Connected Digital Platform for Cities

Enabling Smart Cities with Digitization

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Cities Have Traditionally Addressed These Issues in Silos

Safety and Security

Traffic Management

Lighting

Pollution/ Environment

Parking Optimization

Waste Management

Limited Sharing of Infrastructure Costs and IT Resources

Limited Sharing of Operational Insights

Missed Opportunities for Synergies and Cost Efficiencies

This Fragmented Approach Is Inefficient, Has Limited Effectiveness, Is Not Economical and Is Not Scalable

Technology Challenges in City Digitization and enabling new Urban Services

Vertically integrated Sensors

Increased complexity of sharing data across applications and domain

No Standardization across sensors in the same domain

Parking sensors can be based on-street sensors or video cameras

Multiple Lighting vendors bring in different interfaces for Adaptive LED lighting management and operations

Lack of Cross Domain Data and Information Sharing

City Safety Operations does not have real time view of Outdoor Lighting

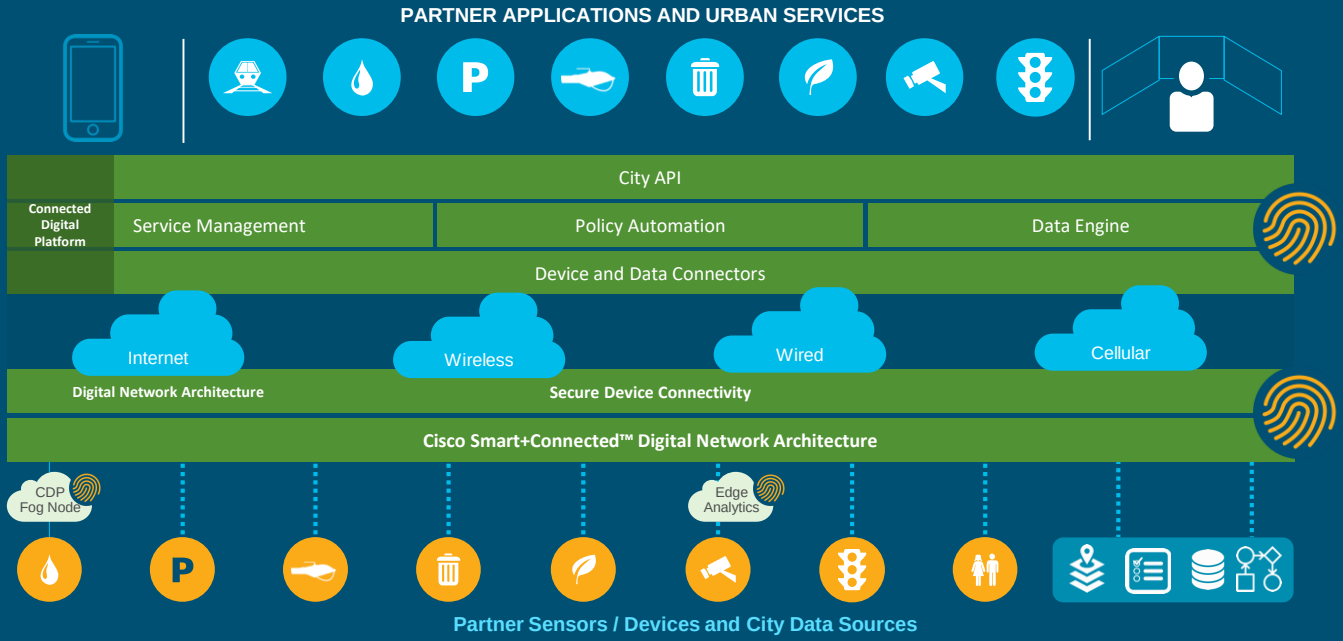
Parking Operations can benefit from real time traffic information and location services

Fragmented Application Eco System

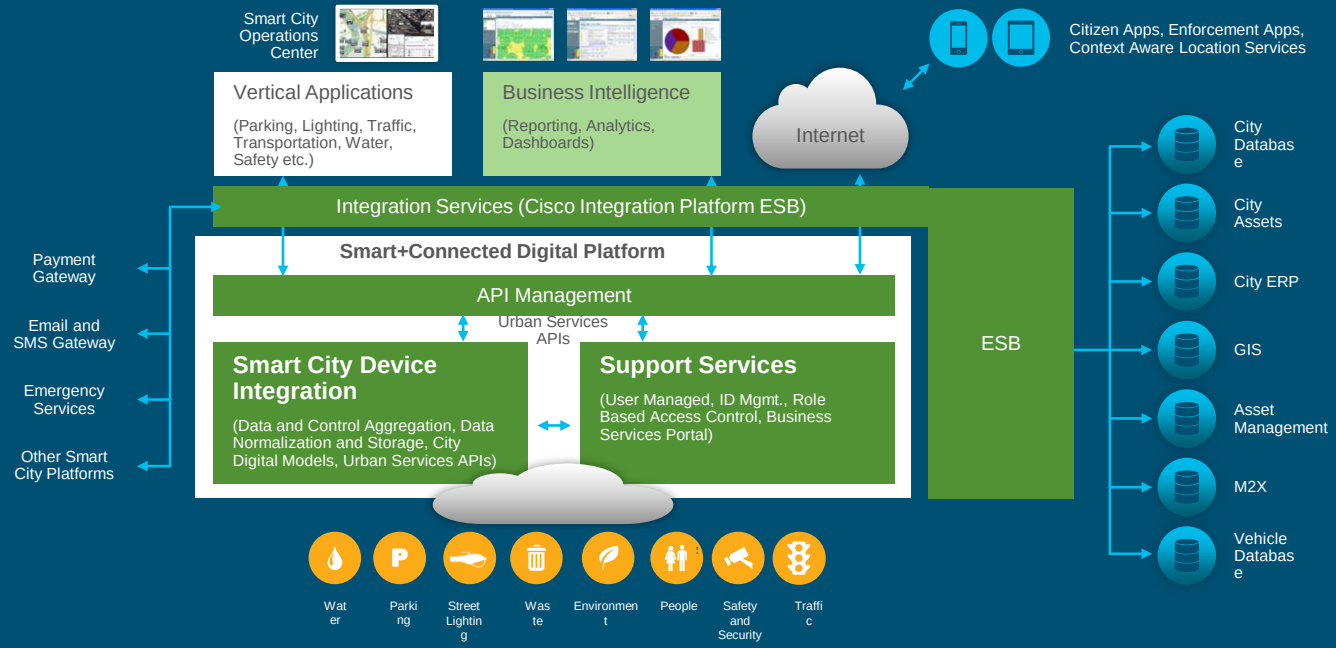
Different Applications leveraging different data sources and models.

Digitization in Cities is currently a very expensive and complex software system integration project.

Cisco Solution Architecture in Digitization of a City



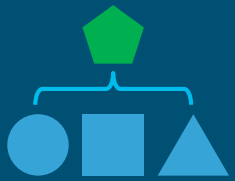
Cisco Smart+Connected Digital Platform
Solution Architecture



CDP – What it does

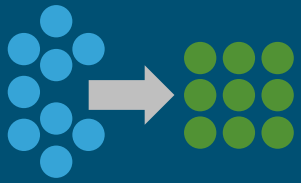
Aggregates Any Sensor Data

- Aggregate data across multiple sensors within a domain
- Normalize sensor data to vertical data models
- Digital Model for the City



Cross Domain Information

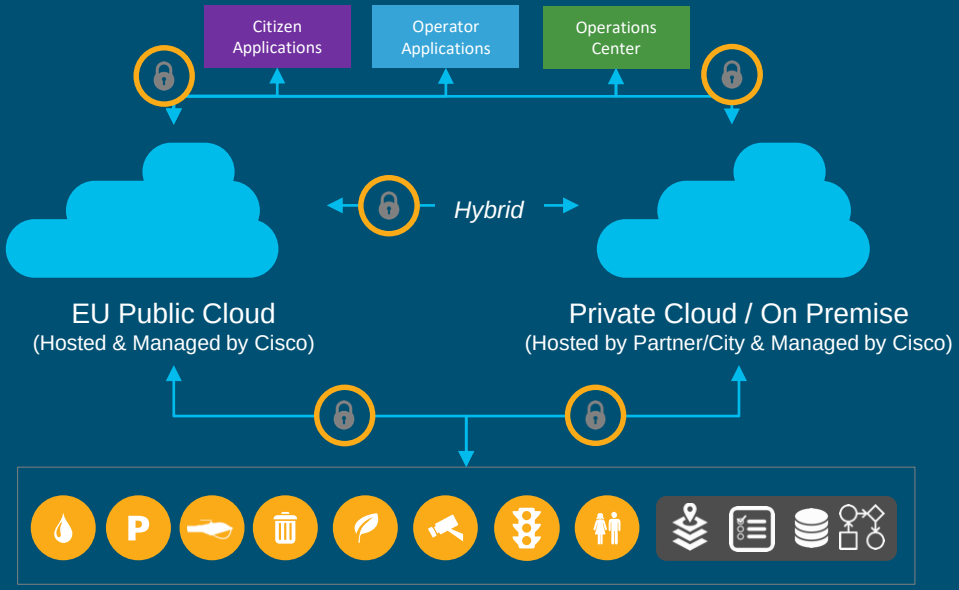
- Enable cross domain contextual control (relation between outdoor lighting & crime)
- Enable process automation through policies
- Contextual Data Model



Open Ecosystem

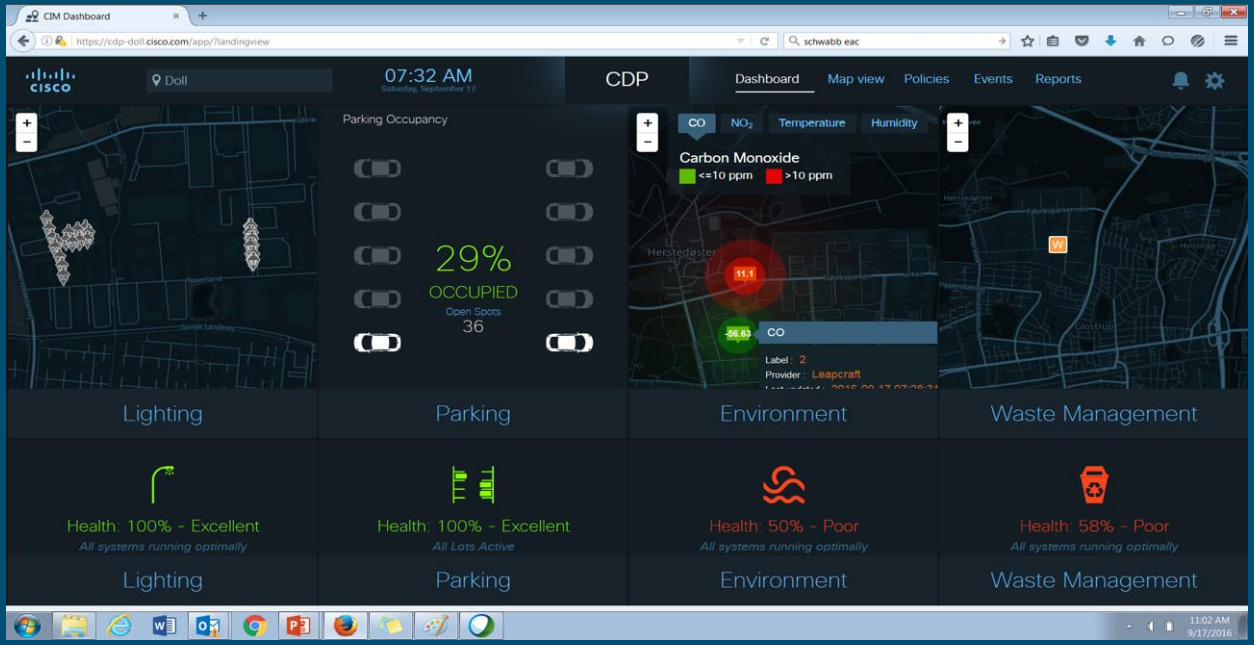
- Expose APIs for local and global ISVs Applications
- Secure Key Management
- Fine grained - Role based access control

Deployment Models



CDP Dashboard

CDP Domains and Dashboard



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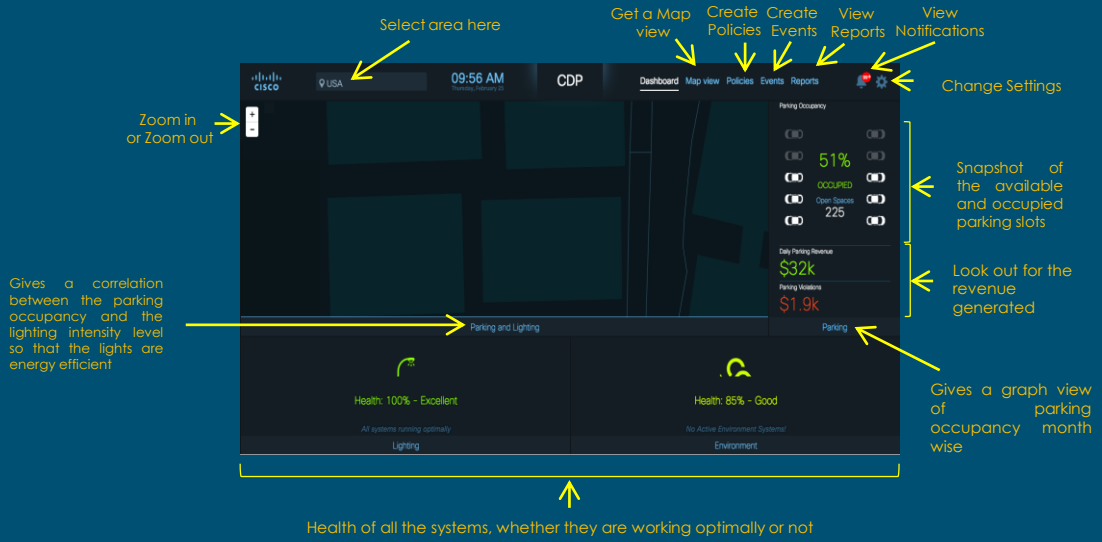

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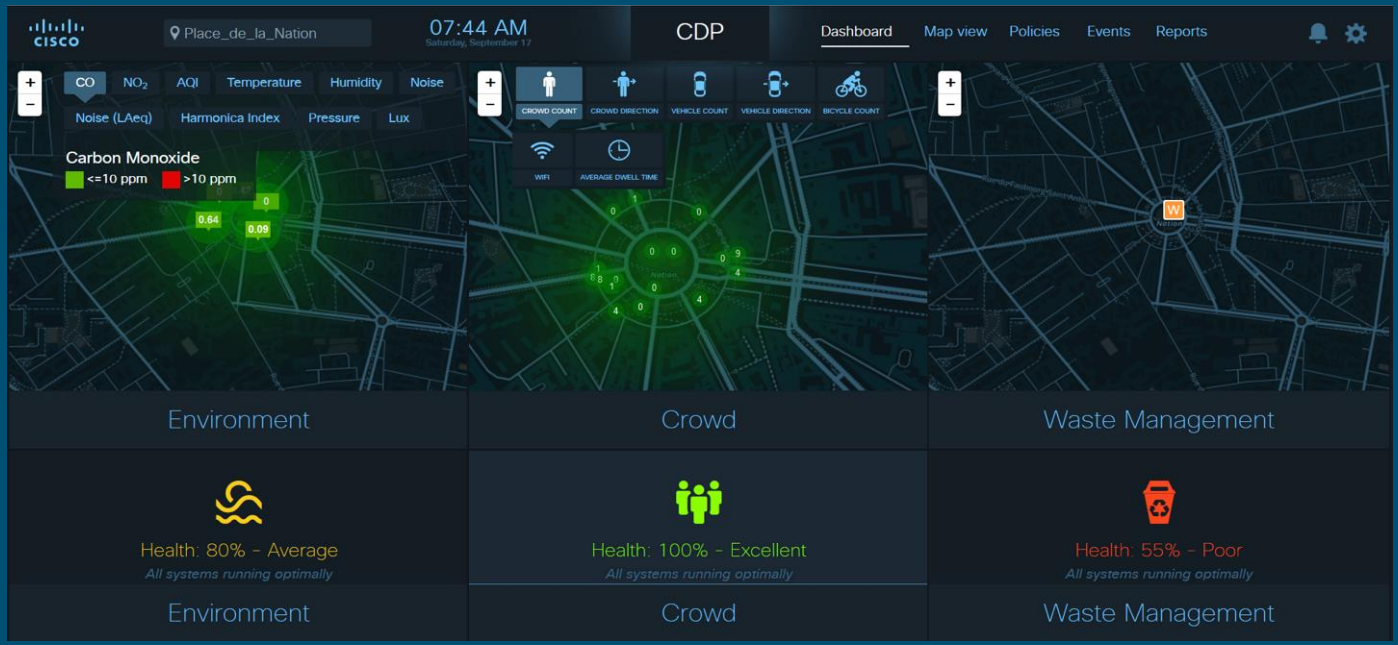
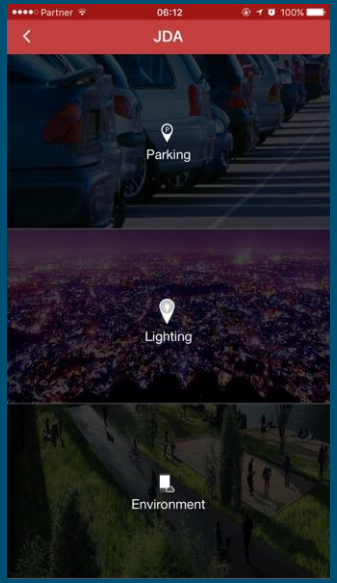


Monday June 6

Connected Digital Platform for Cities goes live in DOLL, Copenhagen

Powered by Cisco & TDC

Smart City solutions – for citizens & visitors



Partner Ecosystem

*Certified Partner Ecosystem for Selected Domains (2016)

PARKING	LIGHTING	ENVIRONMENTAL	WASTE	ENGAGEMENT	URBAN MOBILITY	
					TRAFFIC	TRANSIT
Worldsensing	Sensity Lighting	Worldsensing	SamTech	Elevate Digital*	Sensity Traffic	Placemeters
Sensity Parking	ICE Gateway	PAQs	Smart Bin*	SAP	Worldsensing (bitcarrier)	Cisco CMX
Frog	Flashnet	Smart Sense	Enovo*	Map Unity	Inrix	CMX Meraki
Mobilisis	MindTek	Auriga			Rhythm Engineering*	MSC
CivicSmart	Acuity	Bruitparif (Noise)*			3M*	TCS Insights
Altuix	Tvilight*	Breezometer*			Esri*	Davra Networks
Nexpa	Cimcon*	Libelium*			PTV*	
Kiunsys	Namoo*	Leapcraft*			Graphmasters*	
Metro Infrasys		Bosch*				
Cleverciti*						
Paradox						
eSmart21						
pParkE						

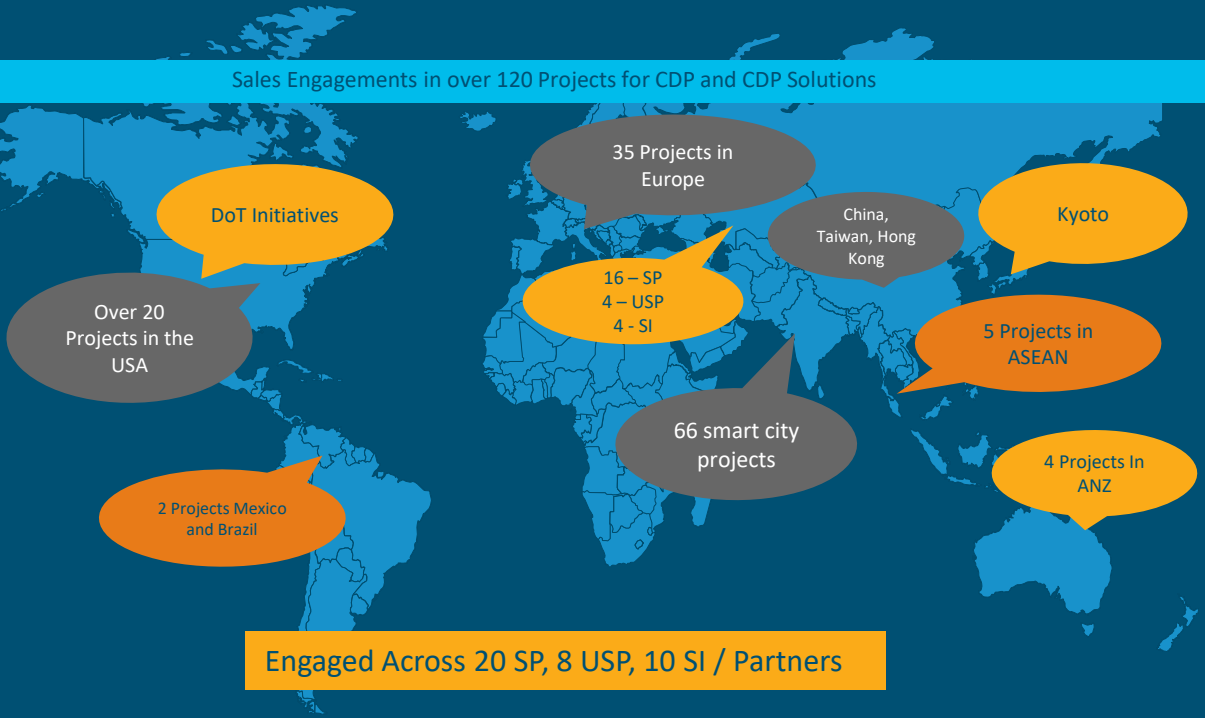
- * Initial set of certified partners, subject to change
- ***Certification WIP**

Partner ecosystem - **64** Integrated | **45** in pipeline

3M (Traffic)	Cisco CMX v10	Gridcomm	MapmyIndia/MMI (NB)*	Philips	TCS*
3M (NB)	Cisco VSOM	Havells	Moba	Placemeter	Telematics Wireless/STE
Aclima	CivicSmart	Infinium (lighting)	Mobi Quest	PParkE (NB)*	Telensa
Acuity	Cleverciti	Infinium (transport)	Mobilisis	PTV (NB)*	Tvilight*
Airly	CMX Meraki	Infinium (waste)	Mobilisis (NB)*	SamTech	Tvilight (traffic)
Altiux	CommuniThings	Inrix	N3N (NB)*	SAP (NB)*	Tvilight (lighting)
Aptus.be	Cubic	Inrix Phase II	Namoo	Sensity*	Urban Engines (NB)*
Asseco*	Cybertech/Geoshield (NB)*	iOmniscient	Nexpa	Sensity Lighting	Urbiotica
Auriga	Davra Networks (NB)*	iSAP	Nipun (transport)	Sensity Undemarcated	V5
Bajaj Intelli	Elevate Digital (NB)*	IT EF	Nipun Net Services Pvt. Ltd	Sensity Demarcated	Videonetics
BH Technologies	Enevo	JC Decaux (NB)*	Pango (NB)*	Sensity Traffic	Welink
Big Belly	EParkomat	Kiunsys	PAQS (AirData)	ShotSpotter	WorldSensing Parking
Bosch	eSMART21(NB)*	Kiwi Security	Paradox	Smart Bin	WorldSensing Traffic*
Breezometer	ESRI (NB)*	Leapcraft (CPH Sense)	Paradox (Lighting) / Minebea	Smart Media	WorldSensing Traf. (NB)
BruitParif	Flashnet (inteliLIGHT)	LED Roadways (NB)*	Paradox (parking)	Smart Parking	
CDP Dashboard (NB)*	Flashnet (NB)*	Libelium (Intrinsic)	Park Assist	SmartSense	
Cimcon	Frog	M2M Telemetria	Parkeagle	Snaptrend	
Cimcon (NB)*	Graphmasters (NB)*	Map Unity*			

City Marketplace

Enabling 100s of Projects across the world.



CDP usage examples
Smart Lighting – ICE Gateway

Hana Balášová, Business Development Manager

ALEF NULA, a.s.

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Smart communication gateway in each lamp

Why should you use the public lighting at night only?
Our solution will change the lights into the profitable, useful and multi-purpose system.
This solution has a challenge to convert the public lighting system into strategic communication network of the Smart city.
Day, night.

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Public lighting – smart versus sustainable

We offer **full coverage** by using a suitable **combination** of sustainable and smart lights.

Smart = lighting with remote control

Sustainable = smart lighting with eVAS (embedded Value Added Services)

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Light categories

1. **Retrofit** – replacement of current electro equipment by sustainable ICE Gateways and existing lights by LED sources with DC power supply.

2. **ICE sustainable commodity lights** (low-cost, several options)

3. **Sustainable quality lights** (high quality and great selection of various designs)






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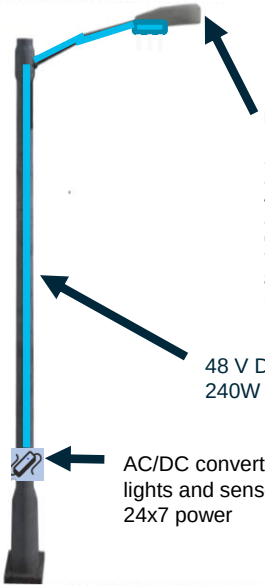
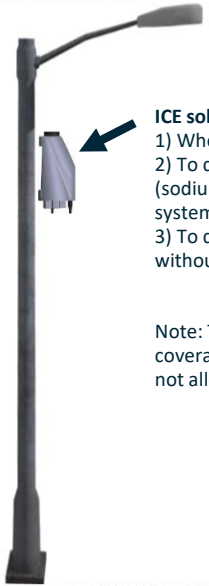
Various options for various situations



Multifunctional LED light
1) Low-voltage
2) Ekonomical
3) Easy installation
4) Local processing and memory
5) 1x Ethernet
6) 1x USB OR 48 VDC
7) WiFi / BT / BLE / 2G, 3G / GPS
8) Uplink selection by a scenarios and preference

48 V DC power, up to 240W

AC/DC convertor for lights and sensors, 24x7 power



ICE solution at the light poles:
1) When a light head is too small.
2) To dimm even other than LED lights (sodium light, etc.), based on DALI system
3) To dimm already installed LED lights without necessity to change these.

Note: This scenario is good for peripheral coverage or in case the situation does not allow anything elese.

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Offered services

1. Lighting and remote control

- Minute calendar
- Visibility to each light*
- Dimming – automatic or manual
- Easy administration and remote preventive maintenance of light systemLighting
- Adjusted customization

2. eVAS (embedded Value Added Services)

- Balanced E-charging station
- City Intranet
- Wifi hotspot
- People crowd monitoring
- Parking
- Meteorology, temperature metering
- Air quality measurement
- Marketing&Navi platform
- Noise levels
- Plug & Play cameras
- Ready for any other sensor

*in cases of light boxes and not cabinet GW

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