




Smart Street Lights for Smarter Cities

CityManager CMS

v11.04.2023



Who are we?

Specialist in Smart Outdoor Lighting

We enable cities to take full control
of their Lighting Infrastructure
based on Open Standards

Urban Streets



Industrial Zones



Residential Areas



**Train Station /
Railway Lines**



Ports / Sea Terminals



University Campus



Bicycle Roads



Outdoor Parking



Public Parks

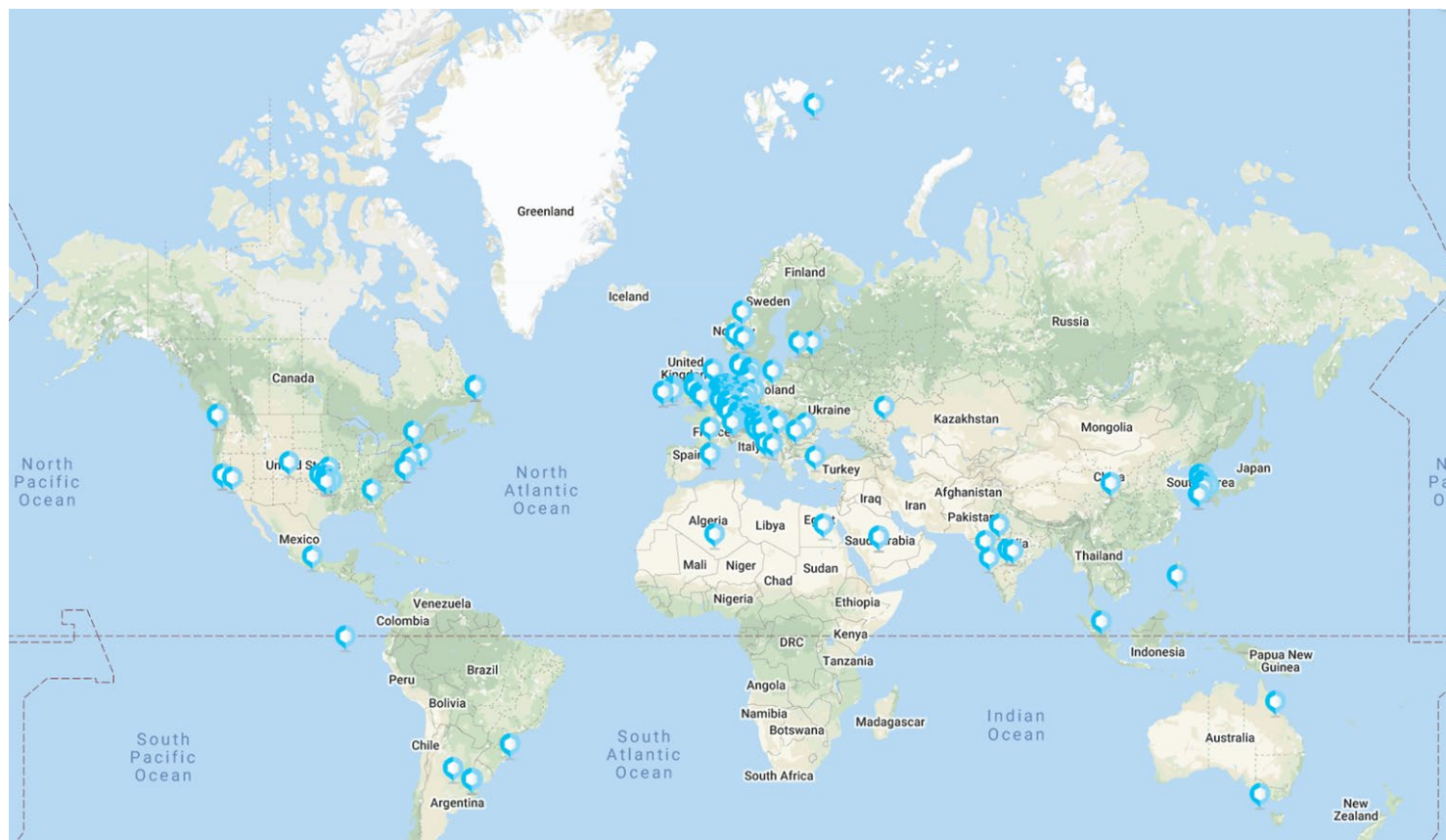


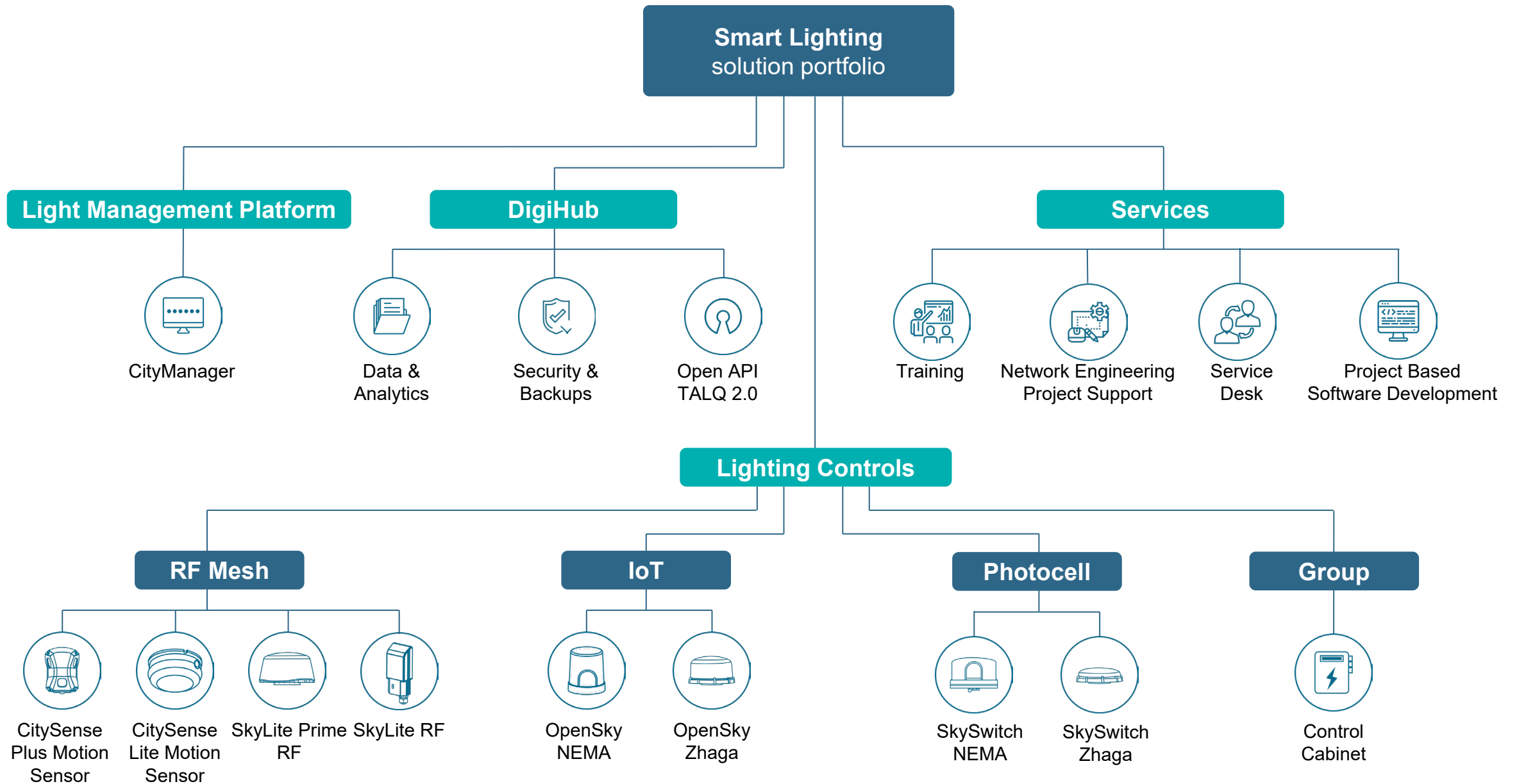
Global presence: Deployment in 800+ projects

Monitored by CityManager and supported by our Service Desk

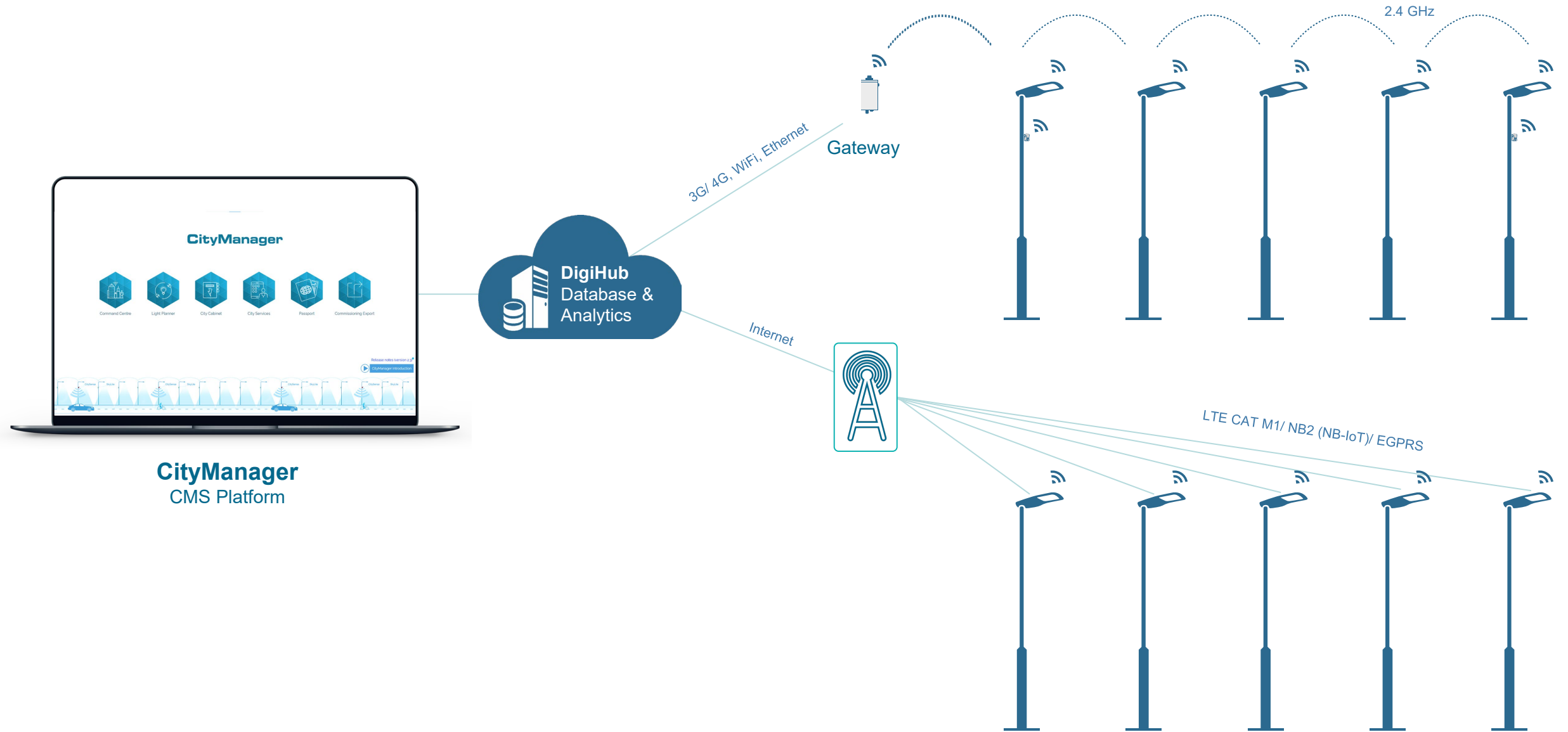
Selected Projects

- Dortmund (DE) 30.000 smart streetlights
- Düren (DE) 5.000 smart streetlights
- Dutch Railways (NL) 10.250 smart streetlights
- Island of Texel (NL) 3.420 smart streetlights
- Helmond (NL) 8.500 smart streetlights
- Seoul (KR) 2.500 smart streetlights
- Busan (KR) 1.500 smart streetlights
- Bangladesh 4.300 smart streetlights





Single Platform to Manage RF Mesh and IoT Networks



CityManager
CMS Platform

TVILIGHT

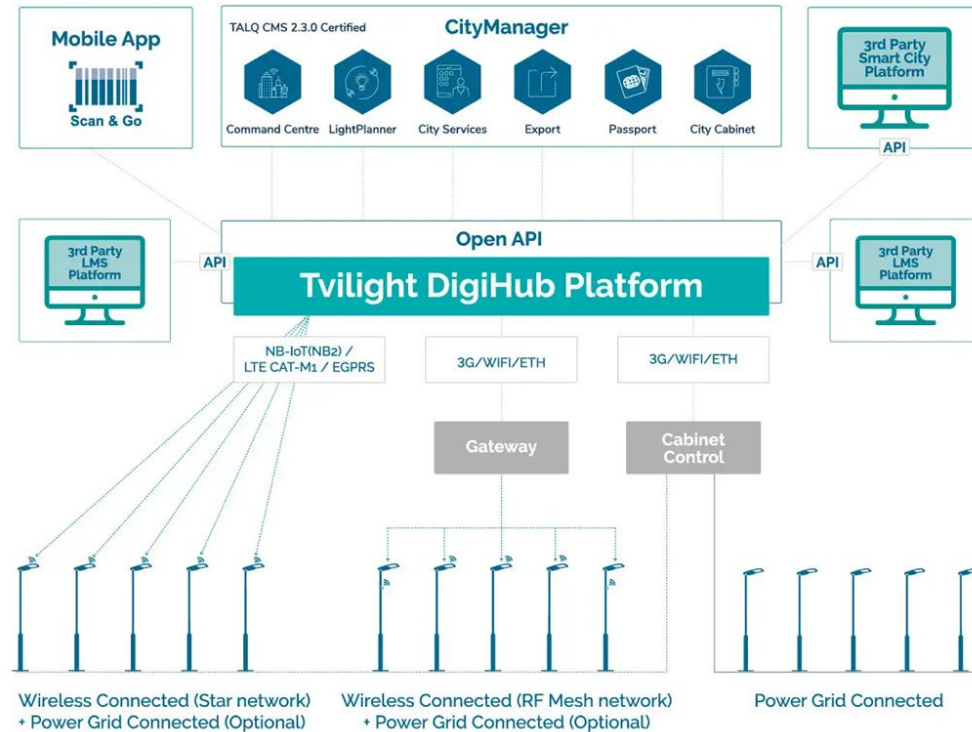
CityManager Central Management System



- **Secure platform**, accessible from anywhere, at any time
- **Monitor, manage and control** citywide streetlights with intuitive interface
- **Open API** and TALQ compliance ensure vendor-neutral interoperability



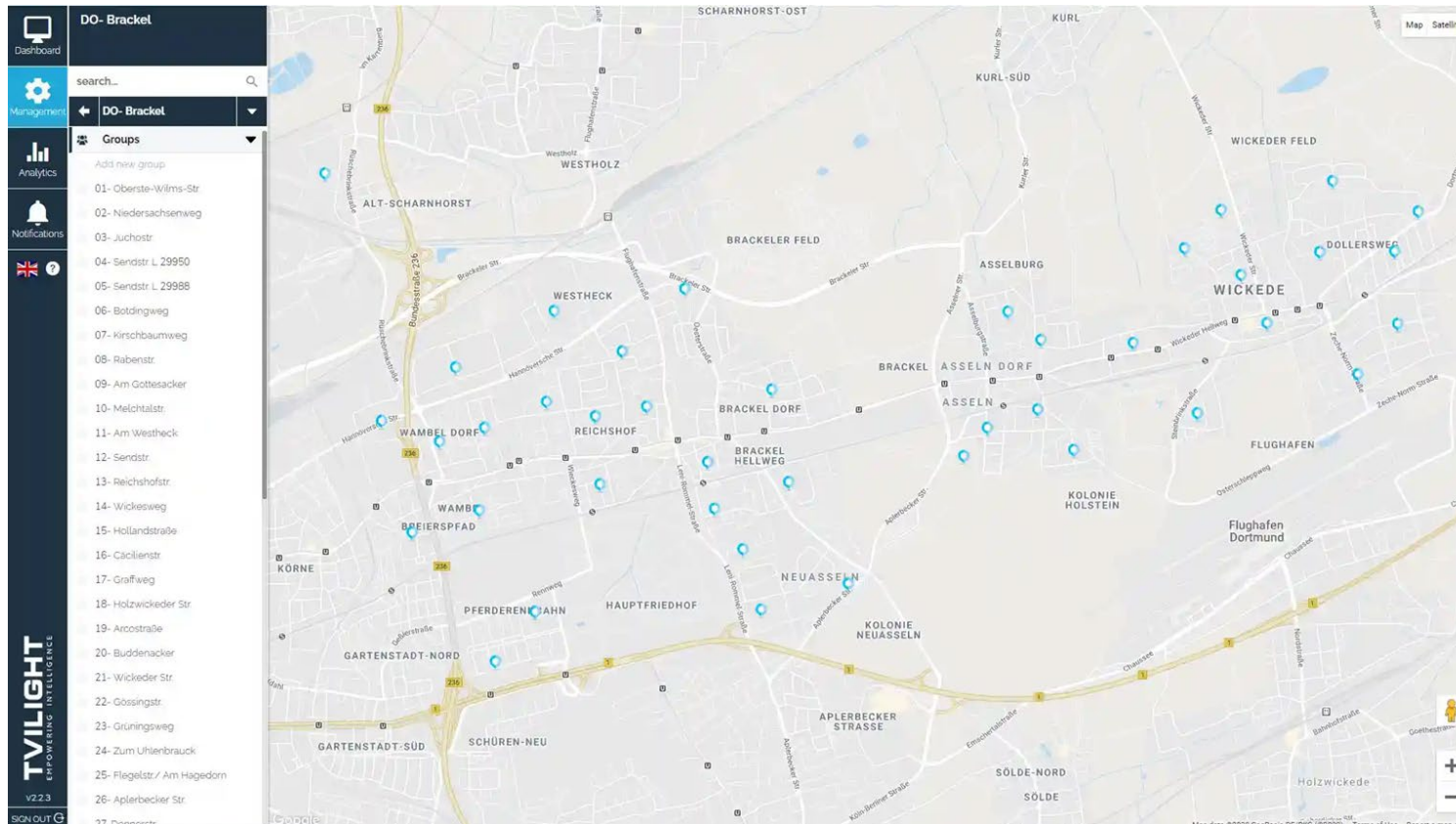
Open, Secure & Interoperable



Vendor neutral system

- Open API and TALQ compliance ensure easy integration with third-party applications
- Successful integration examples:
 - Cisco Kinetics
 - SixData luxData.light
 - Thorn UrbaSens
 - Montad Moon
 - Dynniq ImCity
 - Osram LumIdent
 - Bee Smart City
 - Siemens / Atos

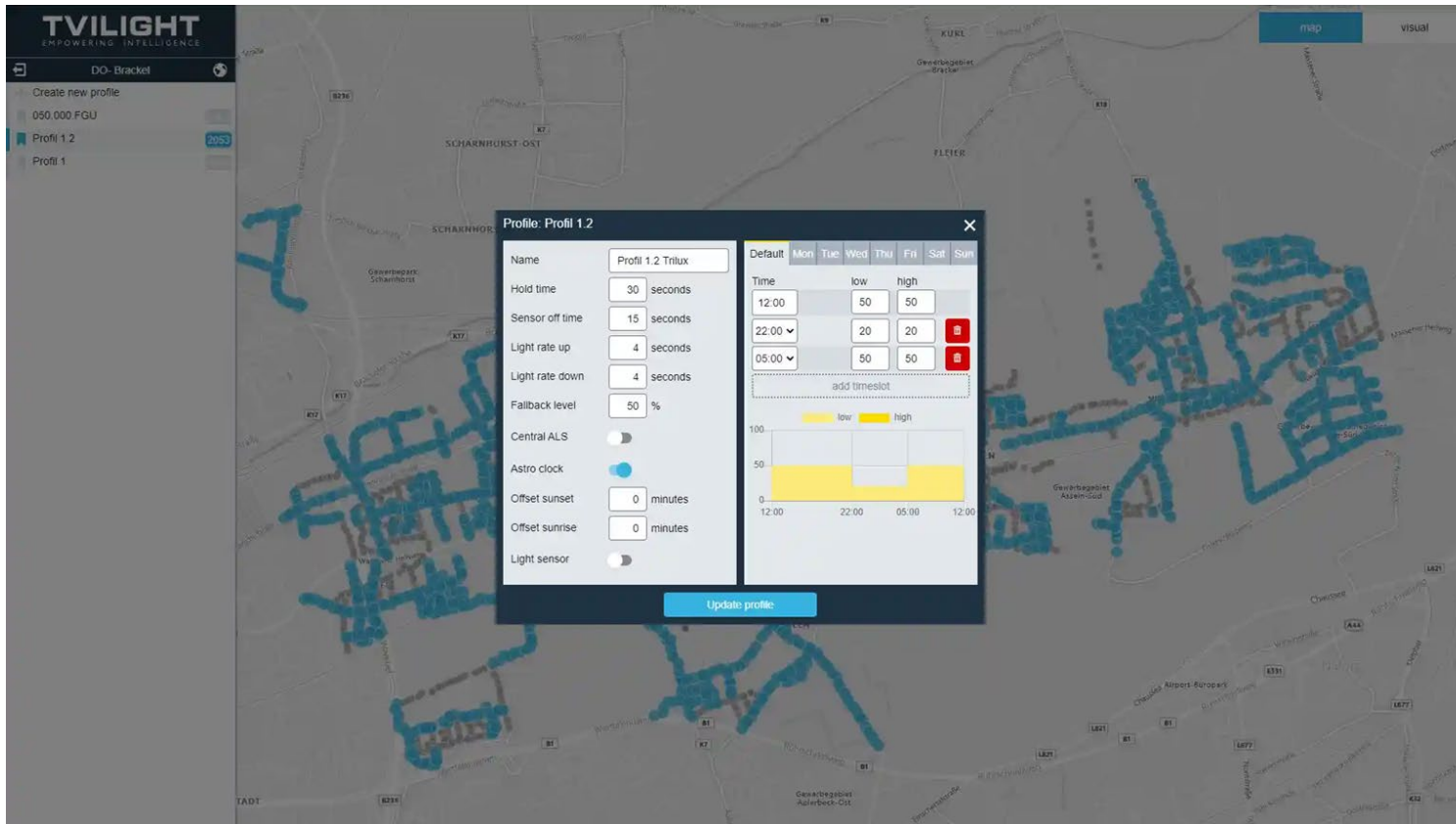
Manage Streetlights Remotely



Intuitive web interface renders total control

- Secure cloud hosted platform, accessible from any web browser, from anywhere, at any time
- Easy-to-understand and easy-to-use application interface help manage streetlights effortlessly
- ISO and NEN certified infrastructure

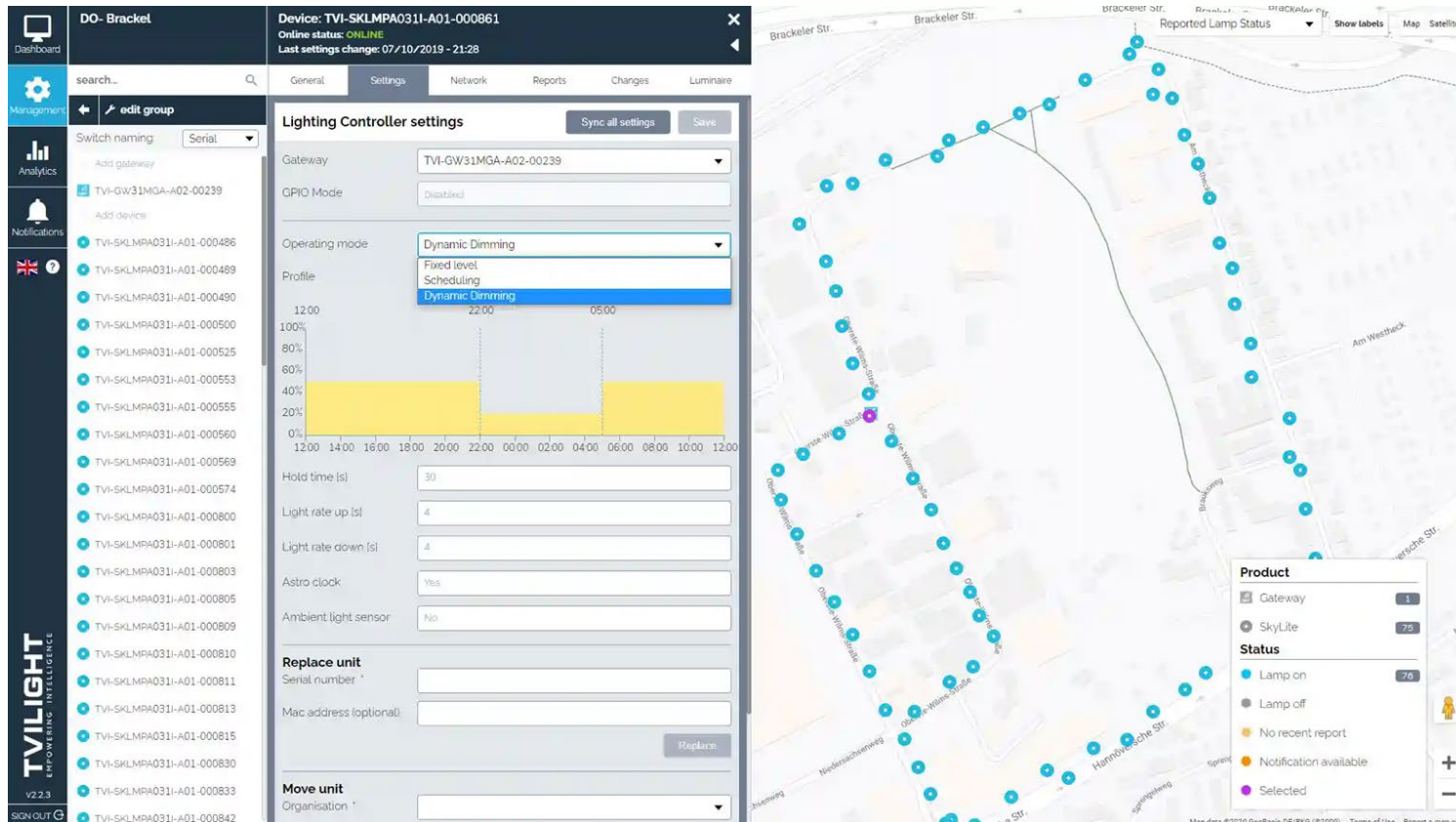
Control Citywide Lighting



Fine-tune lighting as per the demand

- Create custom groups or manage individual streetlights
- Adjust lighting requirements based on:
 - Profiles
 - Specific days
 - Certain events
 - AstroClock
 - Ambient light sensor
 - Human movement (motion sensing)

Fine-tune for Sustainability and Safety



High level of control over streetlights

- Reduce energy consumption and limit CO2 emissions and light pollution with dimming schedules and motion sensor parameters
- Adapt lighting with ease to balance sustainability and citizens' comfort and safety

Adjust Street Light Colours

Monheim Edit profile

Light rate down [s] ▲ 2

Fallback level [%] ▲ 100

Dimming schedule Color schedule

Time	Min %	Max %	Remove
12:00	#0f93b2	#04688c	
22:00	#00e5df	#00a0af	X
06:00	#ffe4af	#fdbf2d	X

+ Add

12:00 22:00 06:00

100% 80% 60% 40% 20% 0%

Central ALS ▲ No

Astro clock ▲ No

Ambient light sensor ▲ No

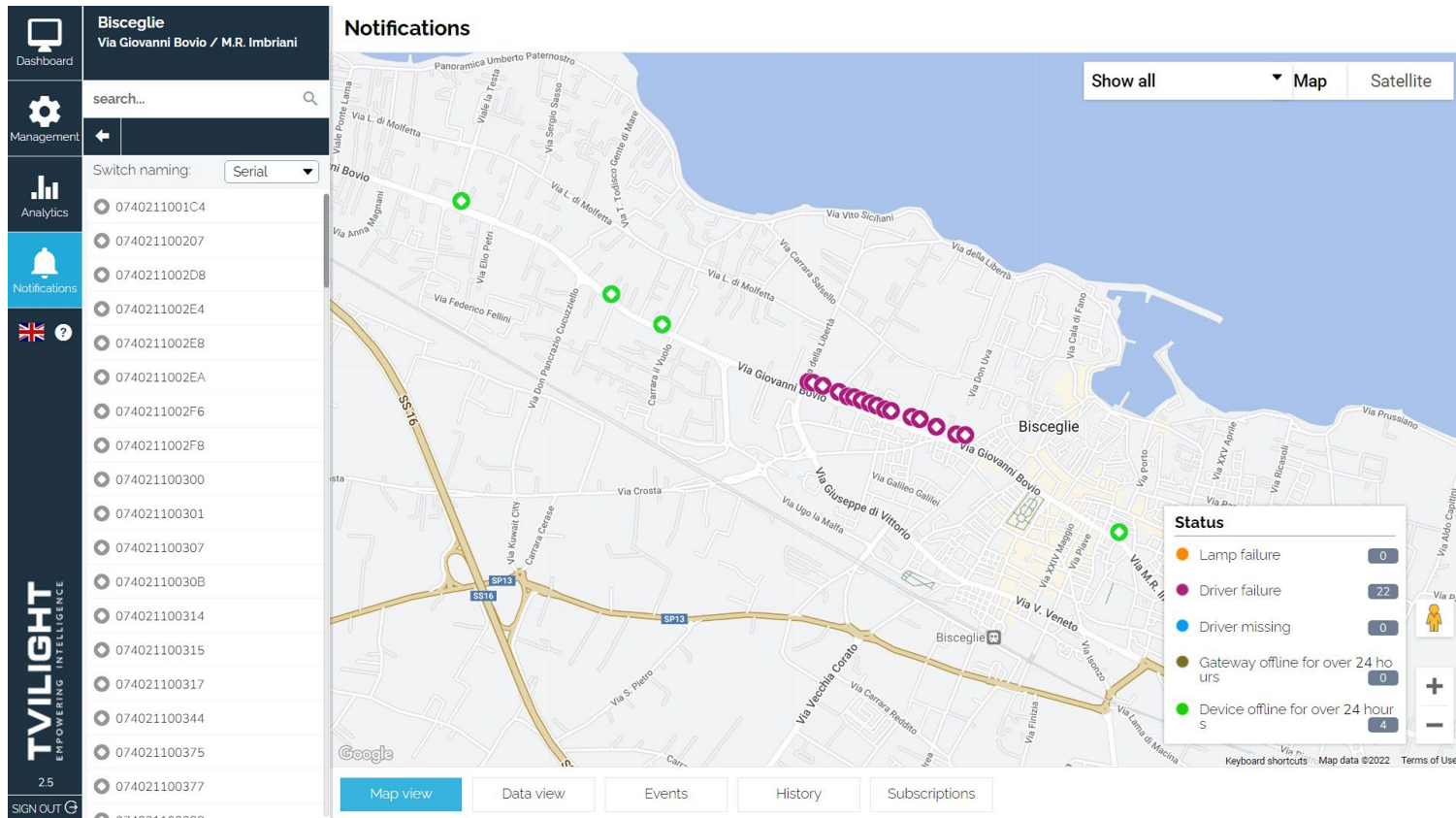
Map Satellite

Create the right ambience

- Choose from a broad spectrum of colors or any shade of white to find the right tone (RGBW)
- Adjust colours based on:
 - Profiles
 - Specific days
 - Certain events
 - Human movement (motion sensing)

* Currently works with OpenSky Zhaga IoT Controllers only

Citywide Maintenance Overview



Identify alerts/alarms at a city-level

- Know the precise location where the maintenance operator should act.
- Reduce truck rolls and subsequent expenses.

Monitor Faults, React Quickly

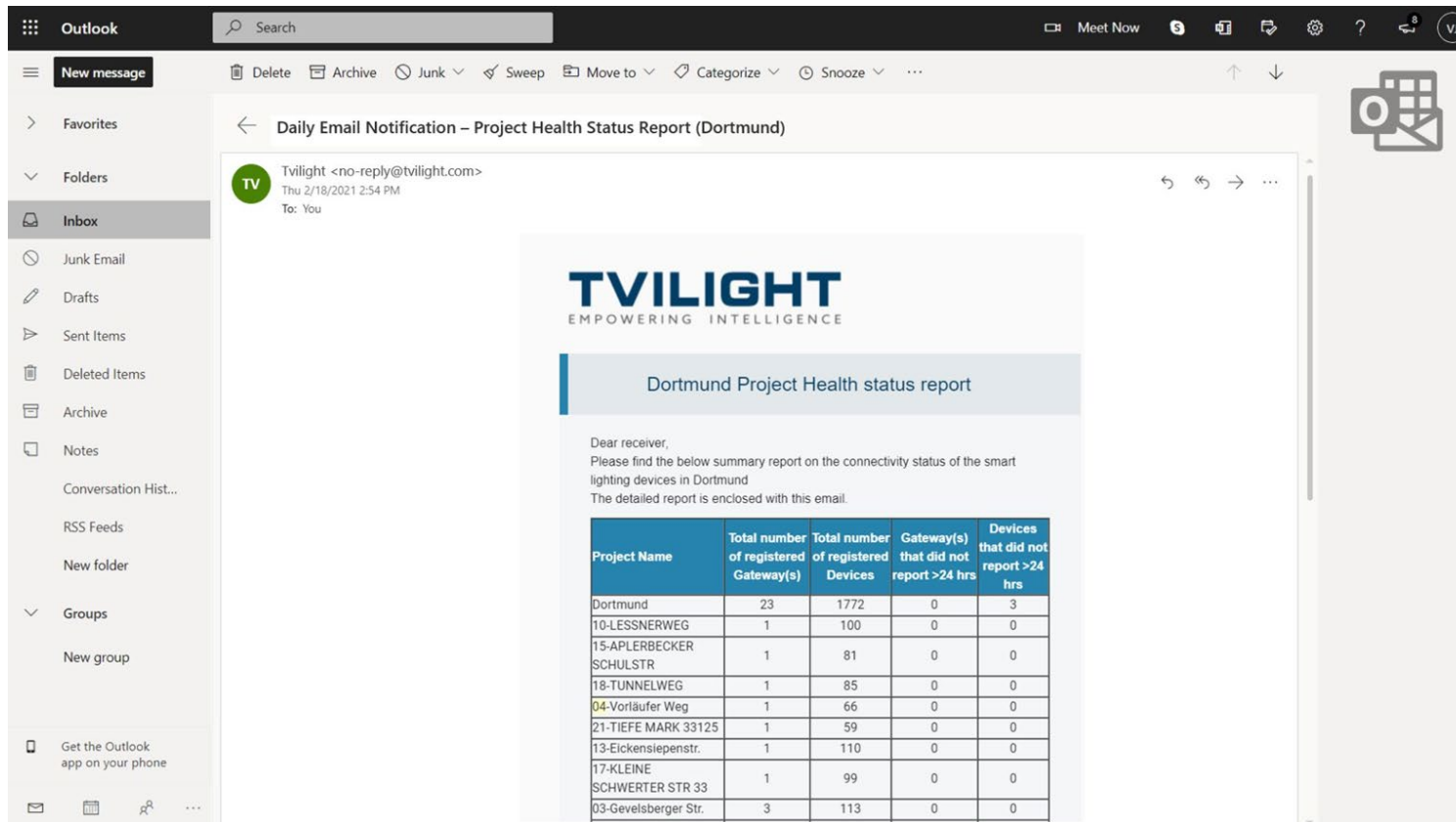
The screenshot displays the TVILIGHT v2.23 interface. The left sidebar contains navigation icons for Dashboard, Management, Analytics, Notifications, and a language selector. The main content area is titled 'Notification' and shows a table of device status updates. The table has columns for Name, Serial number, Organisation, Group, Type, and Created At. The data shows four entries for 'DO- Innenstadt- West' at '15- Rheinische Str.', all reporting 'Device offline for over 24 hours' at different times on 11-02-2021. Below the table are pagination controls showing '1' of 25 items. At the bottom, there are tabs for 'Notifications', 'History', and 'Subscriptions'.

Name	Serial number	Organisation	Group	Type	Created At
TVI-SKLMPA031I-C03-003130	TVI-SKLMPA031I-C03-003130	DO- Innenstadt- West	15- Rheinische Str.	Device offline for over 24 hours	11-02-2021 16:41:34
TVI-SKLMPA031I-C03-003501	TVI-SKLMPA031I-C03-003501	DO- Innenstadt- West	15- Rheinische Str.	Device offline for over 24 hours	11-02-2021 16:41:34
TVI-SKLMPA031I-C04-000207	TVI-SKLMPA031I-C04-000207	DO- Innenstadt- West	15- Rheinische Str.	Device offline for over 24 hours	10-02-2021 12:41:36
TVI-SKLMPA031I-C04-000013	TVI-SKLMPA031I-C04-000013	DO- Innenstadt- West	15- Rheinische Str.	Device offline for over 24 hours	10-02-2021 12:41:36

Achieve proactive maintenance

- Get near-real time information of luminaire
- Automatic alerts / notifications when faults / outages arise
- Reduce truck roll by knowing the exact reason of failure

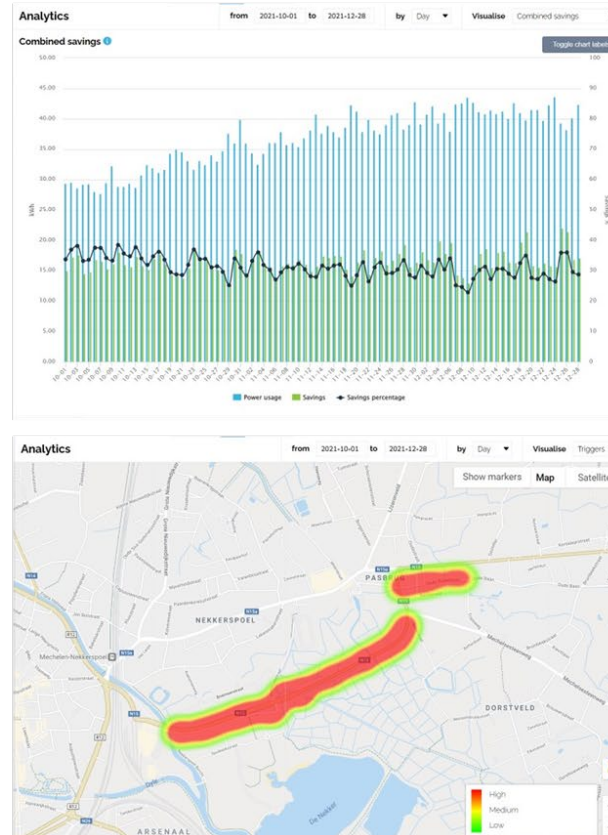
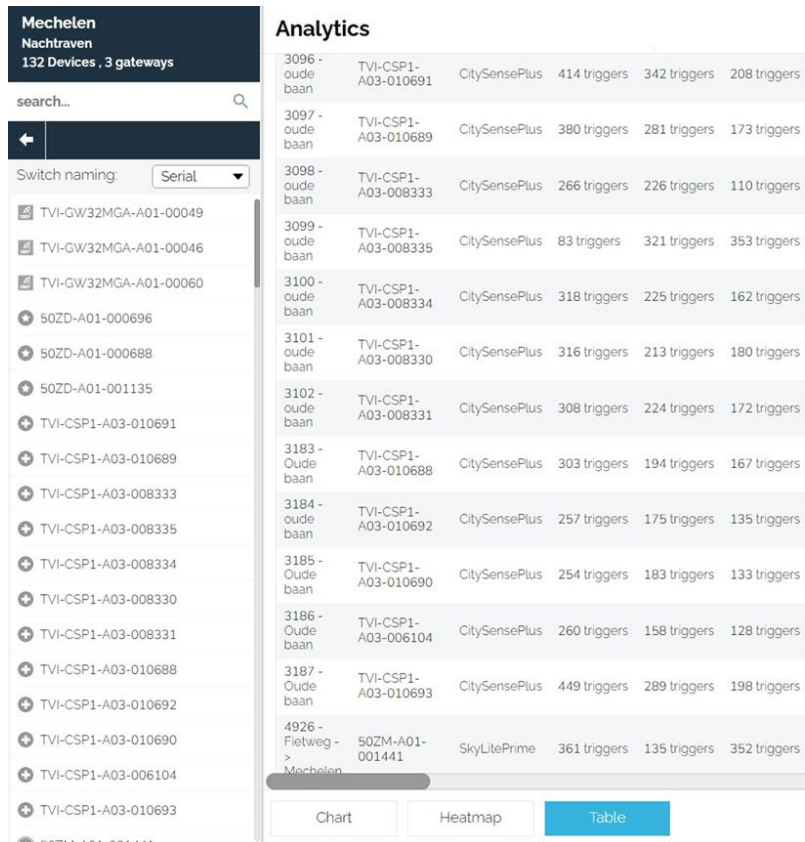
Daily Reports on Lighting Infrastructure's Health



Keep citywide lighting up-to-date

- Receive automated emails containing vital information:
 - Fault light report
 - Daily savings report
 - Daily consumption report
- Helps plan maintenance

Smart Street Lighting Analytics



Gain insights to optimize lighting

- Track lighting performance, status, energy consumption, savings of each luminaire
- Heatmap to identify busy areas / spots
- Insightful graphical data helps make actionable plan to meet sustainability goals

Dashboard

Management

Analytics

Notifications

TVILIGHT

EMPOWERING INTELLIGENCE

2.2.4

SIGN OUT

Mechelen

Nachtraven

132 Devices , 3 gateways

search...

Switch naming: Serial

TVI-GW32MGA-A01-00049

TVI-GW32MGA-A01-00046

TVI-GW32MGA-A01-00060

50ZD-A01-000696

50ZD-A01-000688

50ZD-A01-001135

TVI-CSP1-A03-010691

TVI-CSP1-A03-010689

TVI-CSP1-A03-008333

TVI-CSP1-A03-008335

TVI-CSP1-A03-008334

TVI-CSP1-A03-008330

TVI-CSP1-A03-008331

TVI-CSP1-A03-010688

TVI-CSP1-A03-010692

TVI-CSP1-A03-010690

TVI-CSP1-A03-006104

TVI-CSP1-A03-010693

50ZM-A01-001441

50ZM-A01-001564

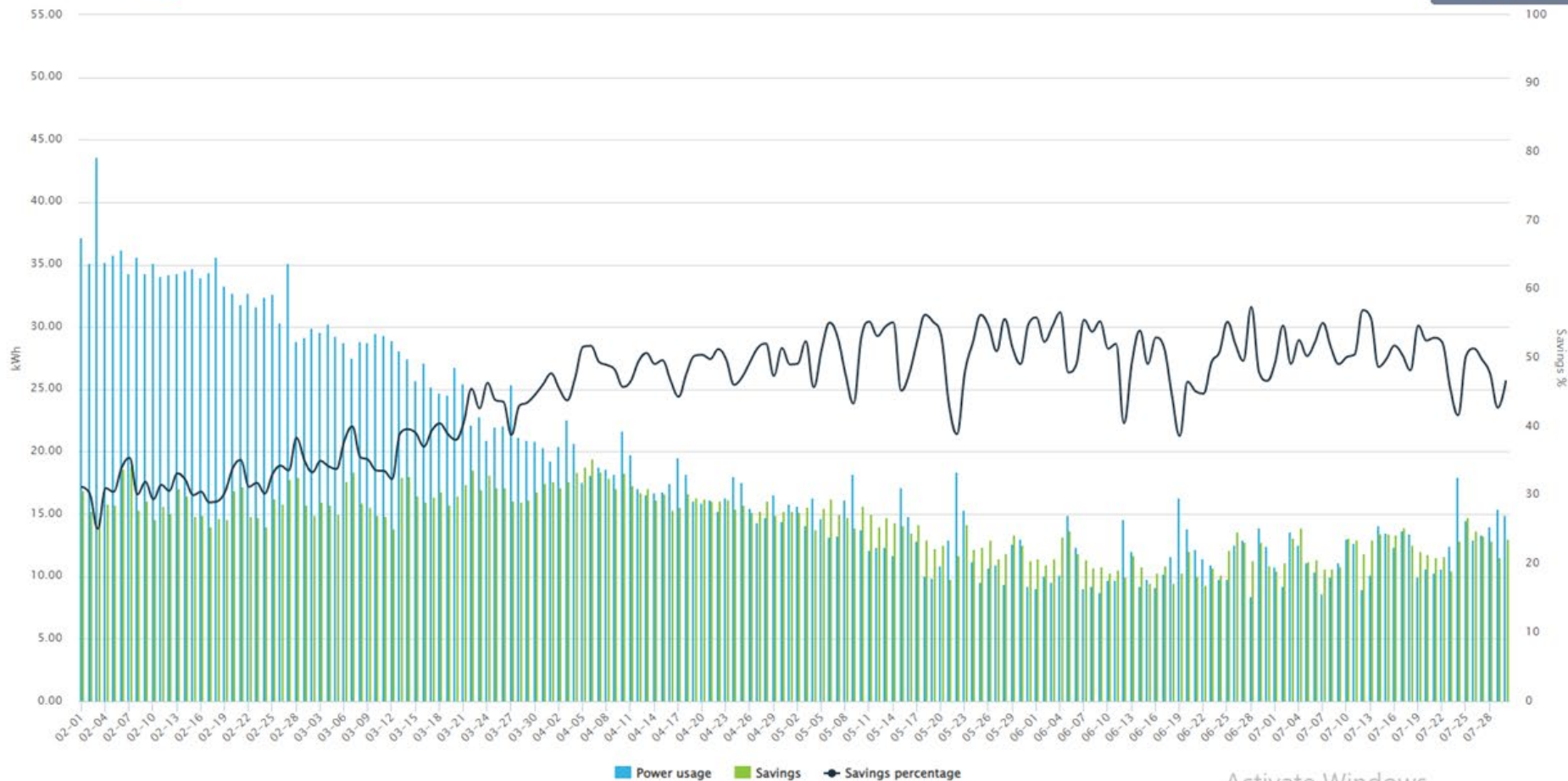
50ZM-A01-001443

Analytics

from 2021-02-01 to 2021-11-23 by day Visualise Combined savings

Combined savings

Toggle chart labels



Chart

Heatmap

Table

Activate Windows
Go to Settings to activate Windows.

Dashboard

Management

Analytics

Notifications

TVILIGHT

EMPOWERING INTELLIGENCE

v223

SIGN OUT

Texel

26 groups

search...

Texel

Groups

De Cocksdorp Ploosterstraat

De Cocksdorp Postweg

De Koog Epelaan

De Koog Nikadel

De Koog Nikadel 2

De Koog Nikadel 3

Den Burg Beatrixlaan

Den Burg Haffelderweg

Den Burg Hollewai

Den Burg Keesomlaan

Den Burg Sluyscoog

Den Burg Vogelenzang

Den Burg Waalderstraat

Den Burg Wilhelminalaan

Den Hoorn Hoge Achterom

Den Hoorn Naalrand

De Waal Sommeltjesweg

Midden-Eierland Hoofdweg

Oosterend Bijenkorfweg

Oost Oost

Oudeschild Haven

Oudeschild Schilderweg

Oudeschild Trompstraat

Analytics

from

2020-11-30

to

2021-10-28

by

day

Visualise

Combined savings

Toggle chart labels

Chart

Heatmap

Table

Activate Windows

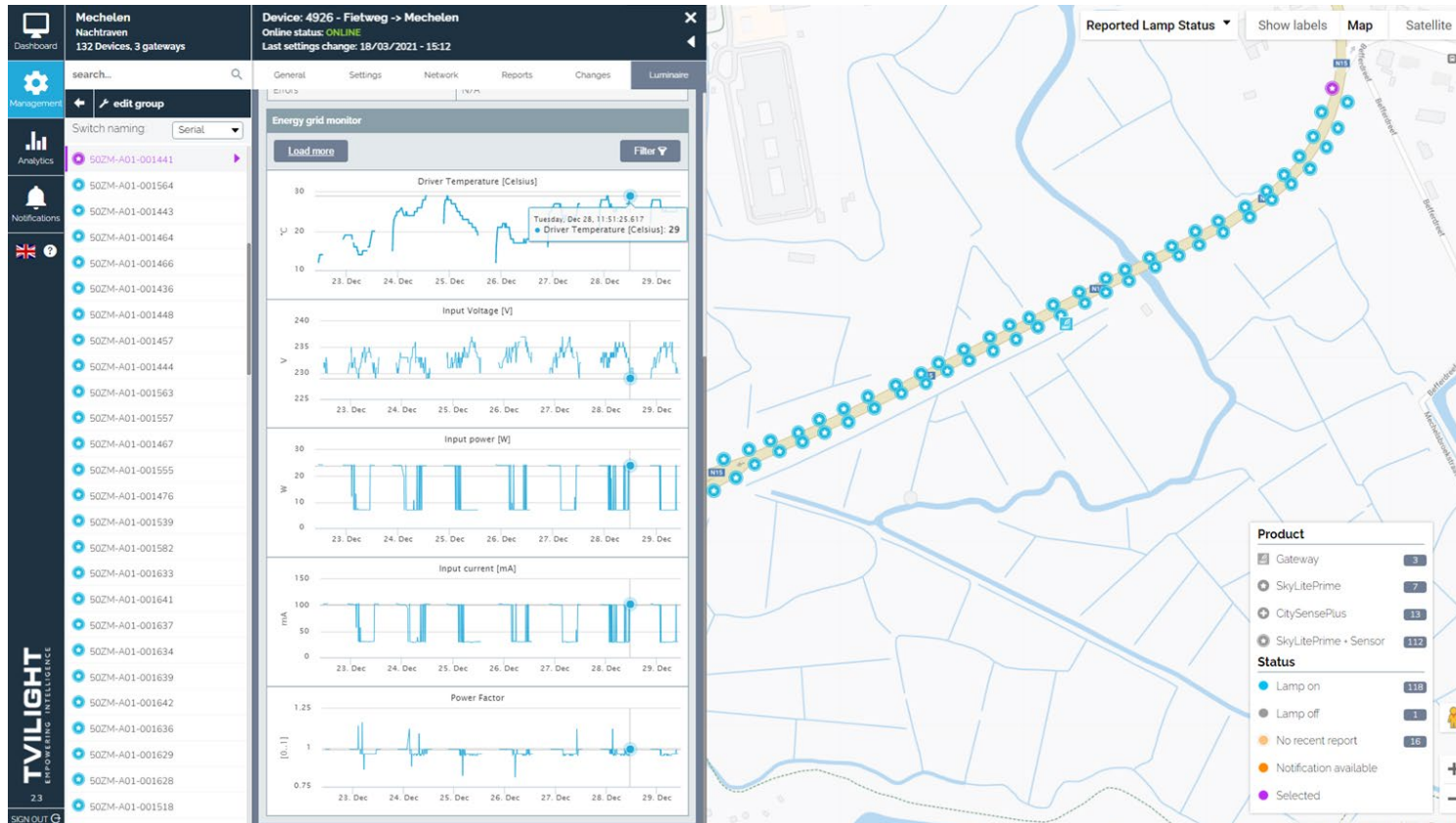
Go to Settings to activate Windows.

Smart City Lighting © 2012 - 2023

20

TVILIGHT

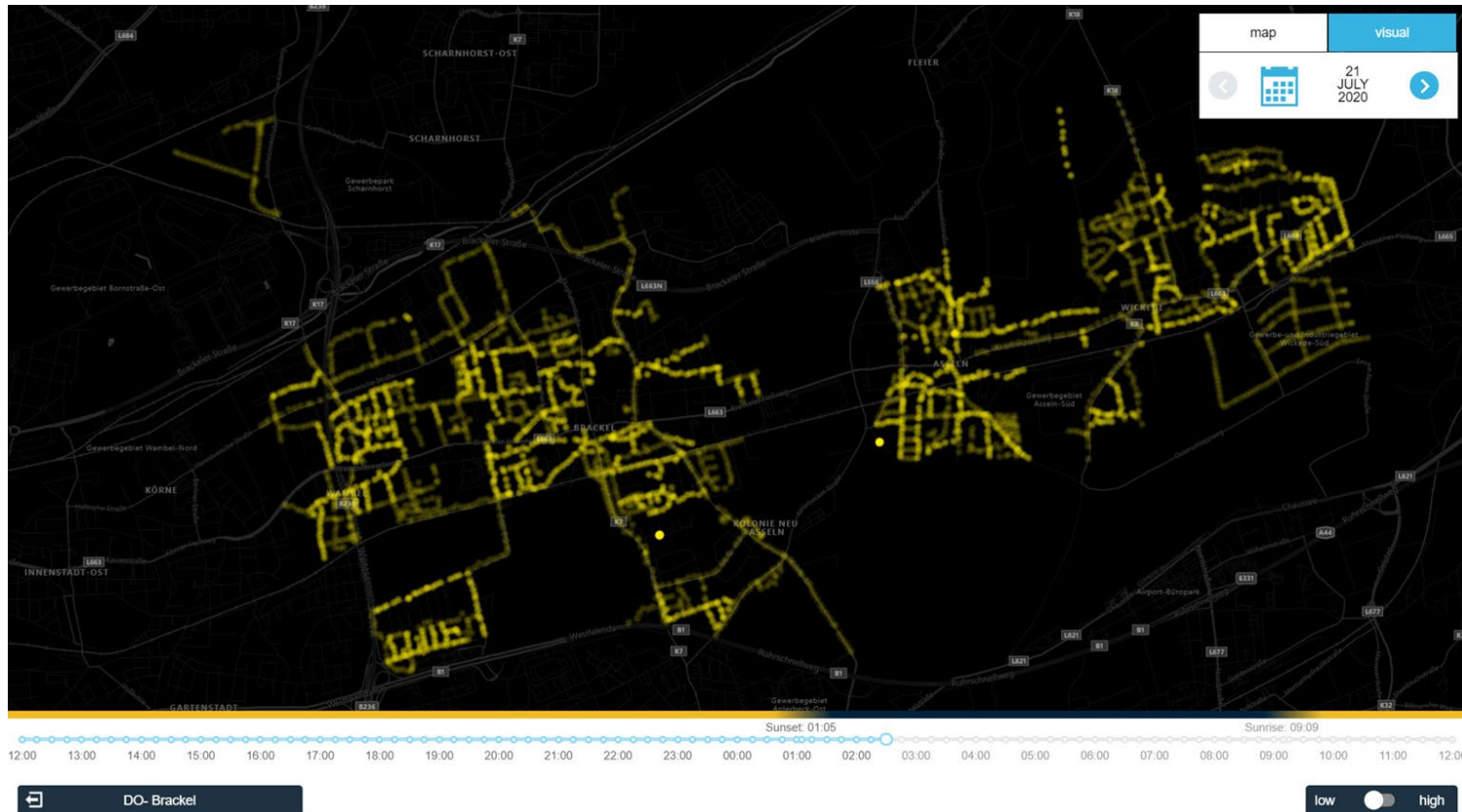
Advanced Energy Monitoring



Detailed information about luminaire health through D4i standard

- Luminaire / controller operating hours
- Power usage for specific day, week, month or year
- Driver temperature
- Input voltage
- Input power
- Input current
- Power factor

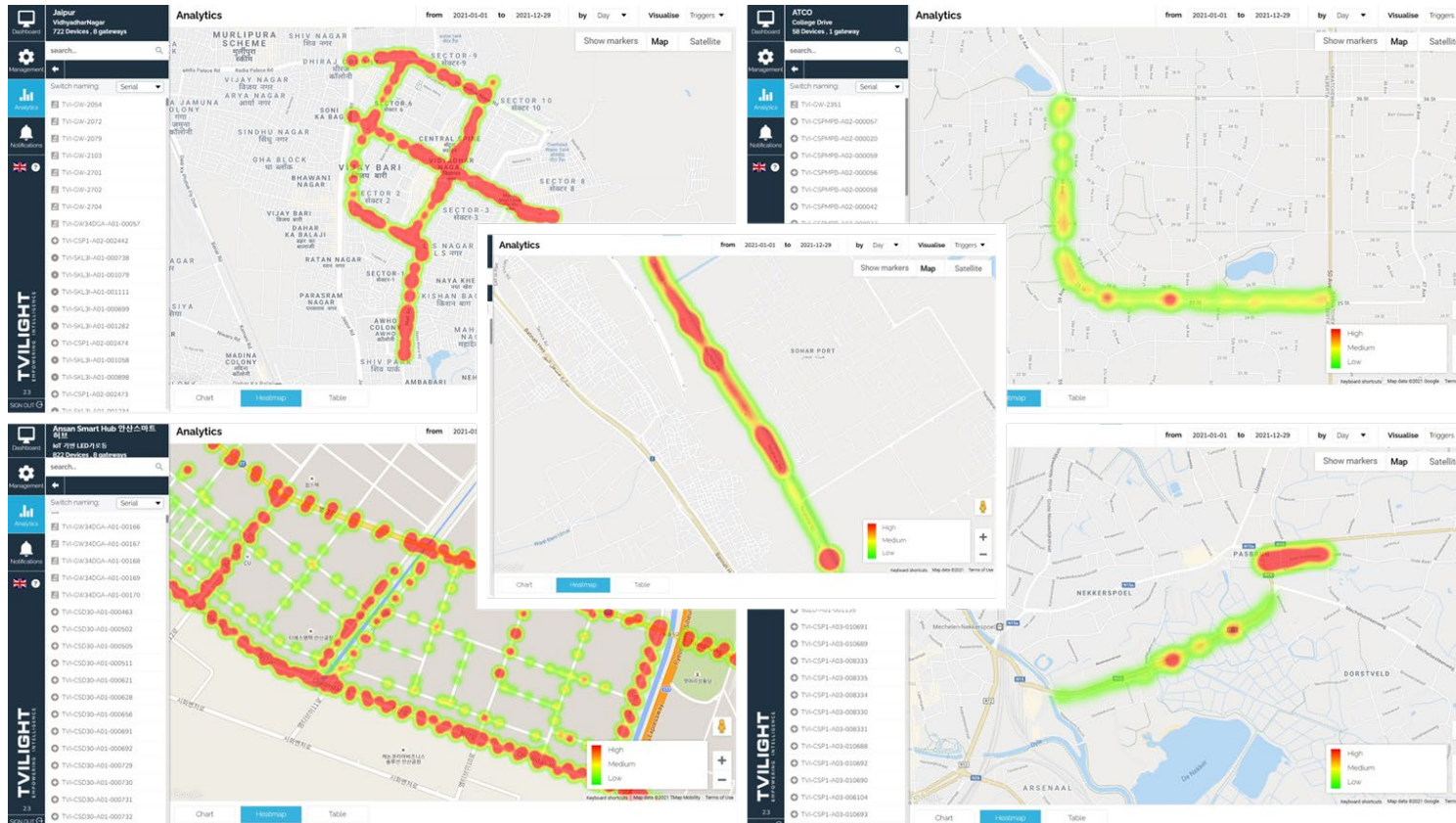
Visualise Entire City's Lighting



Beautiful visualization of Citywide Lighting

- See when precisely the citywide streetlights turn on, adjust brightness and turn off between sunrise and sunset
- Visualize lighting for the future days / events

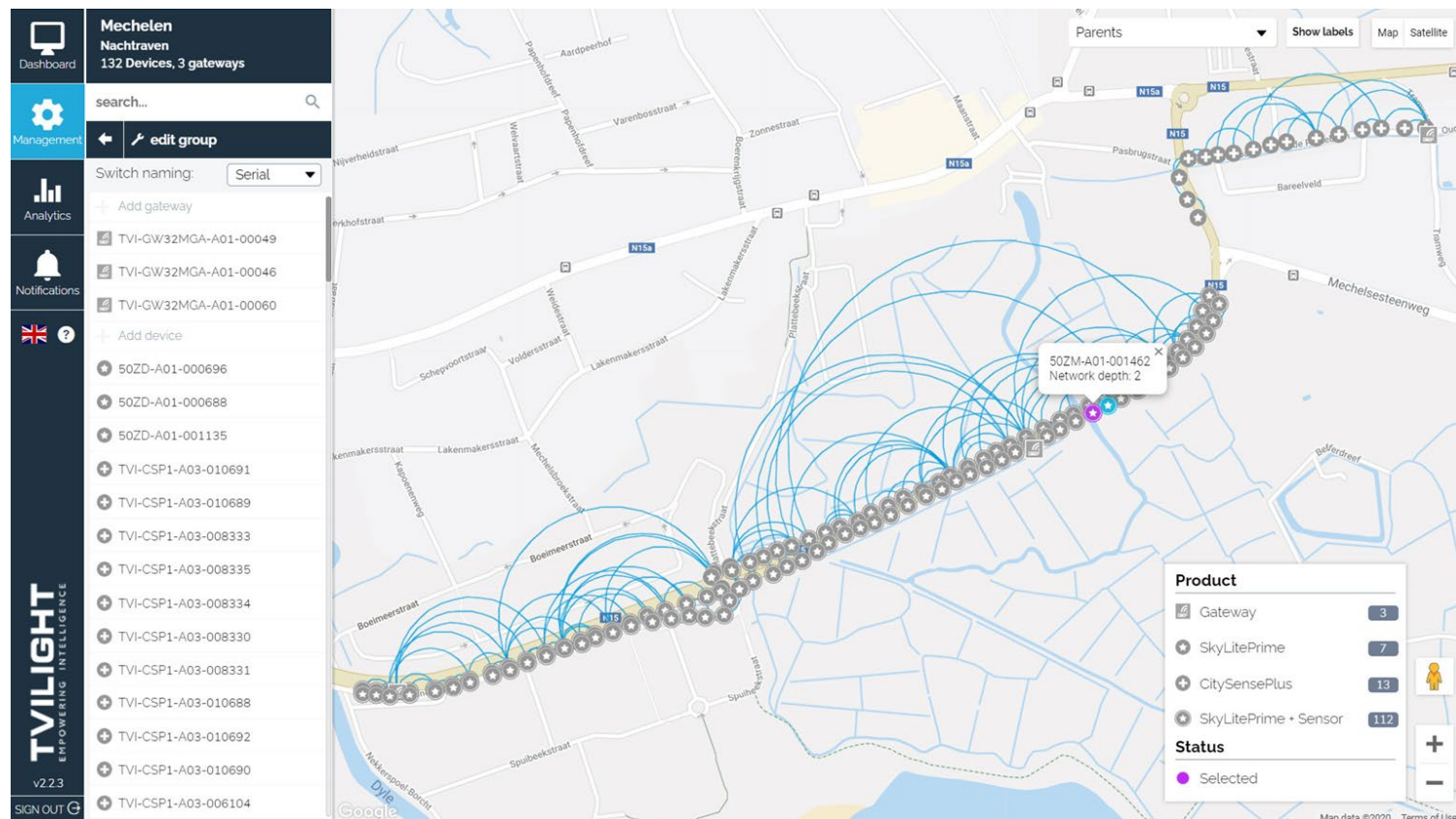
Listen to your City's Heartbeats



Valuable heatmap

- Measure people's movement during different hours at night
- Identify areas / spots that are more popular
- Spot trends and patterns to optimize street lighting levels

View Network Formation



See how devices are connected to each other

- Helps optimize or troubleshoot coverage issues

Historical Reports and Logs

The screenshot displays the TVILIGHT CityManager interface. On the left is a sidebar with navigation icons for Dashboard, Management, Analytics, and Notifications. The main area is divided into a top header and a content section. The header shows the location 'DO- Huckarde' and gateway information. The content section features a 'Device reports' table with columns for Device, Date, Time, Profile status, Brightness log, and Triggers. A map on the right shows the location of the devices, with a pop-up window displaying product and status details for a selected device.

Gateway TVI-GW31MGA-A02-00103
Online status: **ONLINE**
Last settings change: 11/03/2019 - 15:35

Device reports

Device	Date	Time	Profile status	Brightness log	Triggers
TVI-SKLMPA0311-C04-001448	20-08-20	11:12	Dynamic Dimming Astroclock off: 06:29	0 % for 00:30:22	0, 0, 0, 0, 0, 0 /
TVI-SKLMPA0311-C03-003243	20-08-20	11:10	Dynamic Dimming Astroclock off: 06:29	0 % for 00:30:00	0, 0, 0, 0, 0, 0 /
50ZM-A01-000050	20-08-20	11:10	Dynamic Dimming Astroclock off: 06:29	0 % for 00:30:01	0, 0, 0, 0, 0, 0 /
TVI-SKLMPA0311-A01-004975	20-08-20	11:10	Dynamic Dimming Astroclock off: 06:29	0 % for 00:30:00	0, 0, 0, 0, 0, 0 /
TVI-SKLMPA0311-C04-000315	20-08-20	11:10	Dynamic Dimming Astroclock off: 06:29	0 % for 00:30:01	0, 0, 0, 0, 0, 0 /
TVI-SKLMPA0311-C04-001009	20-08-20	11:09	Dynamic Dimming Astroclock off: 06:29	0 % for 00:30:06	0, 0, 0, 0, 0, 0 /
TVI-SKLMPA031E-C04-001447	20-08-20	11:09	Dynamic Dimming Astroclock off: 06:29	0 % for 00:30:40	0, 0, 0, 0, 0, 0 /
TVI-SKLMPA0311-C03-002788	20-08-20	11:09	Dynamic Dimming Astroclock off: 06:29	0 % for 00:30:07	0, 0, 0, 0, 0, 0 /
TVI-SKLMPA0311-C03-002788	20-08-20	11:09	Dynamic Dimming Astroclock off: 06:29	0 % for 00:30:07	0, 0, 0, 0, 0, 0 /

Product

- Gateway: 1
- SkyLitePrime: 17
- SkyLite: 76

Status

- Dortmund GEN-03 50W: 93
- No driver set
- Selected

Detailed historical data

- Address existing faults by tracking similar issues that had occurred in the past
- View detailed log on CityManager

Create a Safe Circle of Light for Citizens

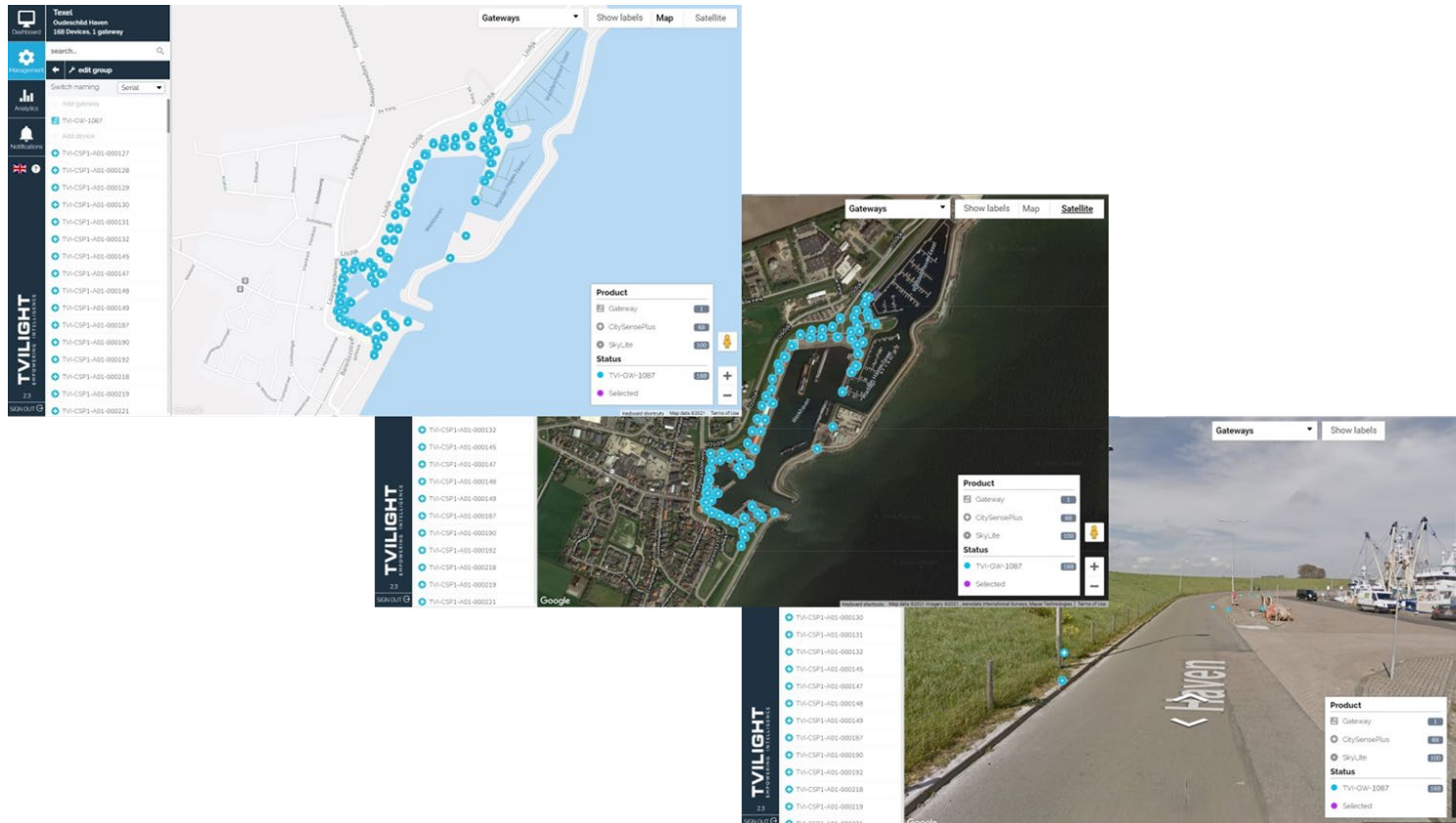
The screenshot displays the TVILIGHT management interface. On the left is a sidebar with navigation icons for Dashboard, Management, Analytics, and Notifications, along with a user profile section. The main content area is divided into two panels. The left panel shows 'Network settings' for a device named 'ATCO College Drive' (Device: 031, Online status: ONLINE). It includes a 'Current neighbours settings' table with columns for Serial, Name, and Pole ID. The right panel shows a map view of the area, with a 'Neighbours' dropdown menu and a 'Show labels' button. A specific device, TVI-CSPMPB-A02-000051, is highlighted on the map, and a 'Product' dropdown menu is visible, showing options like Gateway, CitySensePlus, Neighbour, and Selected.

Serial	Name	Pole ID
TVI-CSPMPB-A02-000066	032	739796
TVI-CSPMPB-A02-000053	033	739795
TVI-CSPMPB-A02-000050	030	739797
TVI-CSPMPB-A02-000006	029	739799
TVI-CSPMPB-A02-000004	035	739794
TVI-CSPMPB-A02-000052	TVI-CSPMPB-A02-000052	739800

Set neighbour lighting triggers with ease

- On a map view, locate and set the corresponding streetlights that will trigger upon human detection
- Helps create a safe-circle-of-light, boosting road-users safety perception

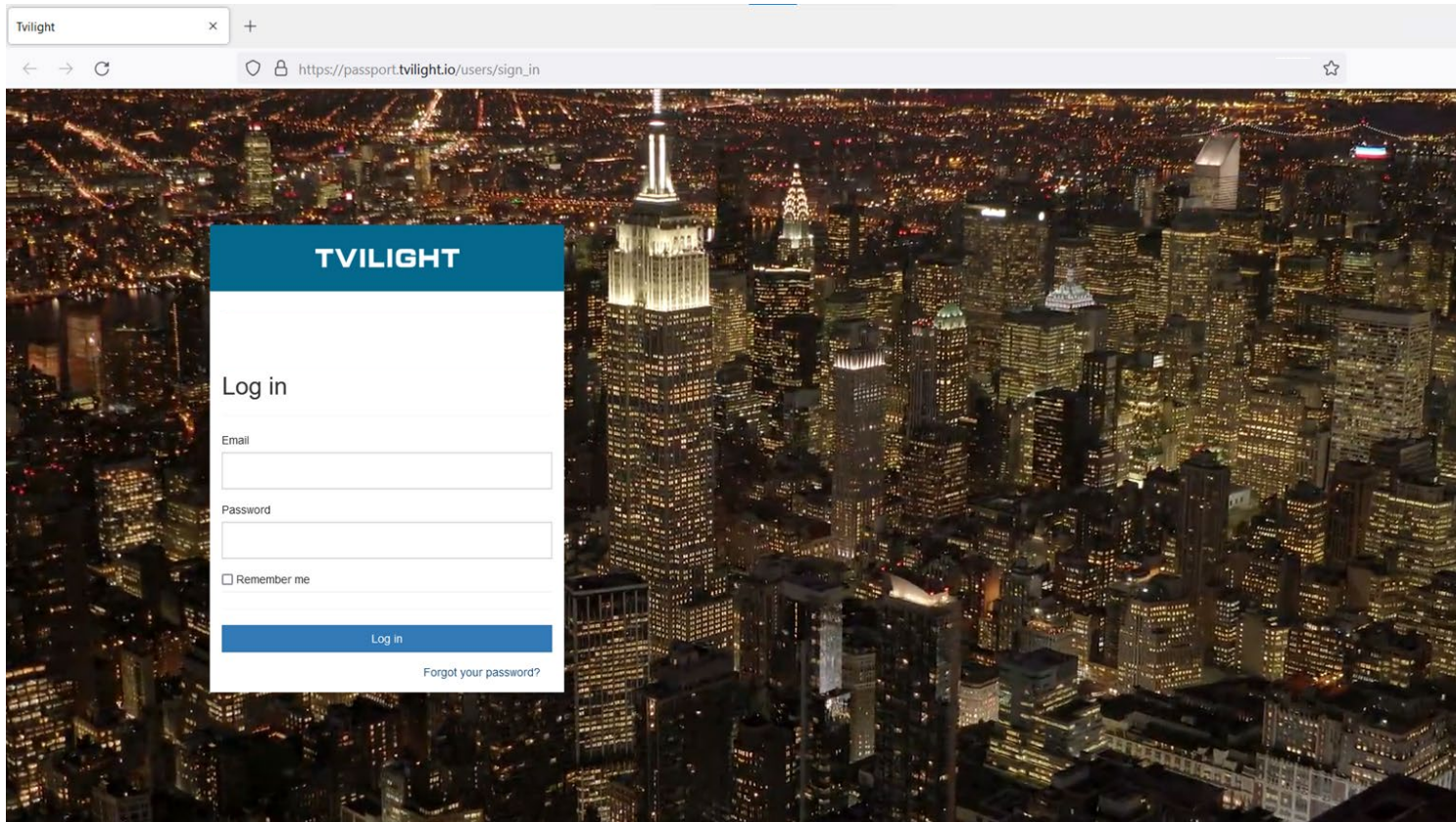
Different Map Views for Better Perception



Understand your lighting terrain

- Map view (with terrain option)
- Satellite view
 - Tile map
 - 360° Street view (if available)

Welcoming Login




Refreshing login screen that inspires

- Dynamic login screen
- Customization option available

Right Control with the Right Person

TVILIGHT Home Users Organisations Applications **Abilities** search ...

Ability Advanced user



Advanced user

Overview

Usage stats

49 **USERS** 0 **APPLICATIONS**

Ability information Advanced user

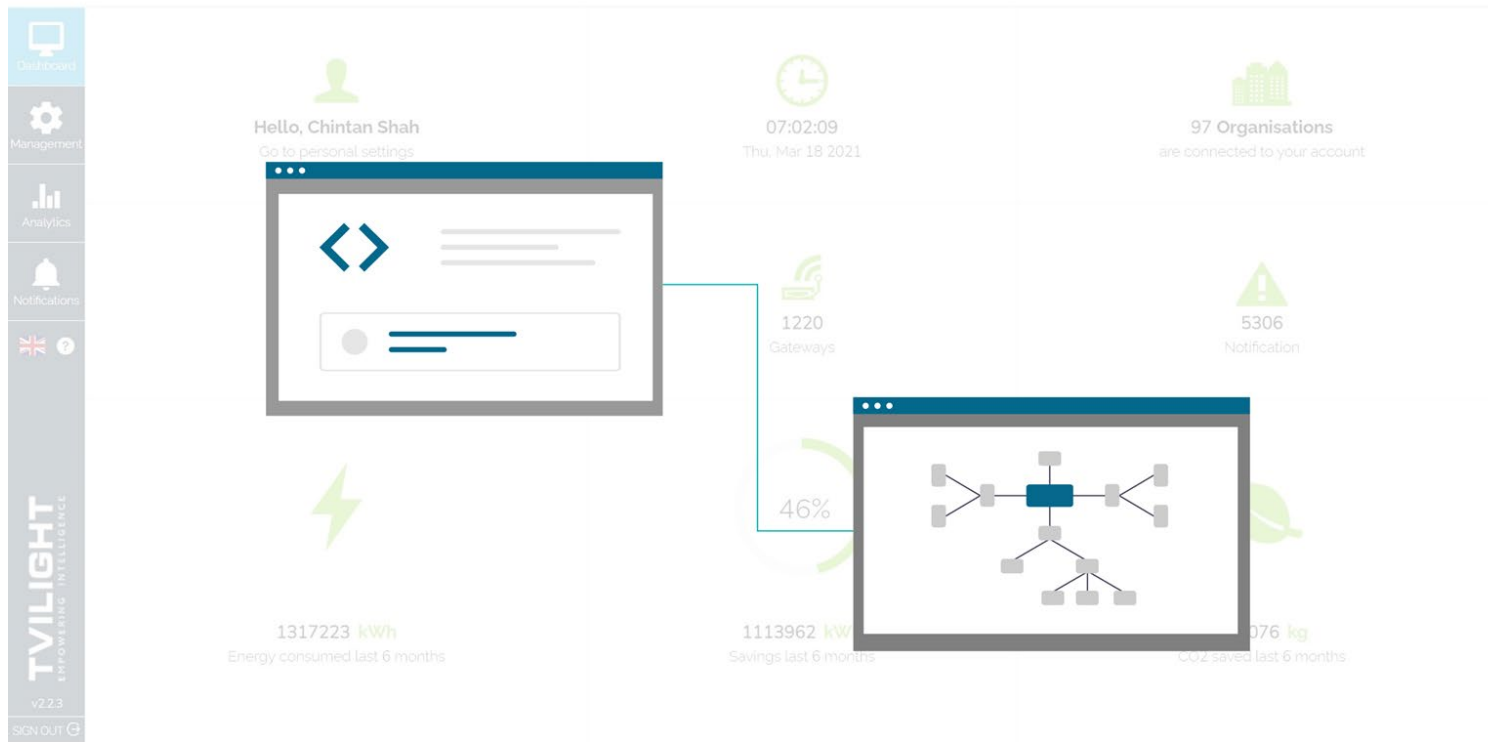
	advanced	create	read	update	delete
Meta	no	no	yes	no	no
Gateway	no	yes	yes	yes	yes
Device	no	yes	yes	yes	yes
Application	yes	no	yes	no	no
User	no	no	yes	no	no
Organisation	no	no	yes	no	no
Ability	no	no	yes	no	no
Report	no	no	yes	no	no
Profile	yes	yes	yes	yes	yes
Group	no	yes	yes	yes	yes
Monitor	no	yes	yes	yes	no

v2.2.3

Simple user rights management

- Decide who can access CityManager
- Defined the level of permission:
 - Read only access
 - Admin access
 - Custom access:
 - Device management
 - Lighting profile creation
 - Analytics only

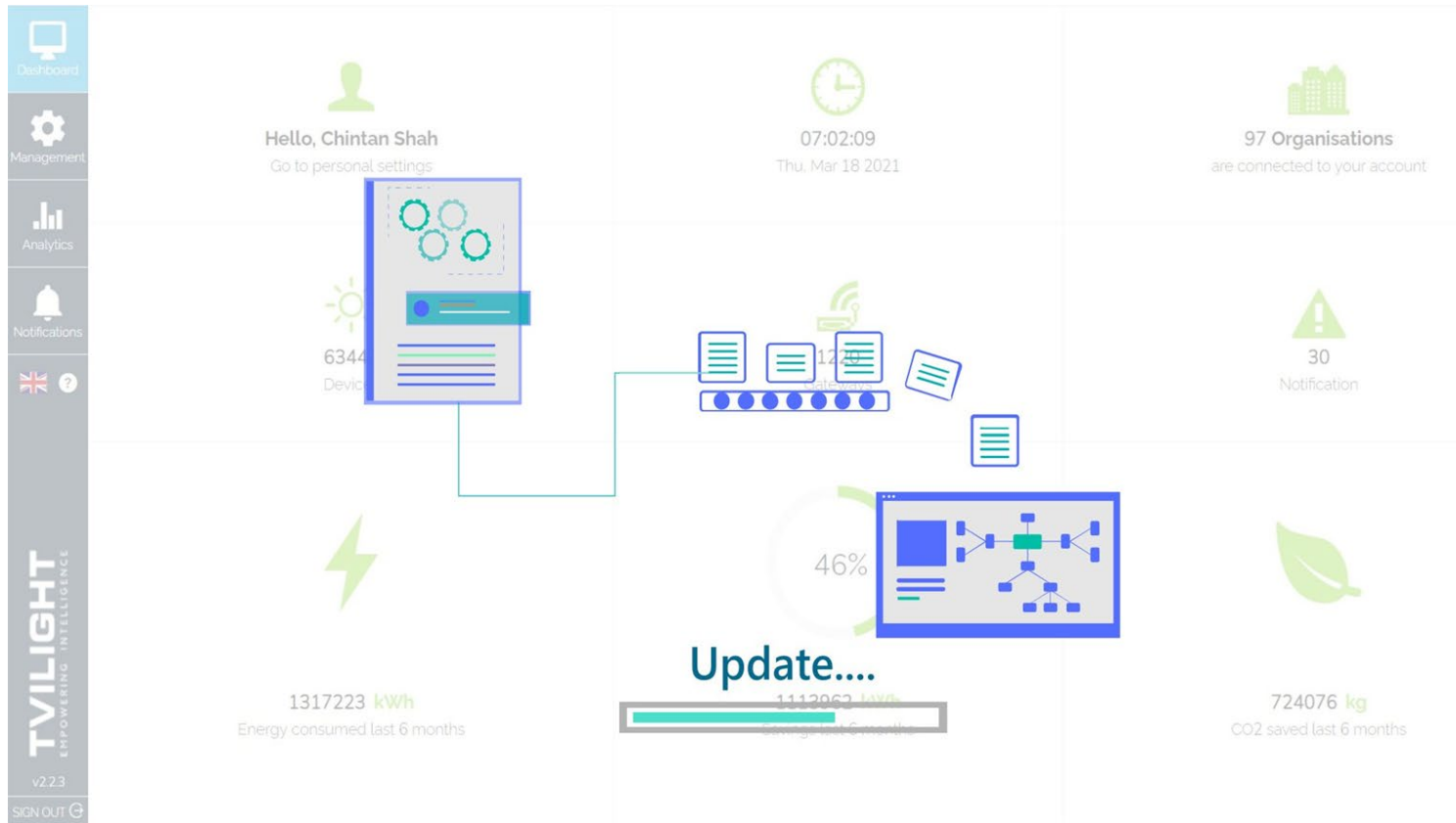
Rules Engine to Interoperate City Infrastructure



Customization on demand

- We will help you build customized logics, conditions and events to generate alerts, alarms or trigger actions
- Imagine streetlights turning bright when fog hits your town or when visibility drops significantly
- Inter-connect CCTV / Traffic Lights to Streetlights with API

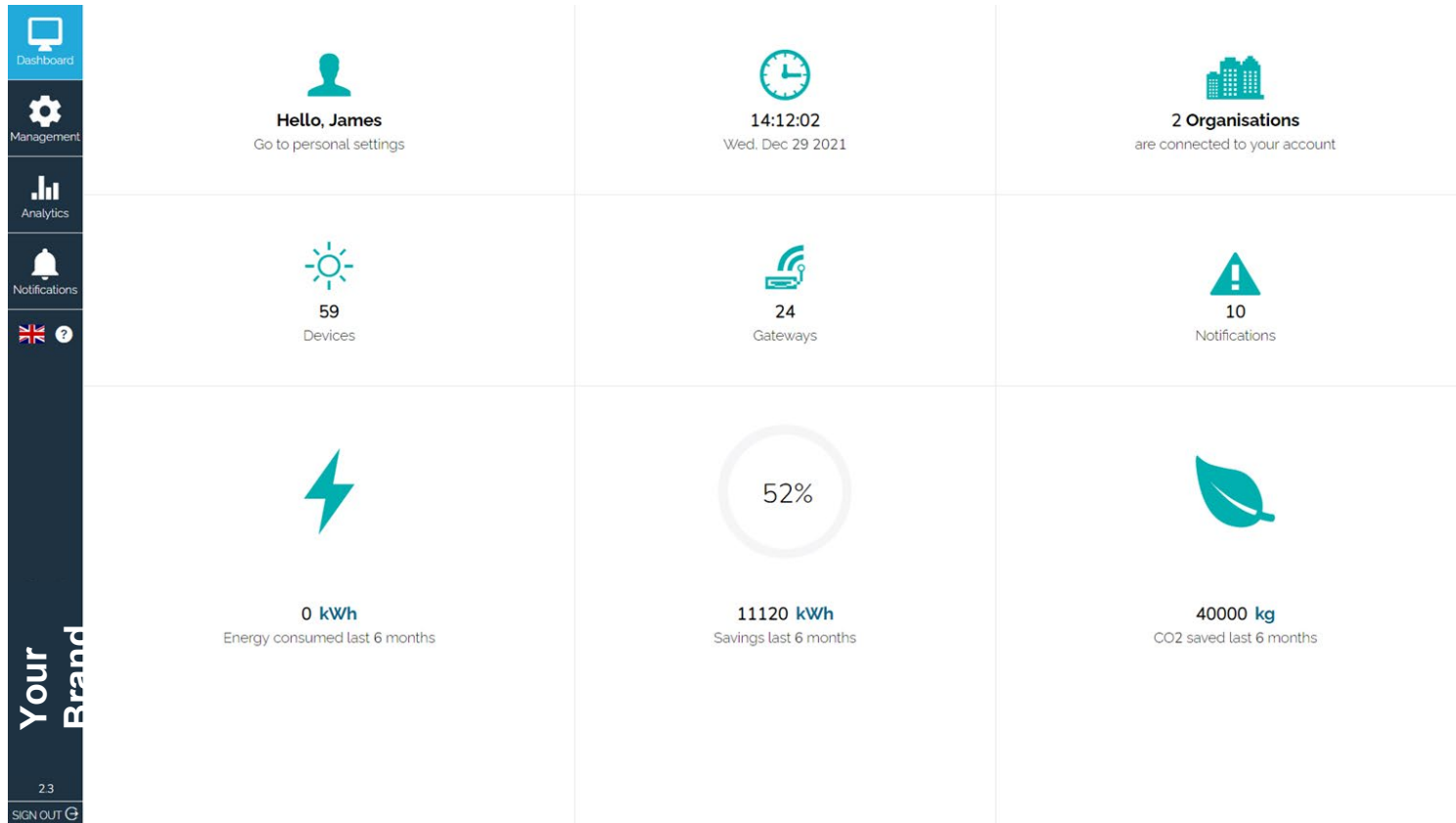
New Features with Regular Updates



Addressing your needs is our priority

- Features and functions are introduced regularly based on our customers feedback and request

CityManager with your own Branding



Version to reflect your own brand

- For premium partners and customers, we can customize and help with your own branding

Manage Group Lighting

Partner application

Program

Program name:

Remark:

Program tags: MyCity2 ☒ MyCity ☒

Selecting no tags, means program is applied to every node

Range: (mm-dd) - (mm-dd)

Repeats:

Repeat on: every day

Summary: All year

Burn time: On: 1670 Dim 1: 2408 Dim 2: 0 Total: 4078

Year

12:00
10:00
08:00
06:00
04:00
02:00
00:00
22:00
20:00
18:00
16:00
14:00
12:00

Location: 56.15562, 10.20468 Offset:

☒ Light sensors: BBG Analog1 : MyC ☒ BBG Digital : MyC

Activation:

Dim 1 : ☒

On : ☒

GridWatch

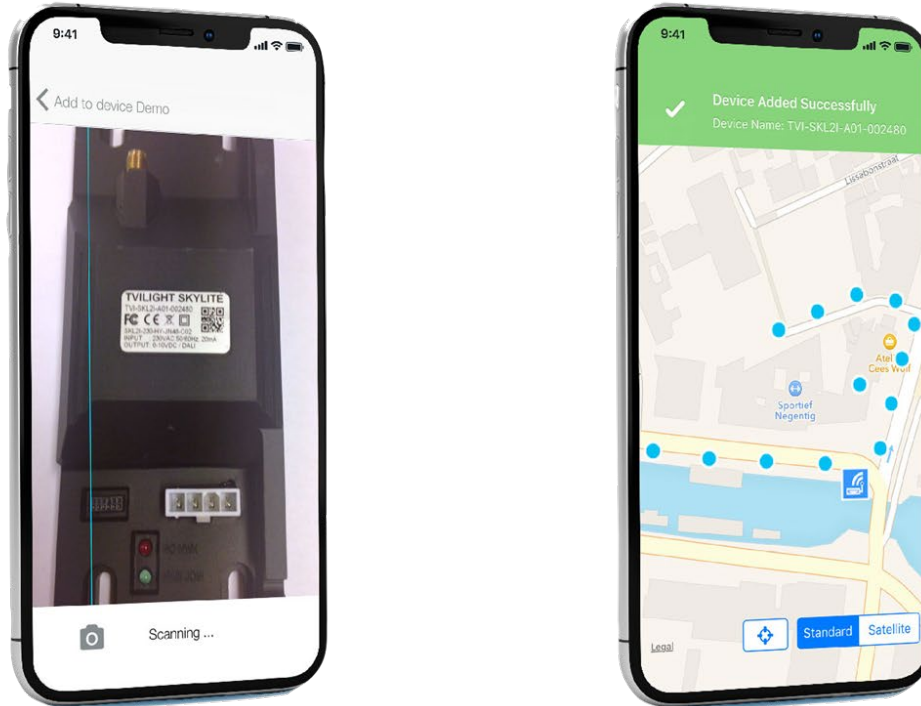
Sunset 18:44 Sunrise 07:32

10-05-10-06

Dedicated application for Group Control

- Manage citywide Feeder Pillars and Control Cabinets through our dedicated software application
- Advance switching control, real-time monitoring and alarm management

Mobile Apps to Support Commissioning & Maintenance



Scan & Go for easy commissioning

- Makes device commissioning easier / hassle-free for the crew on the field
- Available for both Android and iOS platforms
- Dedicated Apps (HiLight, Light Switch) for emergency and maintenance support

We are Here to Support You



24x7 Service Desk

- You have your own portal where you can avail:
 - Information request
 - Demo project request
 - Technical assistance
 - CMS feature request
 - Technical suggestion
 - Replacement / return request
 - Knowledge repository
- [Service Desk](#)

Features to improve day-to-day operations...



Intuitive User Interface

The entire system is carefully designed so that users can easily understand and use it. Multilingual option is also available



Perfect Controllability

Whether Mesh devices or IoT devices or both, the platform offers seamless controllability to the users



Map-based Visualisation

Each connected luminaire is represented on a graphical interface on Google Maps, coordinated with GPS

Features to improve day-to-day operations...



Secure & Reliable

Advanced VPN and data encryption ensure that the system meets international standards. ISO and NEN certifications for system servers.



Accurate & Real-Time Data

The platform provides automatic analysis and evaluation of lighting data including status reporting and failure alerts



Automatic Failure Reporting

The platform can identify several lighting-related faults and automatically send failure reports to the concerned personnel

Client Testimonials



Jan Wiesemann,
Trilux

"Individual light management and control provide unprecedented flexibility. Performance of all the streetlights is clearly visible in the light management system. Smart monitoring provides an excellent degree of transparency for installers and operators. This is what future smart light looks like today!"



Meinolf Pflug,
Dortmund Civil Engineering
Office

"The system works very well and has the desired LMS functions. This includes the lamp status, fault analysis and reporting (24/7), monitoring of the energy consumption data. Individual light profiles can be checked and adjusted at any time online. I wholeheartedly recommend this lighting system to other cities."

Like it.

Why not give it a try?

Want to learn more?

Need a quick demo?

Contact us at: info@tvilight.com

We look forward to working with you!

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