Smart Street Lights for Smarter Cities

CityManager CMS

v28.02.2022

Why invest in Smart Streetlights?

60% - 80% Energy Savings

Dimming streetlights with pre-defined schedule and smart sensors significantly cuts energy waste.

Predictive Maintenance

Proactive alerts / notifications for faults, alarms or outages optimise maintenance and substantially reduce operational costs.

Total Infrastructure Control

Connected streetlights enable remote monitoring, management and control of complete citywide infrastructure.

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Why invest in Smart Streetlights?

Foundation for Smart City

Standardised interface and Open APIs support inter-connectivity with applications such as traffic lights, security systems, etc.

50% Lower Light Pollution

Dimming streetlights during off-peak hours or through motion sensors significantly cuts light pollution.

Improved Public Safety

Right light and right place and right time enhances citizens' sense of safety.

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Why invest in Smart Streetlights?

Address Climate Change

Fine-tuning lighting levels on need-basis dramatically reduces carbon emissions.

Protect Flora and Fauna

Autonomous dimming during off-peak hours lower lighting pollution and benefits local flora and fauna.

Benefits from Day One

Unlike other smart city solutions, deploying smart lighting deliver benefits from day one!

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Who are we?

Specialist in Smart Outdoor Lighting

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

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Global presence: 100k+ connected streetlights, 650+ projects

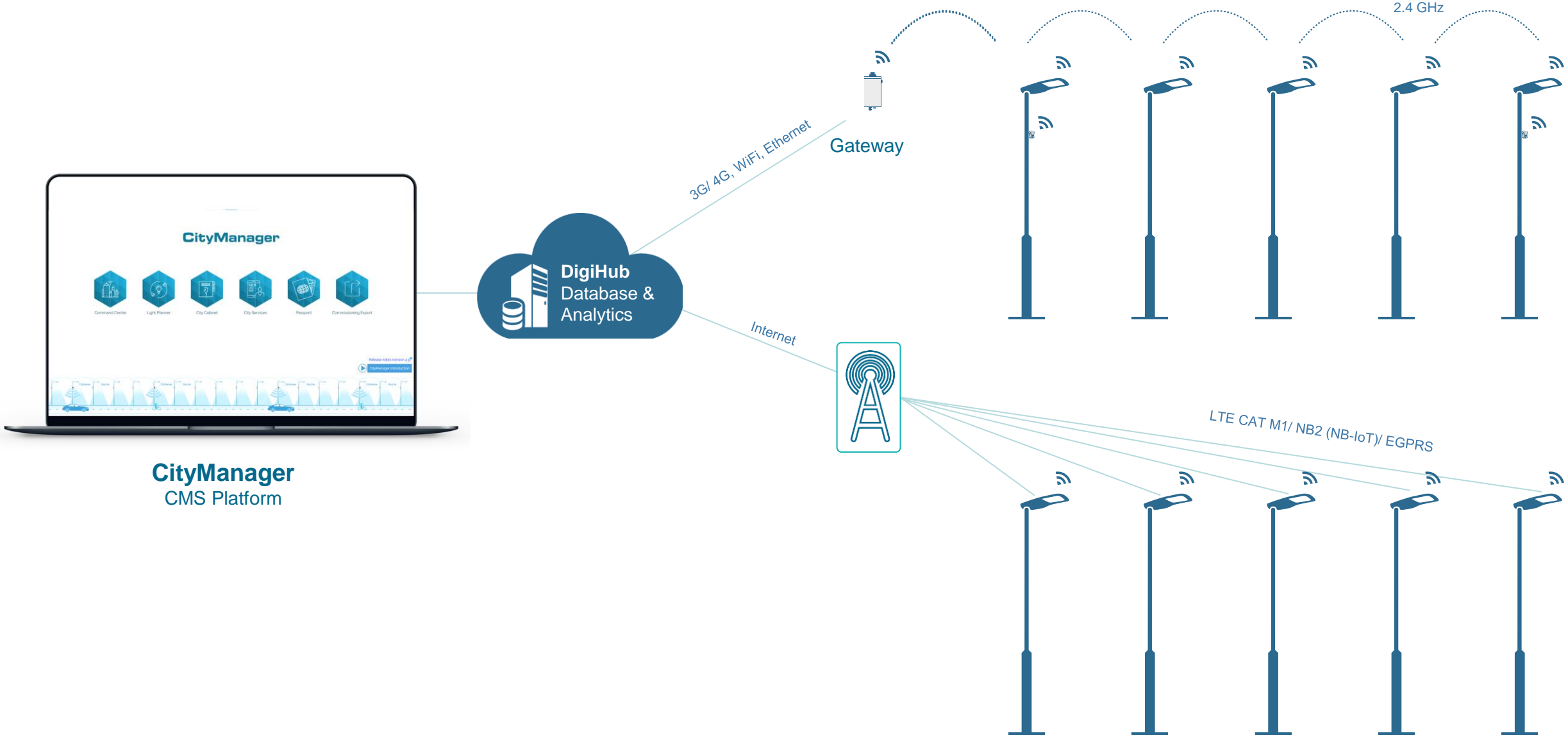**Monitored by CityManager and supported by our Service Desk**

Selected Projects

- Dortmund (DE) 25.000 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

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Smart Lighting solution portfolio

Light Management Platform
- CityManager

DigiHub
- Data & Analytics
- Security & Backups
- Open API TALQ 2.0

Services
- Training
- Network Engineering Project Support
- Service Desk
- Project Based Software Development

Lighting Controls

RF Mesh
- CitySense Plus Motion Sensor
- CitySense Lite Motion Sensor
- SkyLite Prime RF
- SkyLite RF

IoT
- OpenSky NEMA
- OpenSky Zhaga

Photocell
- SkySwitch NEMA
- SkySwitch Zhaga

Group
- Control Cabinet

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Single Platform to Manage RF Mesh and IoT Networks

2.4 GHz

Gateway

3G/ 4G, WiFi, Ethernet

DigiHub
Database & Analytics

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Internet

LTE CAT M1/ NB2 (NB-IoT)/ EGPRS

CityManager
CMS Platform

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CityManager Central Management System

- **Secure cloud 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

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Open, Secure & Interoperable
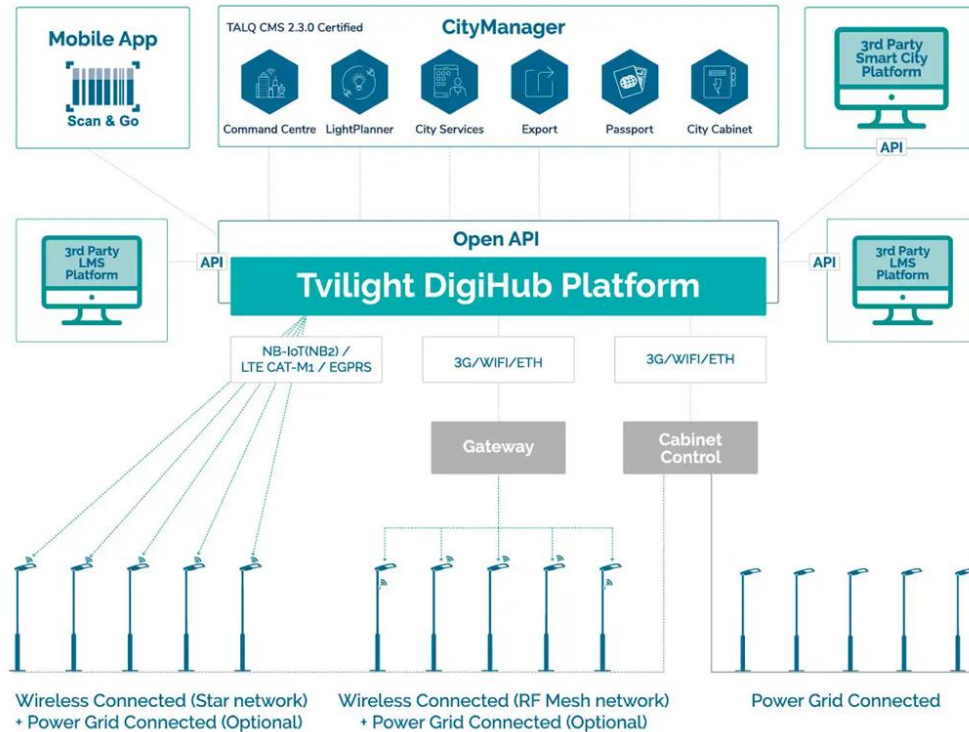
Vendor neutral system

- 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
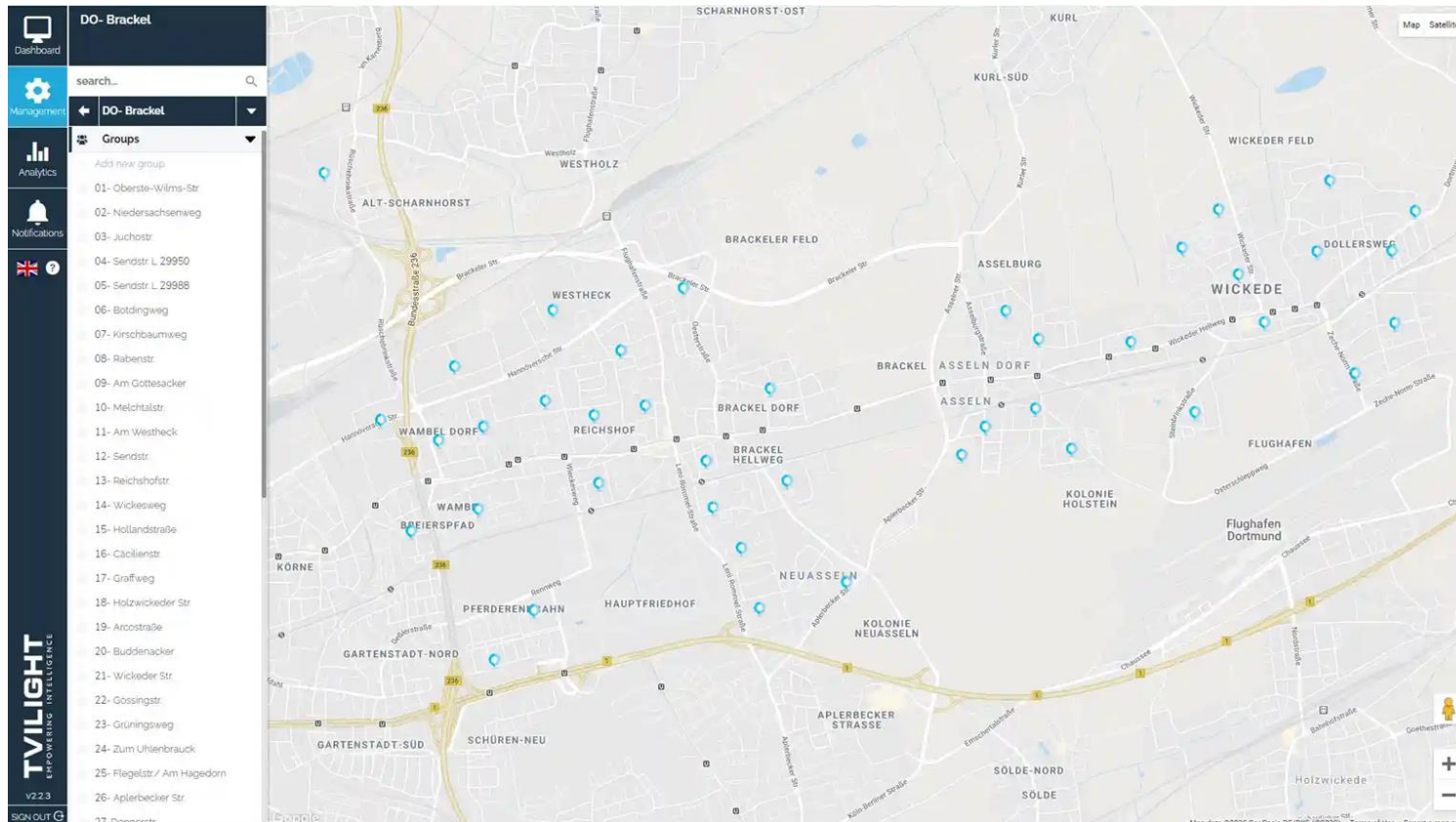
Intuitive web interface renders total control

- 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

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Control Citywide Lighting
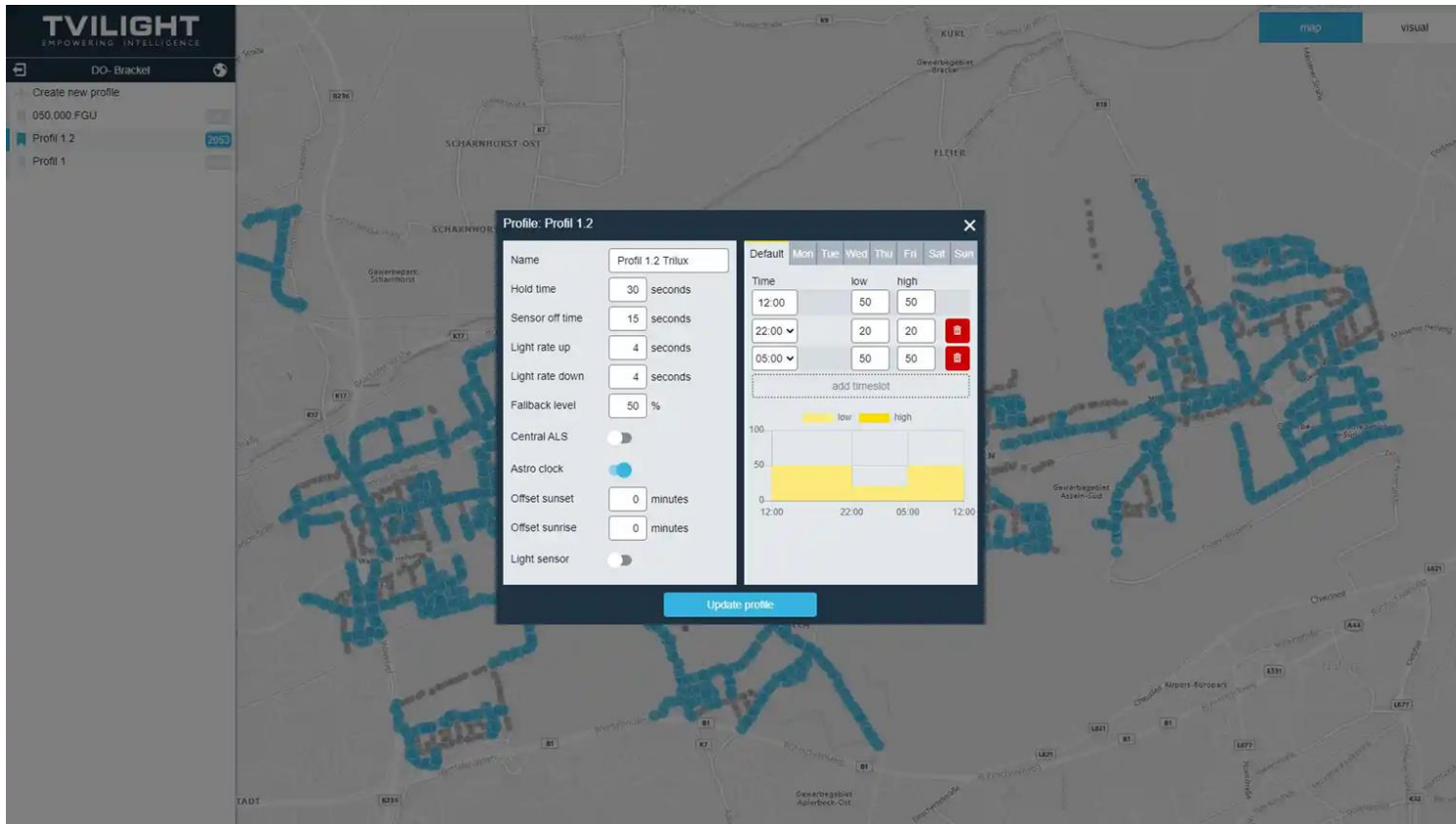
Fine-tune lighting as per the demand

- 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)

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Fine-tune for Sustainability and Safety

High level of control over streetlights

- Reduce energy consumption and limit CO_2 emissions and light pollution with dimming schedules and motion sensor parameters

- Adapt lighting with ease to balance sustainability and citizens' comfort and safety

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Adjust Street Light Colours

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

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Monitor Faults, React Quickly

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

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Daily Reports on Lighting Infrastructure's Health
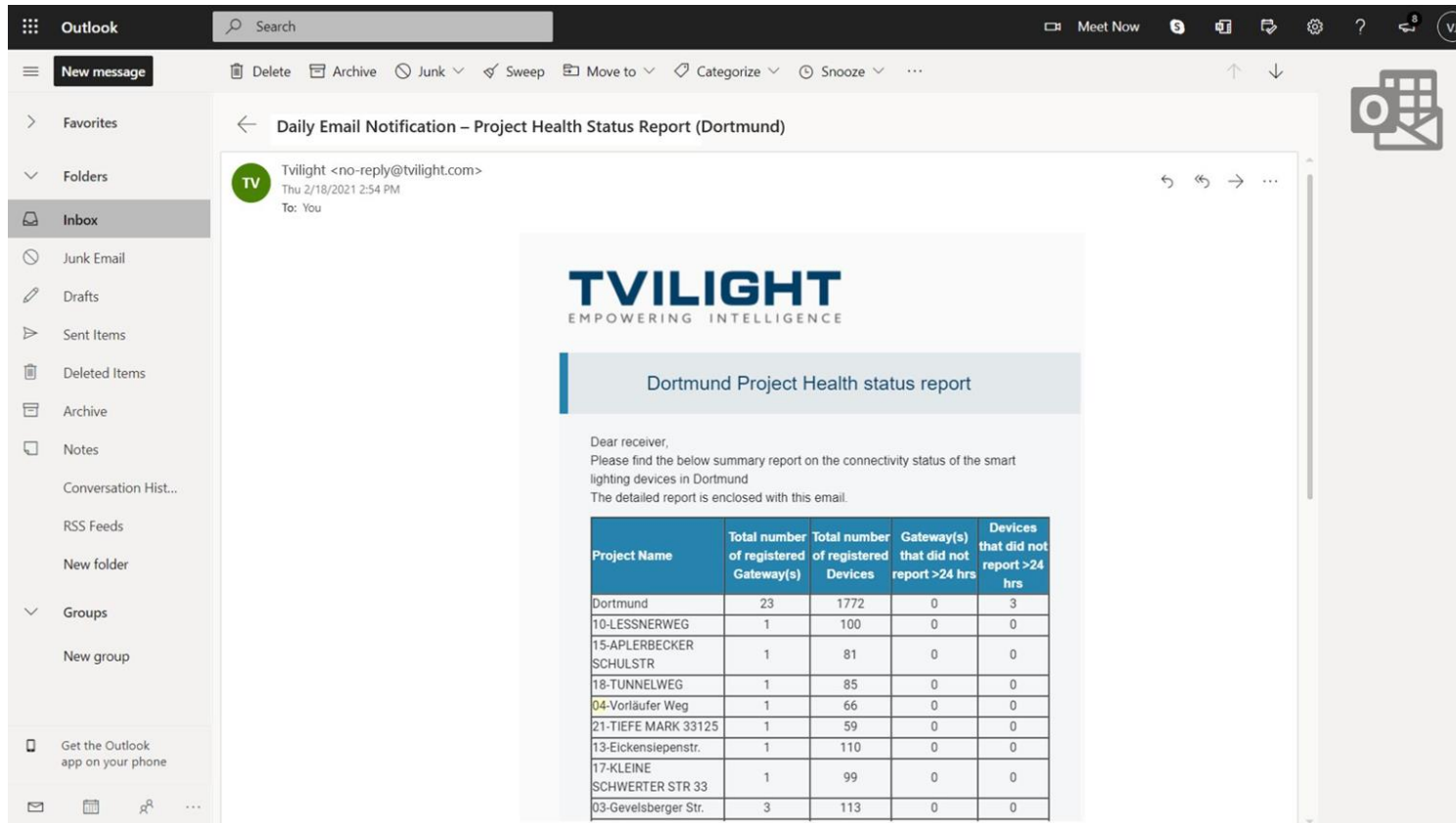
Keep citywide lighting up-to-date

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

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Smart Street Lighting Analytics
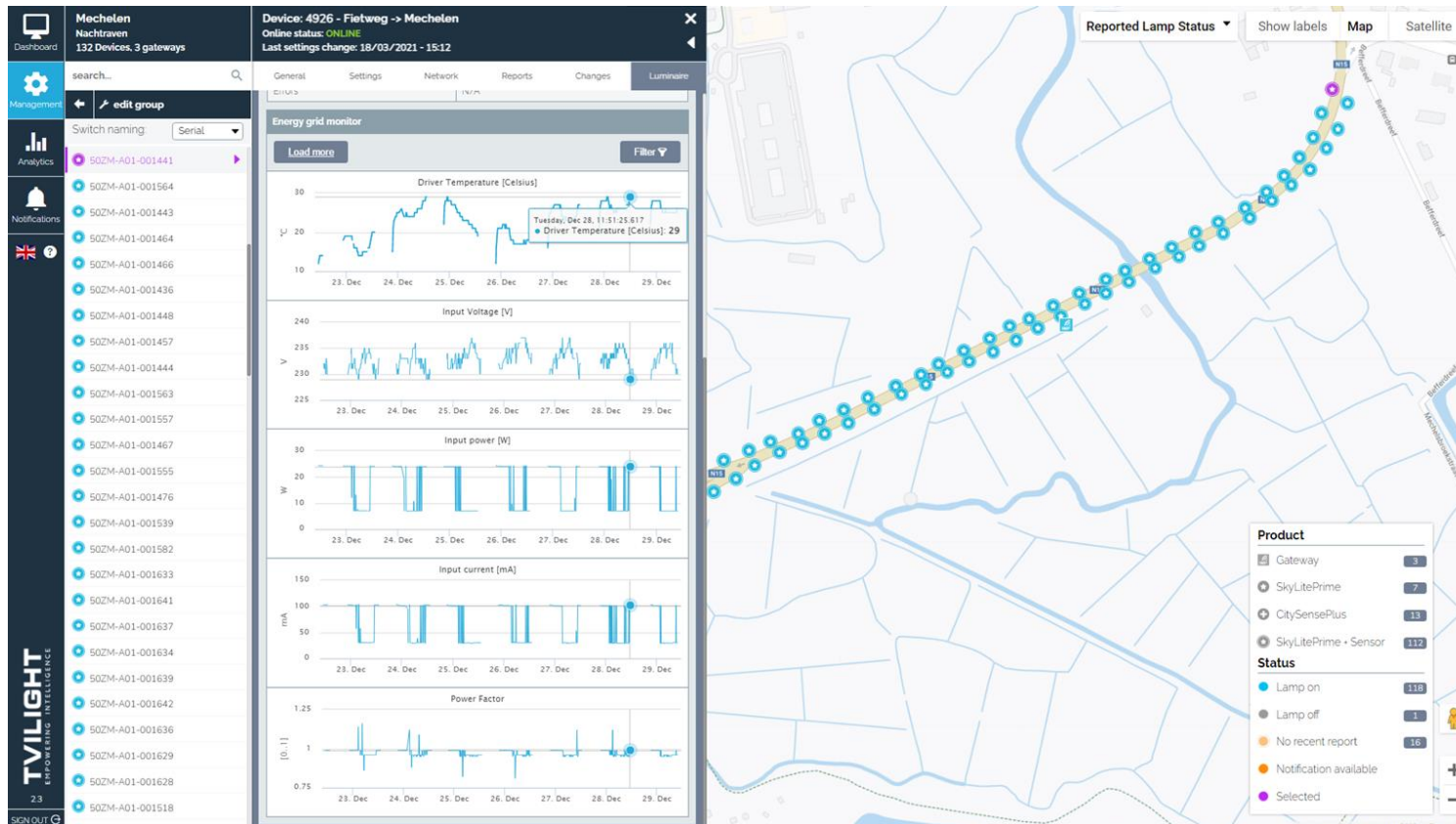

Gain insights to optimize lighting

- 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

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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
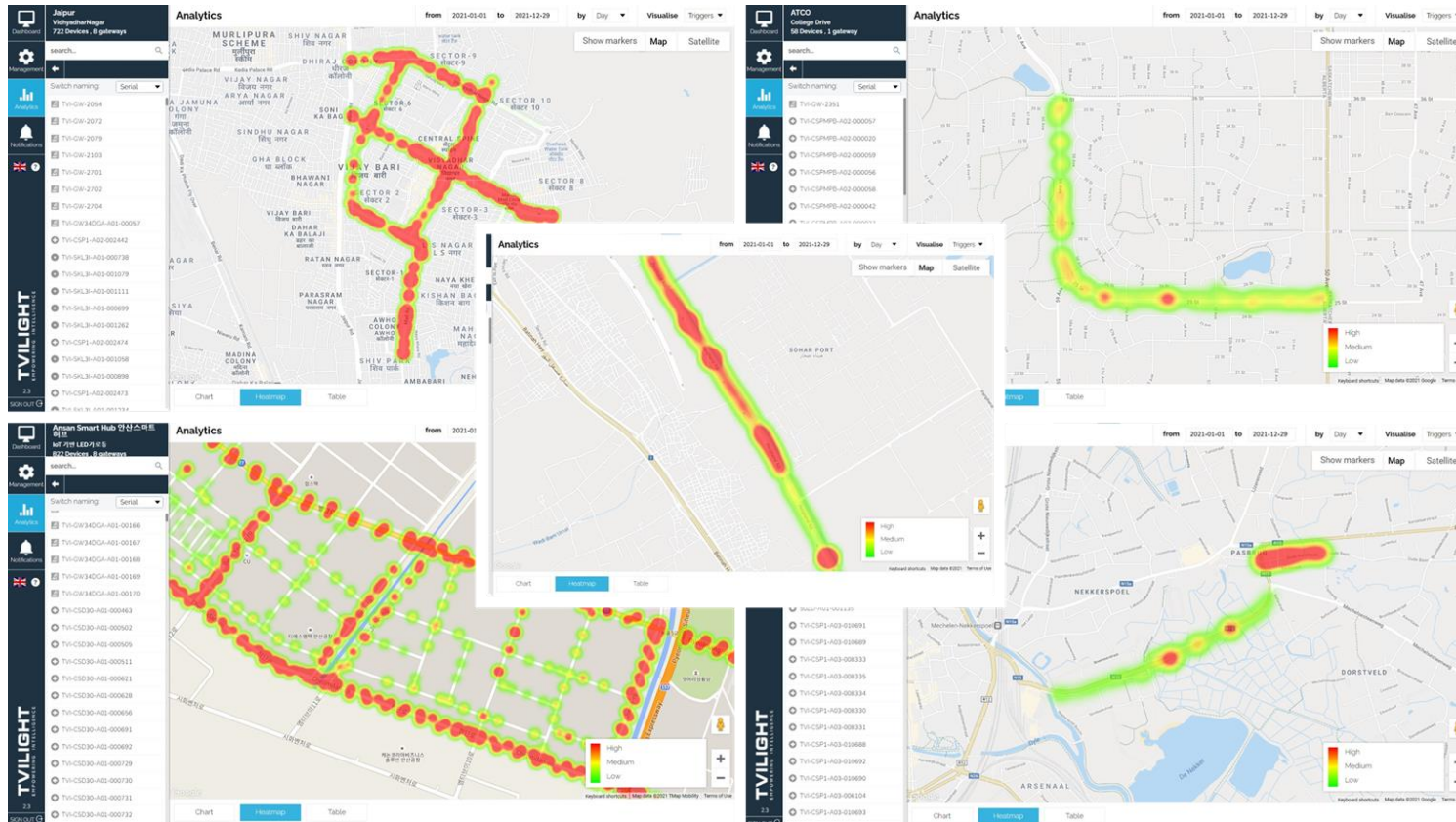- Input power
- Input current
- Power factor

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Visualise Entire City's Lighting
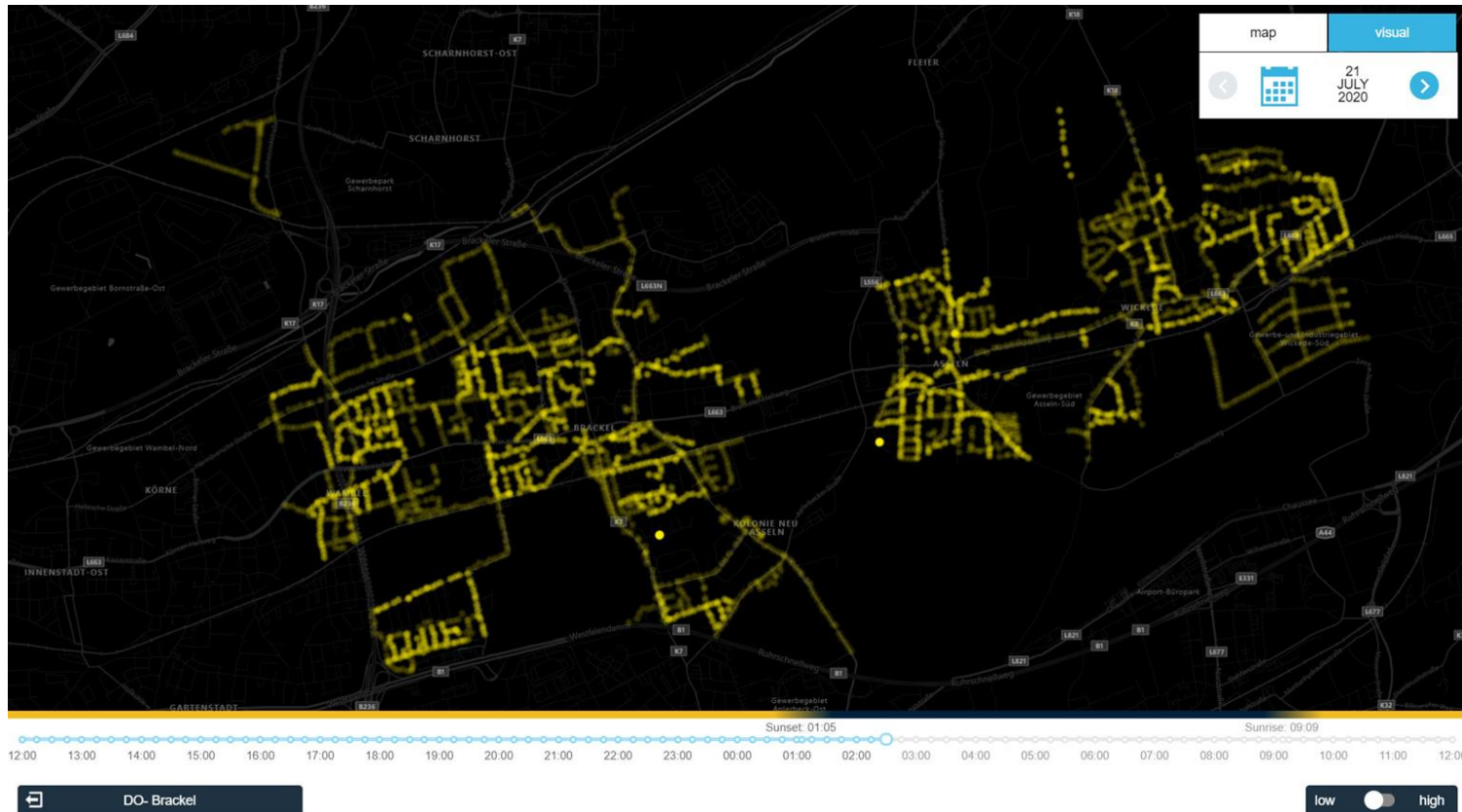
Beautiful visualization of Citywide Lighting

- See when precisely the citywide streetlights turn on, adjust brightness and turn off between sunrise and sunset

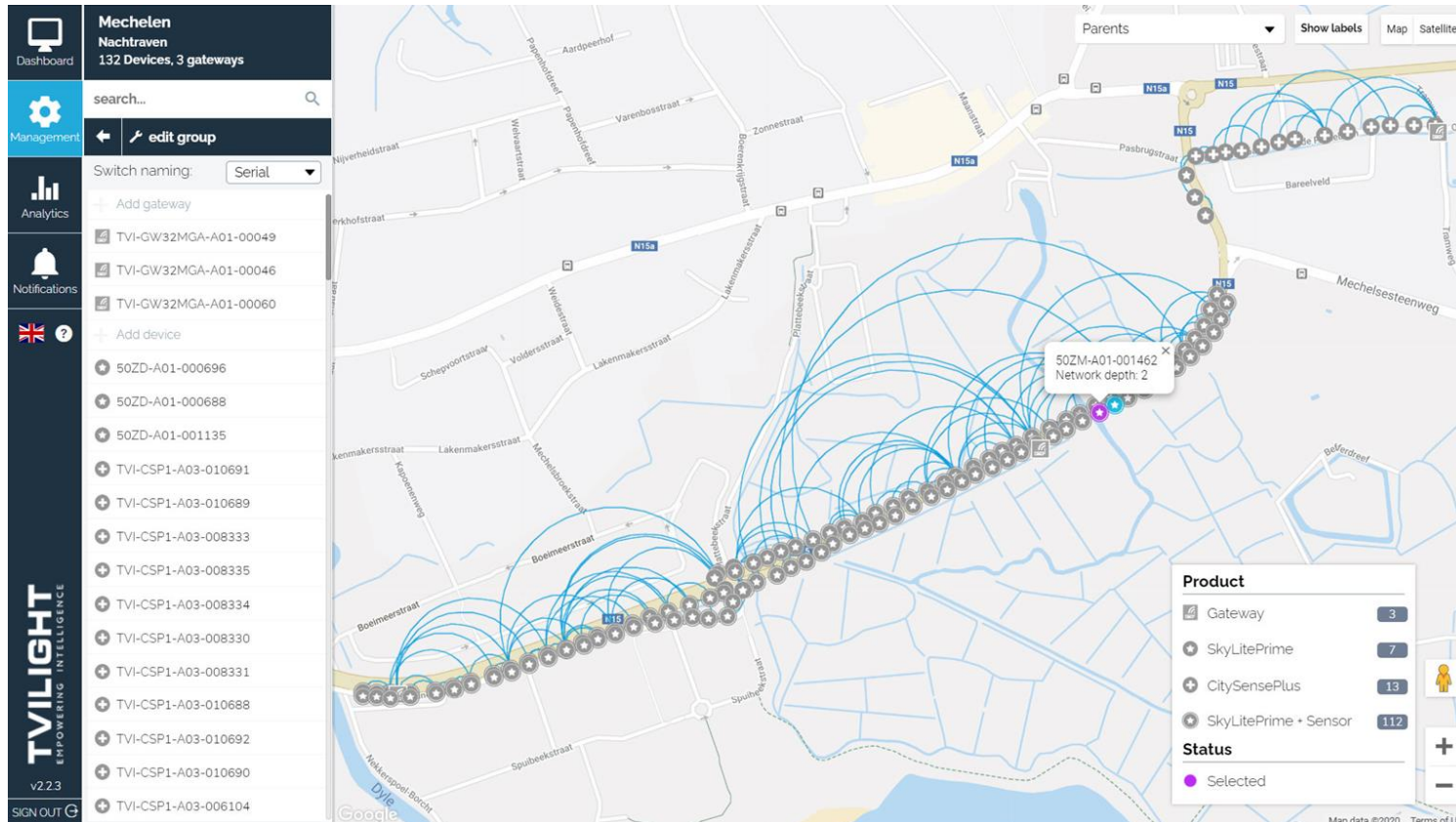- Visualize lighting for the future days / events

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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

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View Network Formation

See how devices are connected to each other

- Helps optimize or troubleshoot coverage issues

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Historical Reports and Logs

Detailed historical data

- Address existing faults by tracking similar issues that had occurred in the past

- View detailed log on CityManager

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Create a Safe Circle of Light for Citizens

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

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Different Map Views for Better Perception
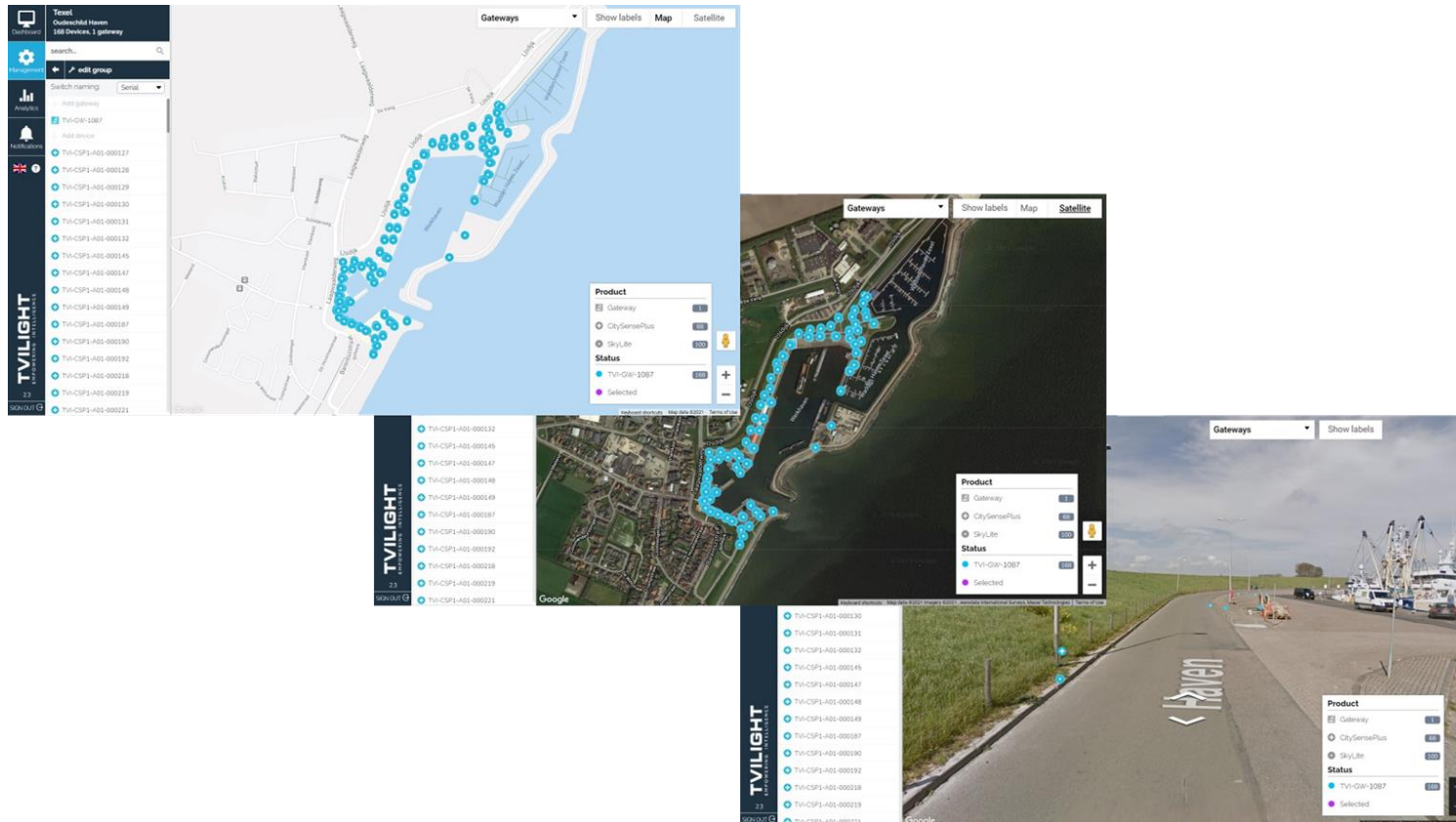
Understand your lighting terrain

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

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Welcoming Login
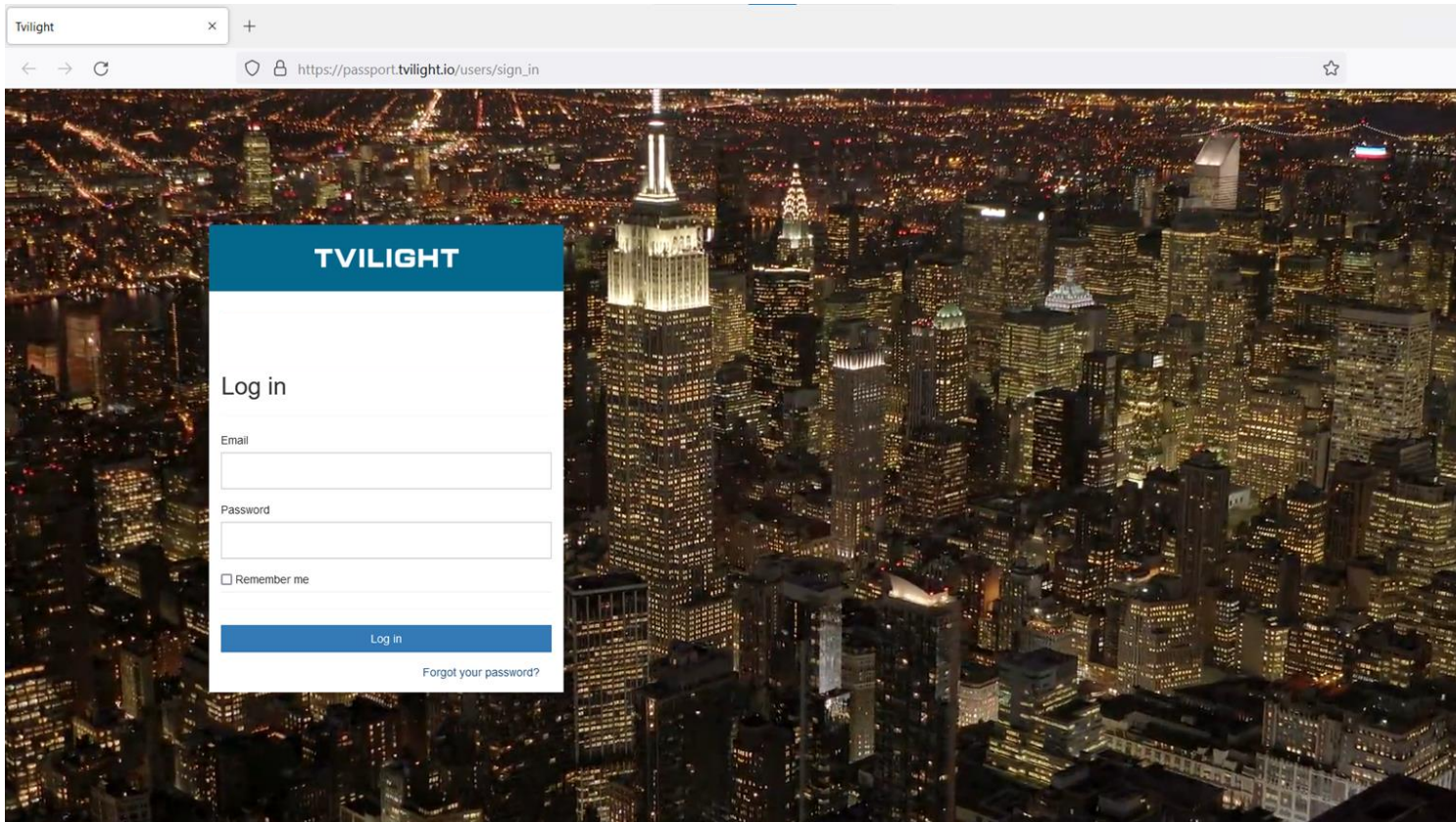
Refreshing login screen that inspires

- Dynamic login screen
- Customization option available

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Right Control with the Right Person

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

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Rules Engine to Interoperate City Infrastructure
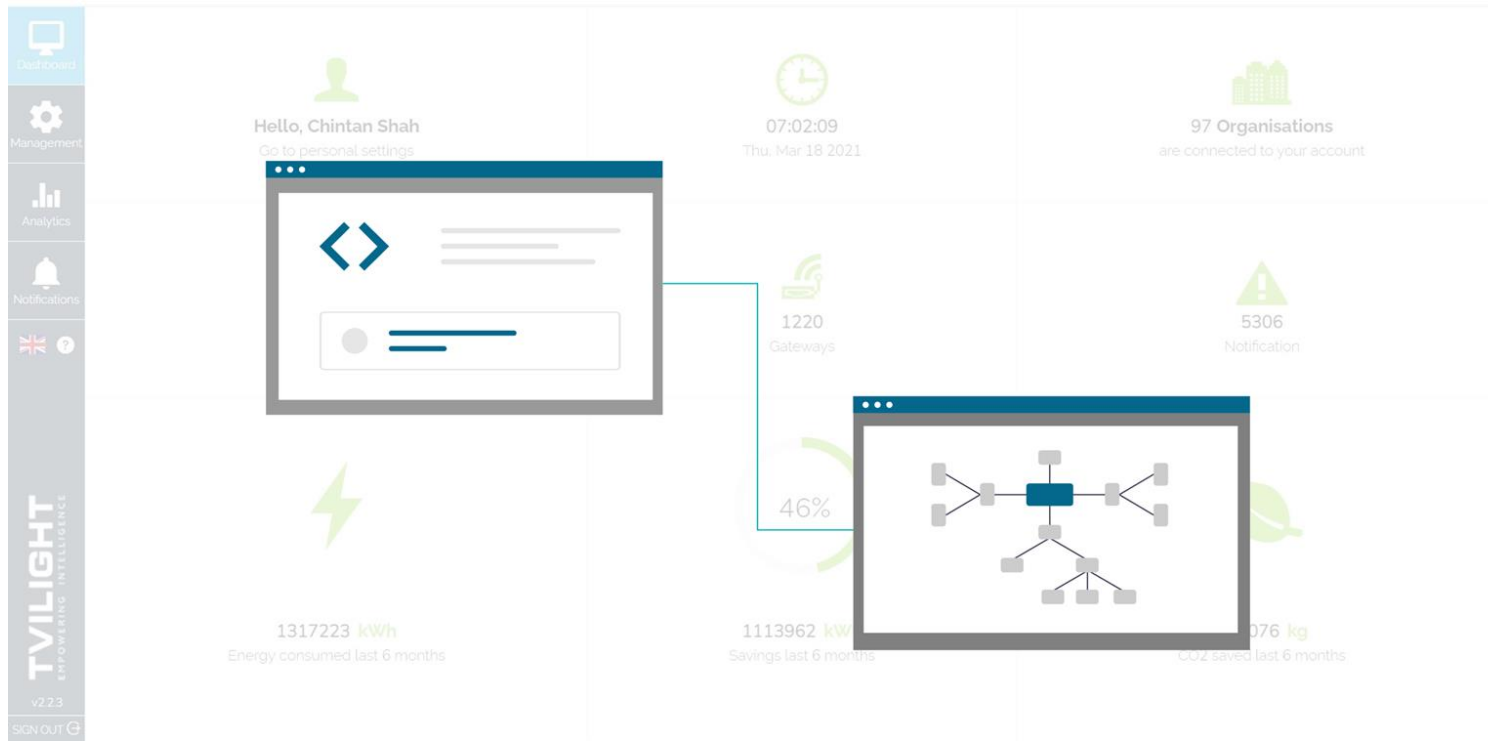
Customization on demand

▪ 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

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New Features with Regular Updates
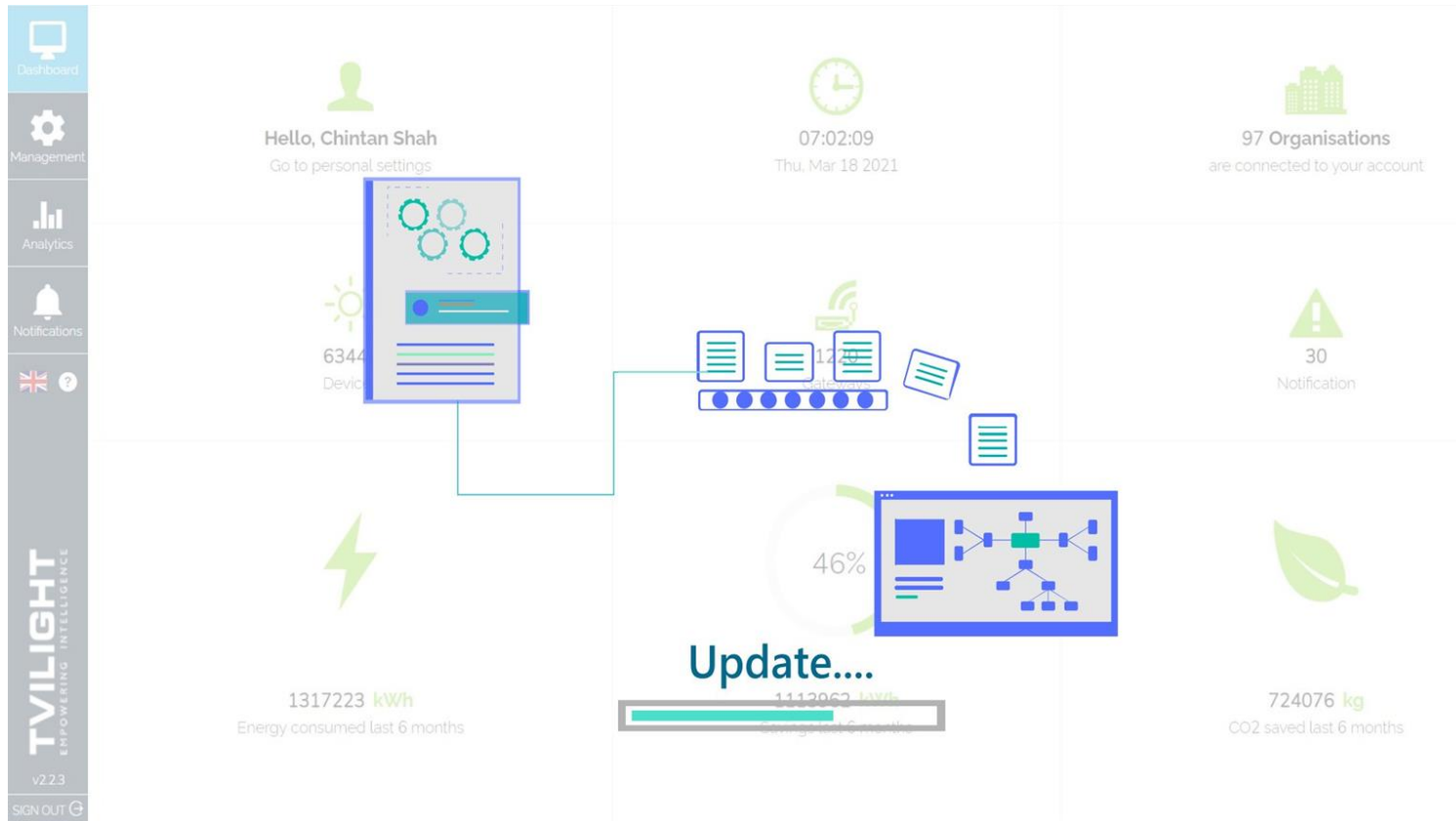
Addressing your needs is our priority

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

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CityManager with your own Branding
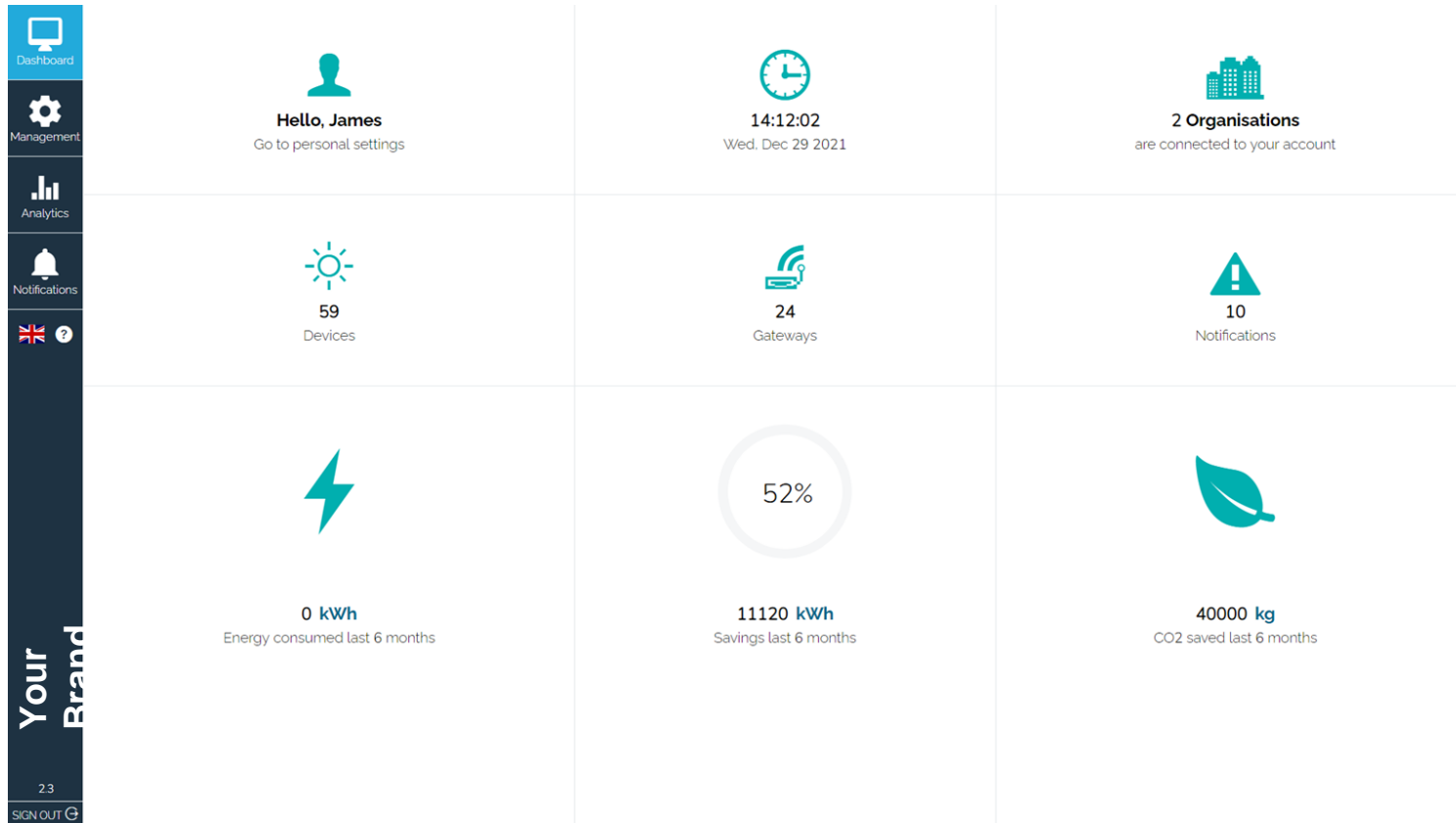
Version to reflect your own brand

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

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Manage Group Lighting

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

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Mobile Apps to Support Commissioning & Maintenance
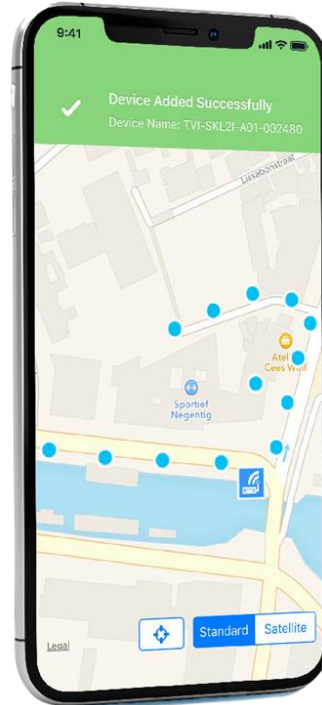
Scan & Go for easy commissioning

- 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

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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

- <u>Service Desk</u>

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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

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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

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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."

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Urban Streets

Industrial Zones

Residential Areas

Train Station / Railway Lines

Ports / Sea Terminals

University Campus

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!

TVILIGHT Projects B.V.

Beechavenue 162-180

1119 PS Schiphol-Rijk

Amsterdam, the Netherlands

www.tvilight.com

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