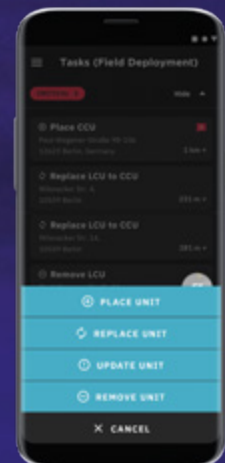
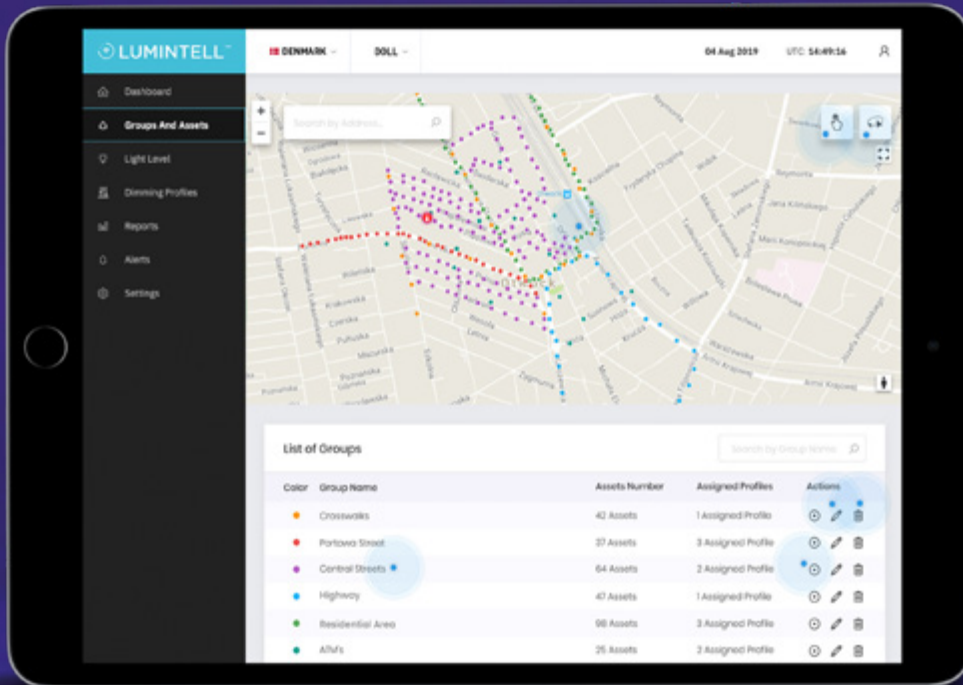




# MAKE YOUR CITY SMART

Intelligent Light Management,  
IoT and Maintenance platform  
for municipalities.



More info: [novalume.com/lumintell](https://novalume.com/lumintell)



**NOVALUME**  
Solutions

“

*Intelligent light management with Smart City functions is a key factor for cities today and will become even more important in the future.*

Jakob Meiland Hansen, CSO

Version 9.2

The Lumintell™  
Solution

System  
Overview

Core  
Features

Lumintell™ Intelligent  
LMS

Lumintell™ Service  
& Maintenance Platform

Lumintell™  
Integration

Lumintell™  
Key Reference



# LUMINTELL™

## THE PLUG-AND-PLAY COST-EFFECTIVE SMART CITY SOLUTION

Cities are connecting intelligent streetlights and creating wireless Smart City solutions, allowing them simultaneously to save energy, reduce CO<sub>2</sub> emissions and maintenance costs.

Lumintell™ provides a state-of-the-art, reliable and efficient network, allowing you to remotely control and monitor an unlimited number of streetlights – individually or in groups. Each streetlight is connected wirelessly to an online application via the Cloud at [www.lumintell.city](http://www.lumintell.city). There is no software to install and the only piece of equipment needed is the Lumintell™ Node. Our unique solution consists only of two types of nodes: Light- and Cluster Control Units to manage and connect your streetlights. Lumintell™ creates a flexible network, with no fixed cabinet installations or large gateways to maintain and install.

### Lumintell™ Intelligent LMS

Lumintell™ is enabling you to perform intelligent dimming in combination with daylight & motion sensor technology, reducing the energy and CO<sub>2</sub> emissions with up to 30% and in combination with a new LED luminaire installation with up to 75%. Through the application you can access your Smart City dashboard with precision dimming controls, performance graphs, helpful analytics and reporting tools.

### Lumintell™ Service & Maintenance Platform

The Lumintell™ Service & maintenance platform offers you a full overview of your system status, and enables you to save between 30% and 50% of your annual maintenance cost.

With Lumintell™ Plugins for IoT sensors, the city is able to observe and monitor status of IoT hardware and luminaires in one central service and maintenance platform.

With the Lumintell™ Field App, we offer you a market leading 'Plug-and-Play' deployment and cost-effective system and service solution.

### Lumintell™ Integration

Lumintell™ allows data harvesting to be analyzed and managed by external consultants and partners via an API (Application Programming Interface), and at the same time opening the opportunity to integrate your Lumintell™ solution with external ecosystems.

Whether your priority is sustainability, energy efficiency or improving the quality of life for your citizens, Lumintell™ is the optimal solution for your Smart City.

## WHAT LUMINTELL™ CAN DO FOR YOU



### UP TO 30% ADDITIONAL ENERGY AND CO<sub>2</sub> REDUCTION

Lumintell™ offers up to 30% additional savings of your LED lighting energy & CO<sub>2</sub> emissions. When upgrading your streetlights to LED, the solution results in up to 75% total savings.



### UP TO 30-50% REDUCED MAINTENANCE COST

The Integrated Lumintell™ Service & maintenance platform allows you to monitor and service all installed hardware in one integrated platform securing large service and maintenance savings.



### OPTIMIZED FIELD MAINTENANCE

Thanks to the unique Lumintell™ Field App for maintenance and deployment, authorized field service is planned & communicated directly from the Lumintell™ Admin system to your field crews.



### EASY & FAST NETWORK DEPLOYMENT

Thanks to the 'plug-and-play' Lumintell™ Node and Lumintell™ Field App, your connected network is quickly configured, in a cost effective way.



### DATA-DRIVEN DECISIONS

with reports, energy savings analysis, CO<sub>2</sub> emissions reduction and Smart Data.



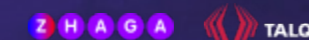
### API FOR FUTURE INTEGRATION

Lumintell™ allows you to integrate your Lumintell™ solution with external eco-systems.



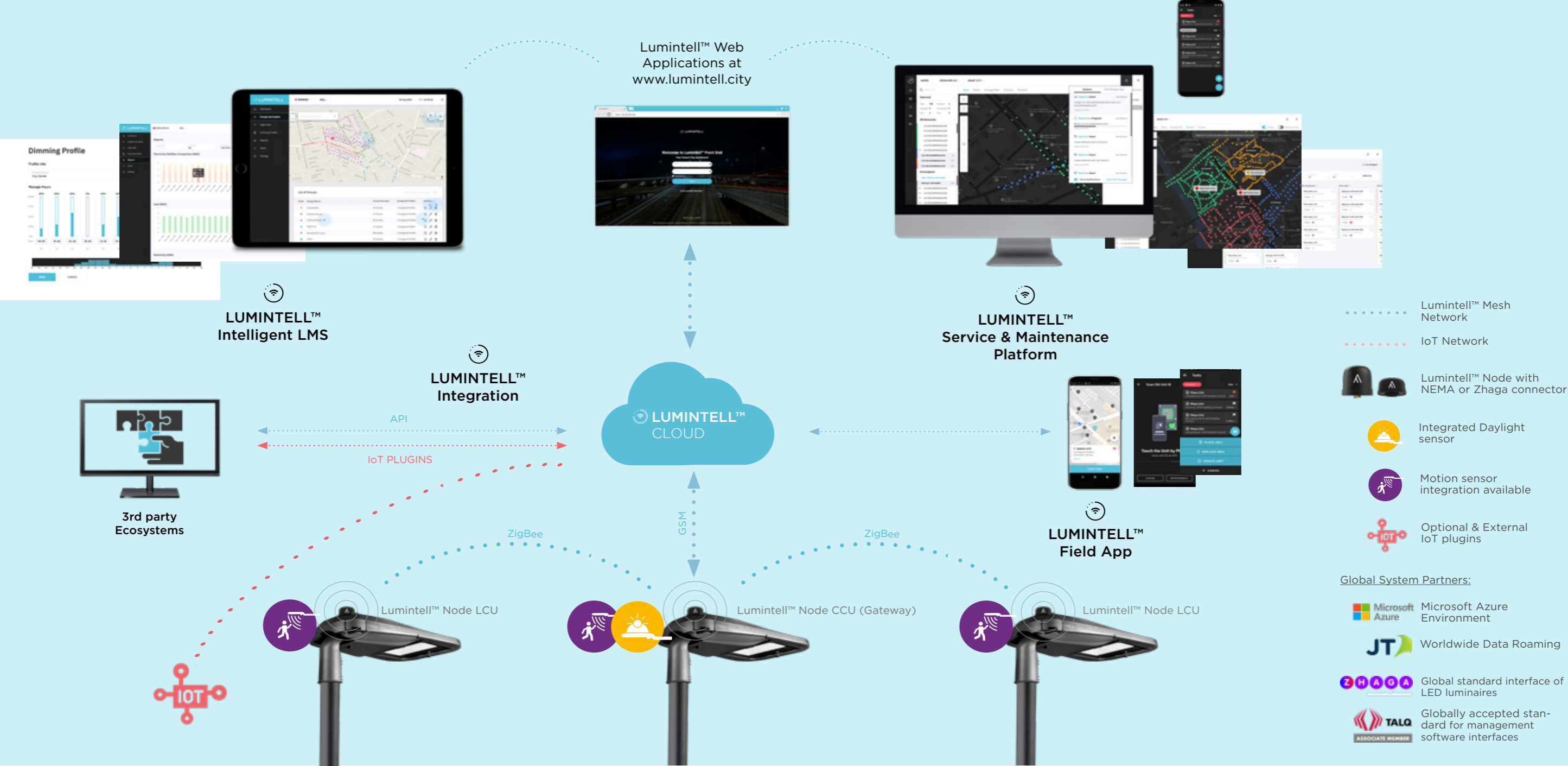
### BUILD YOUR SMART CITY AS YOU GO!

You decide when you are ready to expand your smart city solution with external sensors and IoT applications.



# LUMINTELL™ SMART CITY SOLUTION

## SYSTEM OVERVIEW



### LUMINTELL™ SMART CITY SOLUTION GENERAL SPECIFICATIONS

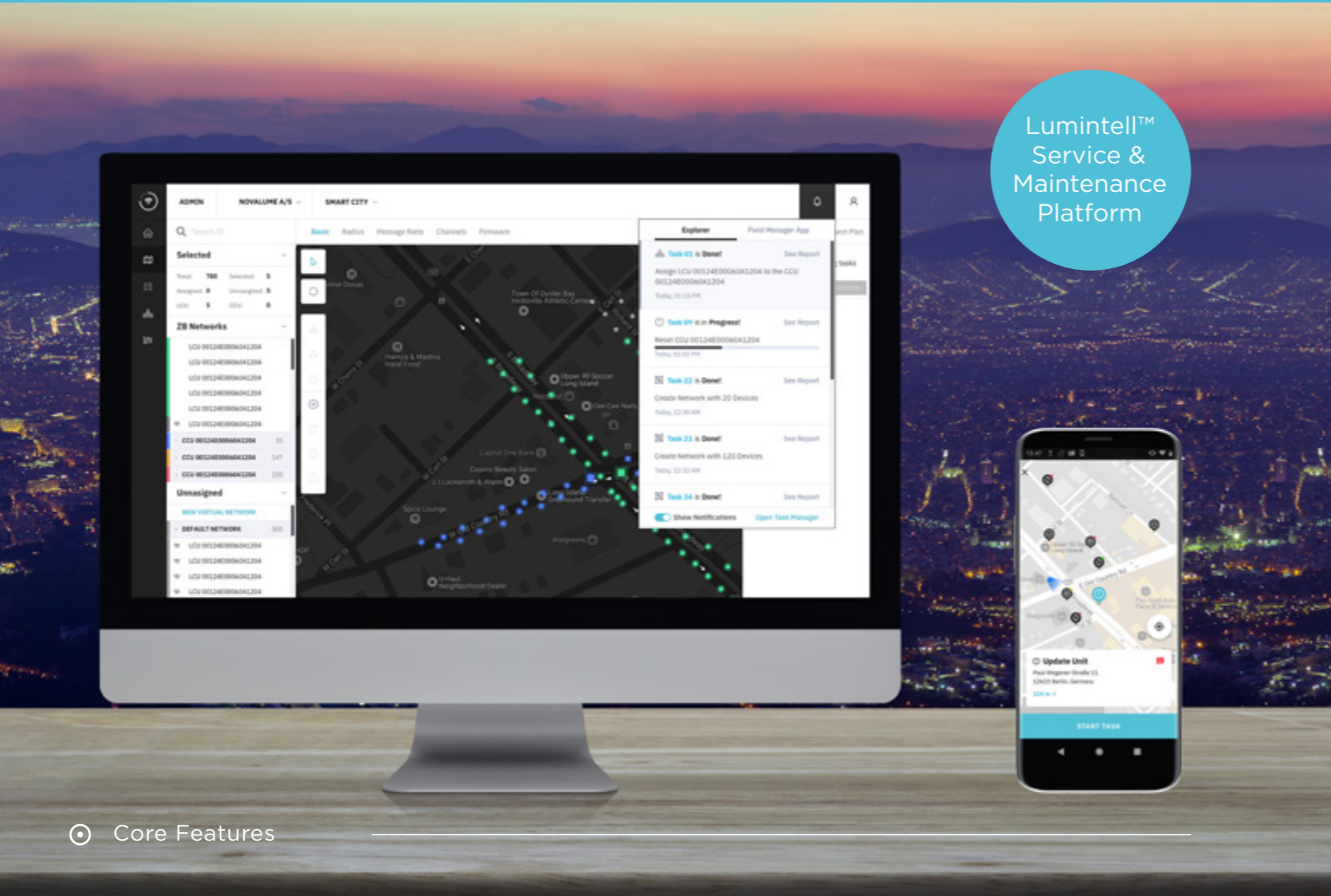
- Communication protocol between nodes: Zigbee®
- Completely wireless system: no need for additional cabinets, large base stations or Ethernet connections
- NEMA and Zhaga connector version available globally (Zhaga connector not available in Latin America)
- Automatically connects to the network, reducing commissioning time (automatic GPS detection)
- Providing the highest level of network reliability

- Self-diagnostic system for optimal service and maintenance
- Accurate real-time metering according to the EN50470 certification (see Certificate of Compliance)
- Secure Access to Lumintell™ web applications with two-factor authentication
- Over The Air (OTA) firmware updates

For more technical details, please refer to the Lumintell™ Nodes Datasheets.



Unlike other LMS solutions, Lumintell™ offers two separate specialized applications: the Lumintell™ intelligent LMS, with its easy-to-use interface for day-to-day operation of the streetlights, and the Lumintell™ Service and maintenance Platform for technical staff to configure the network and manage daily maintenance.



# LUMINTELL™ SMART CITY SOLUTION CORE FEATURES

## Lumintell™ Intelligent LMS

- Luminaires & IoT sensors Geo position mapping
- Luminaire group scheduling & advanced dimming scenarios for optimized control of streetlights
- Dusk & Dawn priority settings with integrated daylight and motion sensor technology
- Automated synchronization between local time and UTC<sup>(1)</sup>
- Customized CLO<sup>(2)</sup> functionality
- User friendly dashboard with advanced reporting tools and performance graphs for optimized energy saving analysis

## Lumintell™ Service and Maintenance Platform

### > Lumintell™ System Admin.

- Easy system network & connectivity configuration
- Workflow management for optimized field maintenance
- Unique hardware identification with components lifetime service information
- Hardware alerts and grid monitoring
- Individual user access policies

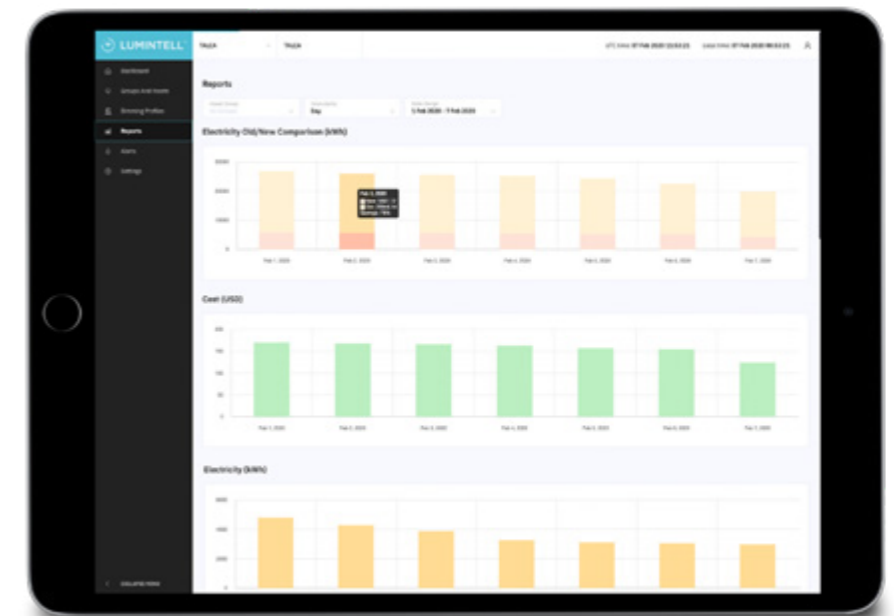
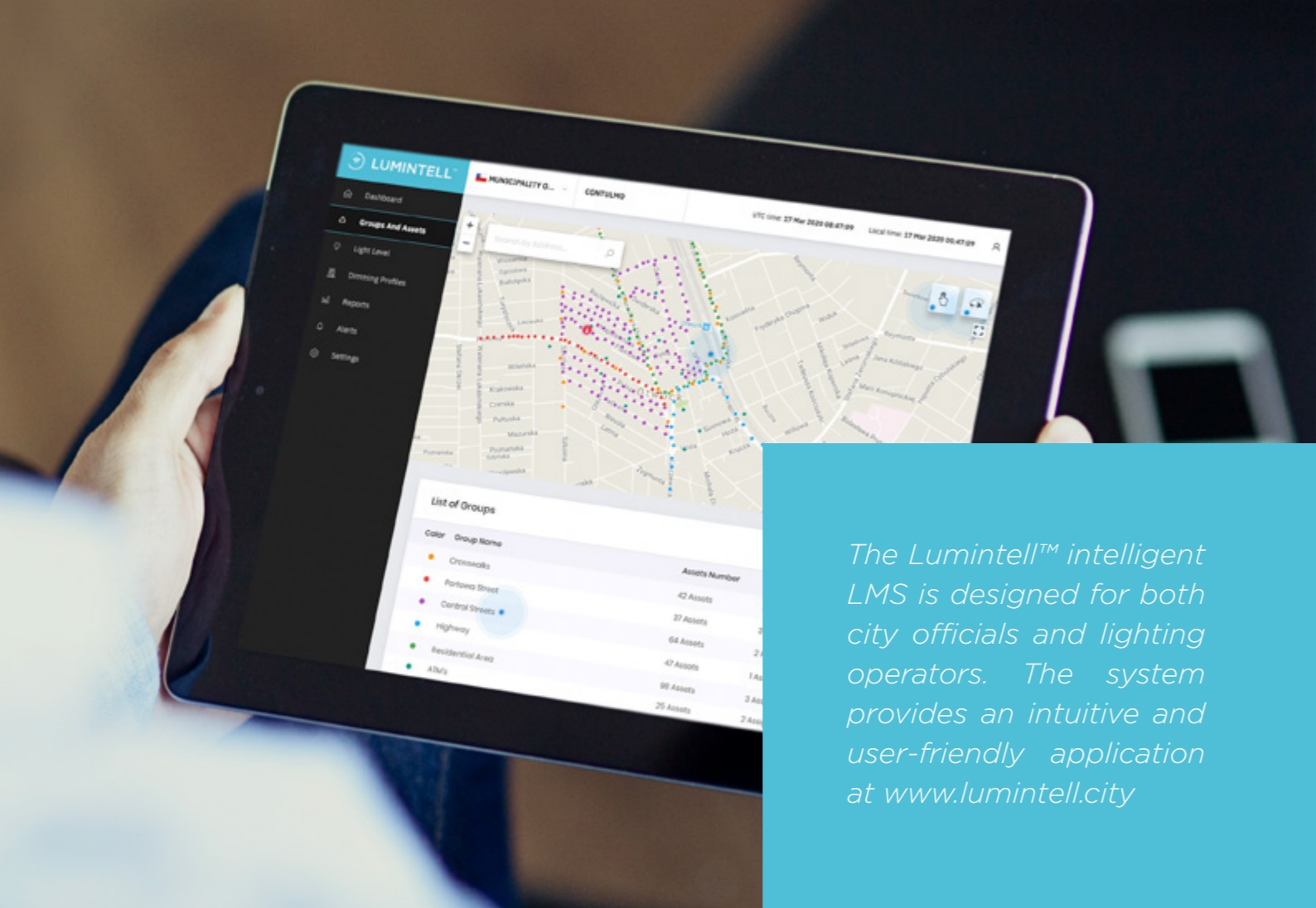
### > Lumintell™ Field App

- Field deployment App for fast and cost effective field installation with NFC<sup>(3)</sup>
- Service and maintenance app for field work optimization

## Lumintell™ Integration

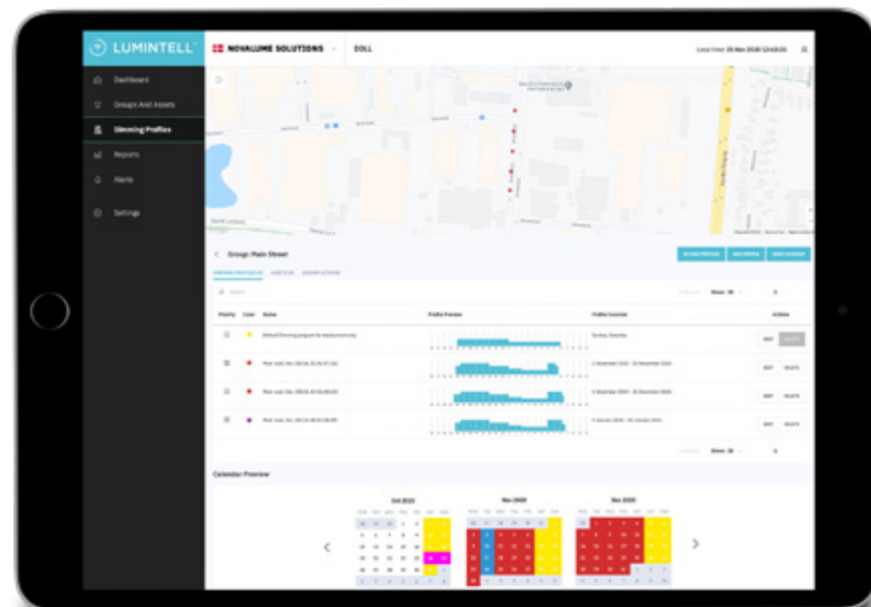
- IoT Plugins for optimal sensor integration
- Smart Data harvesting from IoT Plugins, via external partners
- API integration with 3rd party ecosystems

(1) UTC: Universal Time Coordinated. (2) CLO: Constant Light Outout. (3) NFC: Near Field Communication



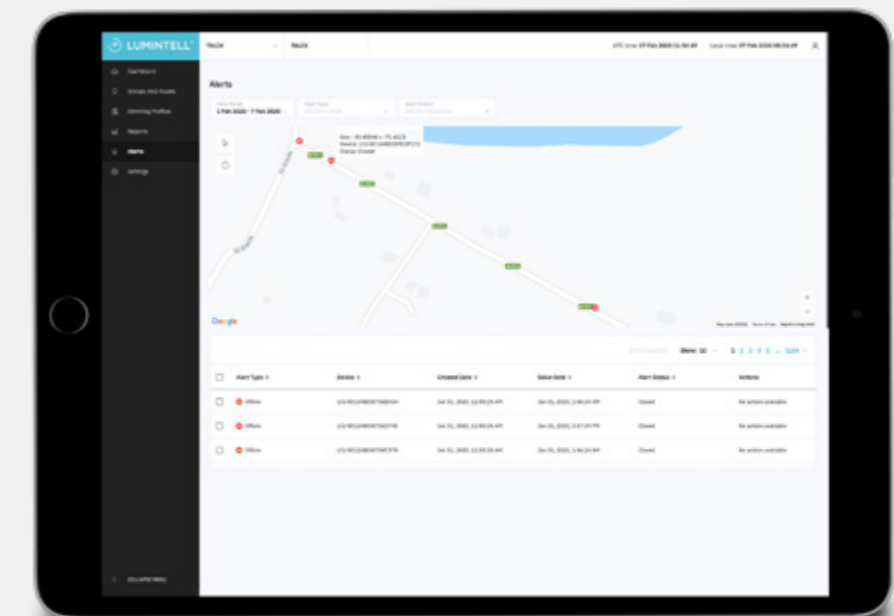
## DASHBOARD WITH PERFORMANCE REPORTS

Reporting tools with performance graphs, energy-savings analysis and smart data from IoT plugins



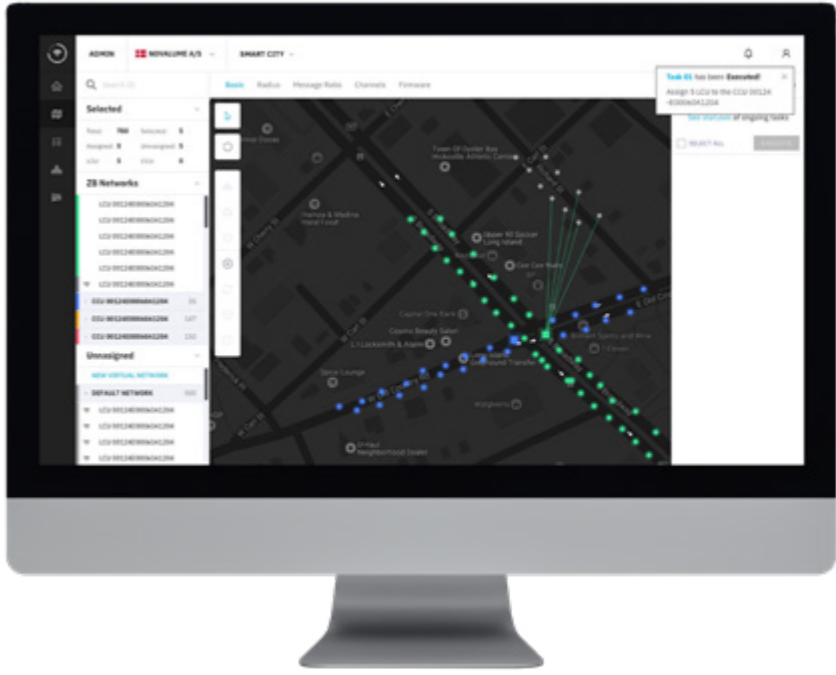
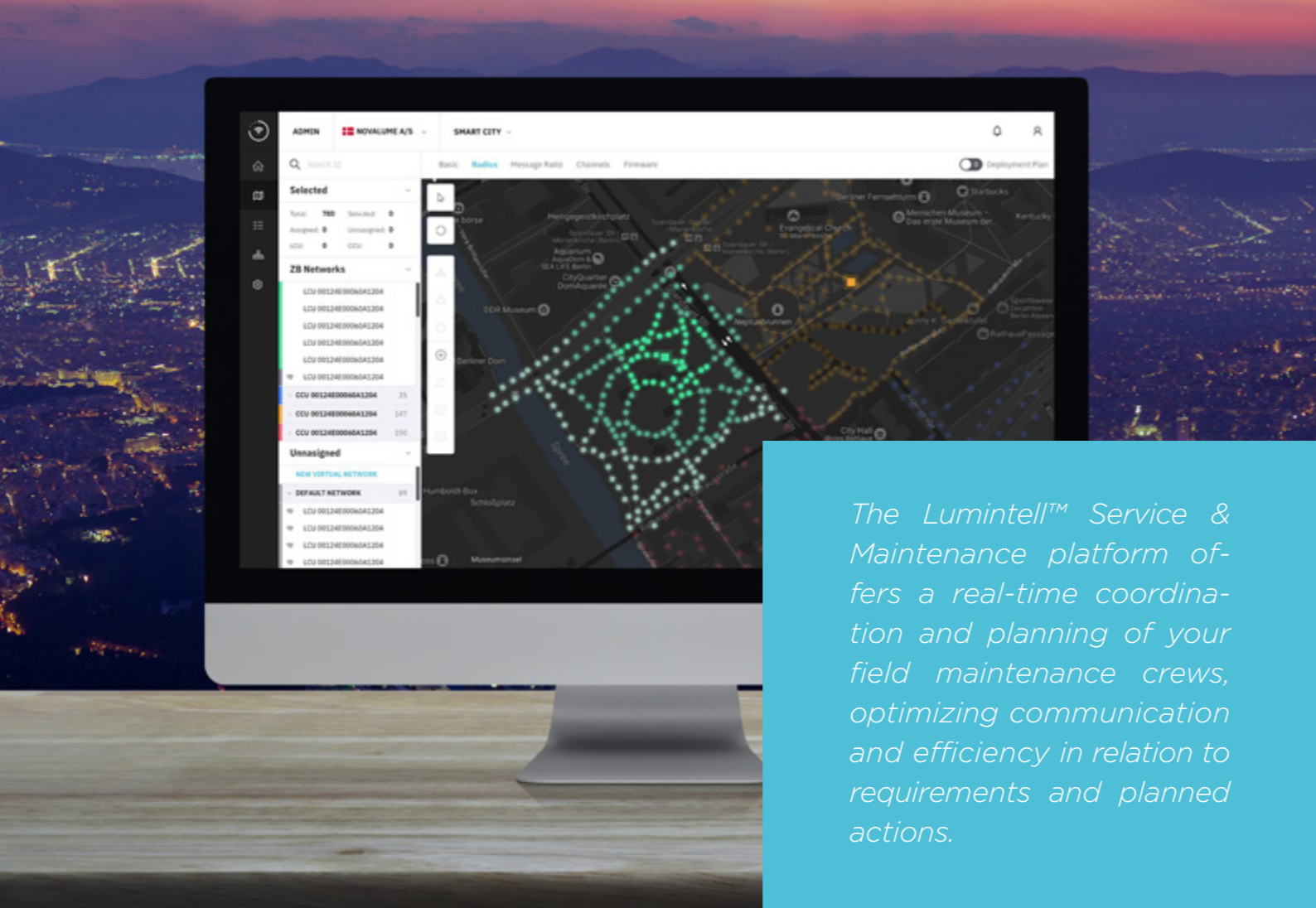
## SMART DIMMING WITH INTEGRATED LMS SENSORS

Advanced dimming options with user friendly scheduling, calendar preview and profile settings for individual or groups of luminaires with Day light and Motion sensor integration.



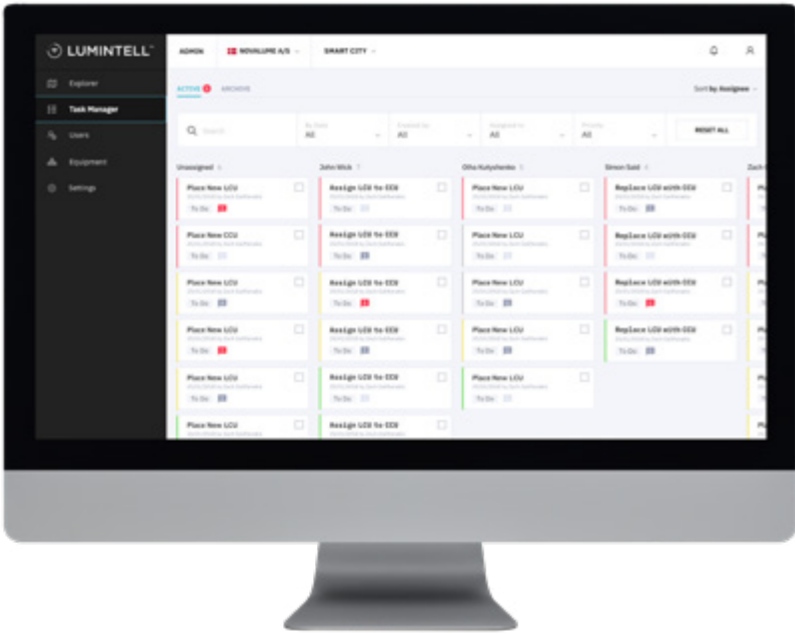
## REAL-TIME ALERTS FOR OPTIMAL MAINTENANCE & FIELD SERVICE

Hardware and connectivity errors are automatically informed and displayed in the Service & maintenance platform for optimized field service.



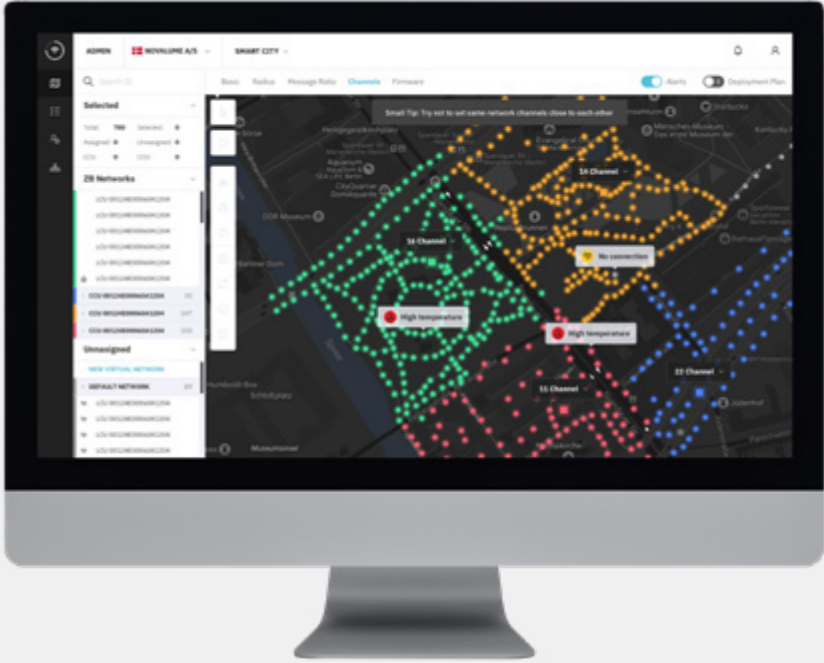
### USER-FRIENDLY NETWORK CONFIGURATION

Thanks to its completely wireless operation, plug-and-play network node and time saving Lumintell™ Field App, deployment and configuration of Lumintell™ is fast and cost effective.



### DEPLOYMENT AND MAINTENANCE WORKFLOW MANAGEMENT

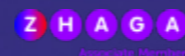
With the Lumintell™ Field app, maintenance work can be assigned directly to the field maintenance crews, including the latest updated service and maintenance information.



### ALERTS AND GRID MONITORING

Lumintell™ automatically collects, analyzes and visualizes diagnostic information from the entire installation with live data synchronization and notification.

# LUMINTELL™ NODES



## KEY ADVANTAGES

High quality material and long-life design

Toolless installation and immediately operable

Instant wireless connectivity

Node identification via NFC technology

NEMA and ZHAGA connector version available

Flexible CCU (Gateway) position optimization

Adaptable to existing street lighting (Retrofit)

No need for large base stations and Ethernet connection

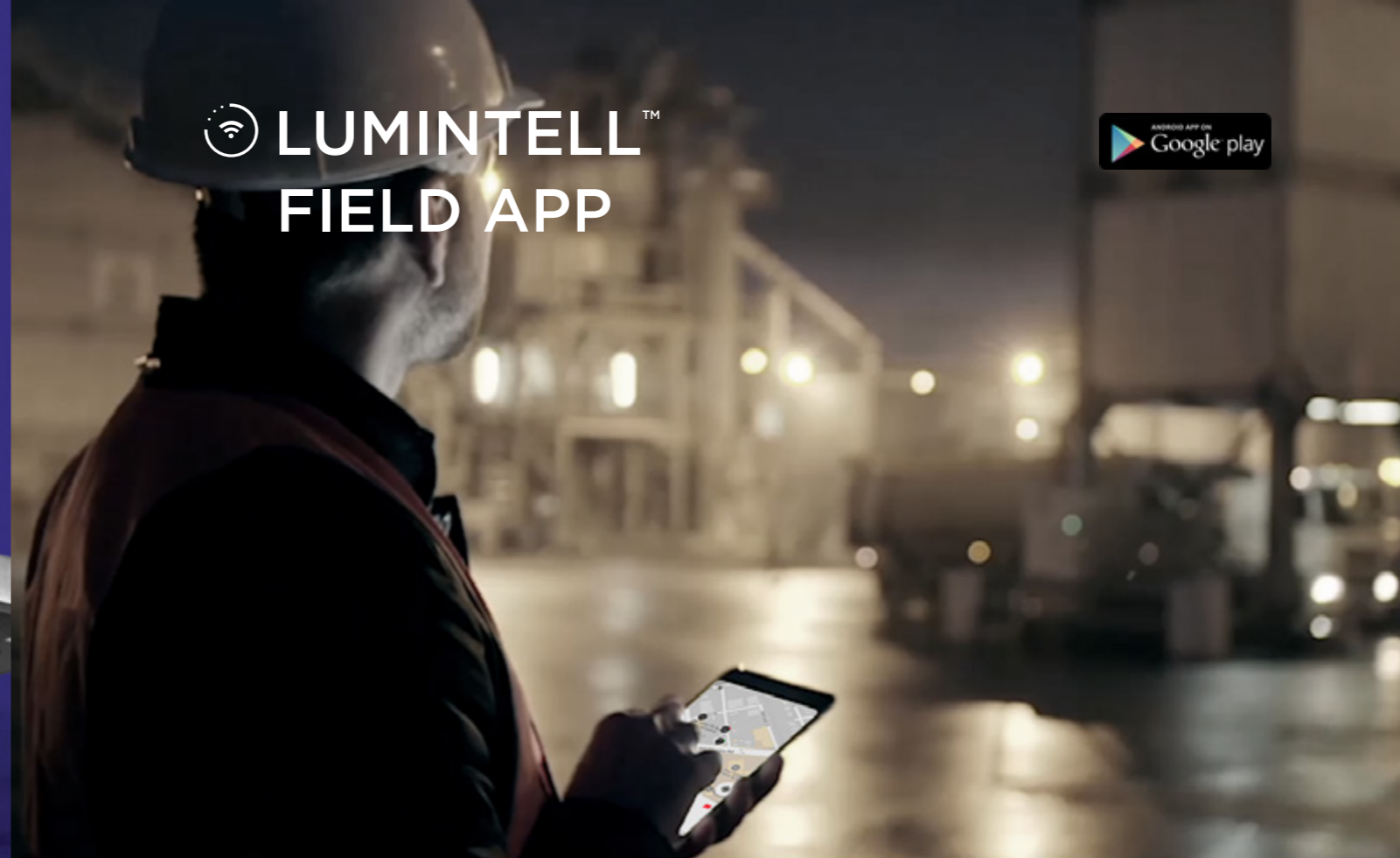


Lumintell™ Node (NEMA)  
LCU & CCU

Lumintell™ Node (Zhaga)  
LCU & CCU

The Lumintell™ Node is the building block of your network. Thanks to its completely wireless operation, instant connectivity and unique design for both LCU and CCU, deployment and maintenance of Lumintell™ is fast and easily managed.

# LUMINTELL™ FIELD APP



## KEY ADVANTAGES

Personal Android Smartphone App for field service

Live communication with Lumintell™ System Admin

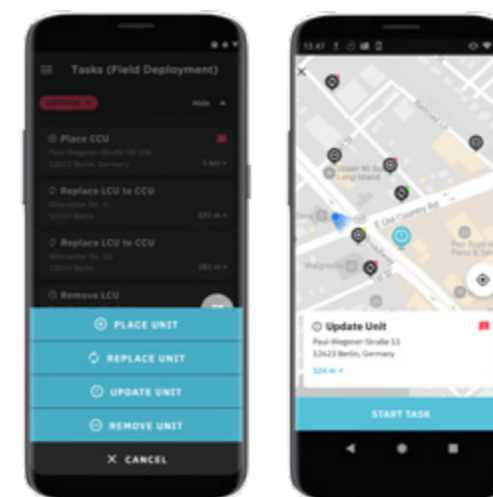
Field configuration of streetlight properties

Prioritized personal service & maintenance task list

Service location directions

Service maintenance log

Hardware life-cycle data

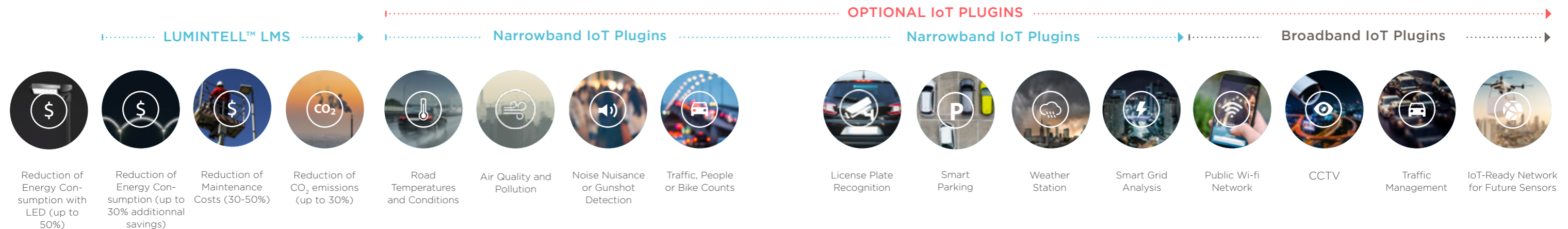


The Lumintell™ Field App for deployment and maintenance is a unique tool for working on your lighting assets in the field and syncing with your Lumintell™ Service & Maintenance platform in the Cloud.

# UPGRADE YOUR SMART CITY SOLUTION WITH IOT & DATA HARVESTING WHEN YOU NEED TO

This flexible solution allows you to harvest smart data, which can be used to improve public services such as monitoring and analyzing road temperature and conditions to develop safer roads, or monitoring and measuring air quality allowing you to map areas of high pollution, track changes over time, identify polluters, and analyze potential interventions. Intelligent streetlights can be used for many different applications. The number of applications that can be supported, and the sophistication of those applications are endless, and depend mostly on the city objectives and priorities.

**Lumintell™ Integration services with optional IoT Plugins:**





INSTALLATION  
IN CHILE  
**27,000**  
LED STREETLIGHTS  
**WITH LUMINTELL™**  
AND PUBLIC WI-FI

## CHILE

### TWO CITIES ON THEIR WAY TO BECOMING SMART

Novalume Solutions has upgraded the streets of two municipalities (+200,000 inhabitants) in Chile with the installation of 27,000 new LED and connected streetlights, thanks to the LUMINTELL™ Smart City solution. Furthermore, the installation has also been upgraded with the capacity to generate public Wi-Fi allowing residents to get online.

The switch to high performance energy-efficient LED lighting and the LUMINTELL™ Smart City solution has resulted in significantly reduced energy consumption, while enhancing the atmosphere and improving the quality of light. The switch means the municipality has experienced a 66% reduction in energy consumption. The city has also lowered its CO<sub>2</sub> emissions - releasing 2,227 fewer tons of CO<sub>2</sub> into the atmosphere each year.

The investment, including installation, has a payback period of less than 5 years with a technical lifetime of the installation of 16.7 years - more than 3 times the payback period!



**66%**

Annual reduction  
in electricity  
consumption



**5**

Year payback  
period



**16.7**

Years product  
lifetime



**2,227 T**

Annual  
reduction in  
CO<sub>2</sub> emissions



