delivery	<ul style="list-style-type: none"> - Citizen Consultations, Citizen Engagement, Public Information Grievance Redressal - Shared network, Connected communities, Municipal Services, City Database 	
INTELLIGENCE	Connectivity Integrated services Building automation Small & medium enterprises Smart business centre Digital signature		



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