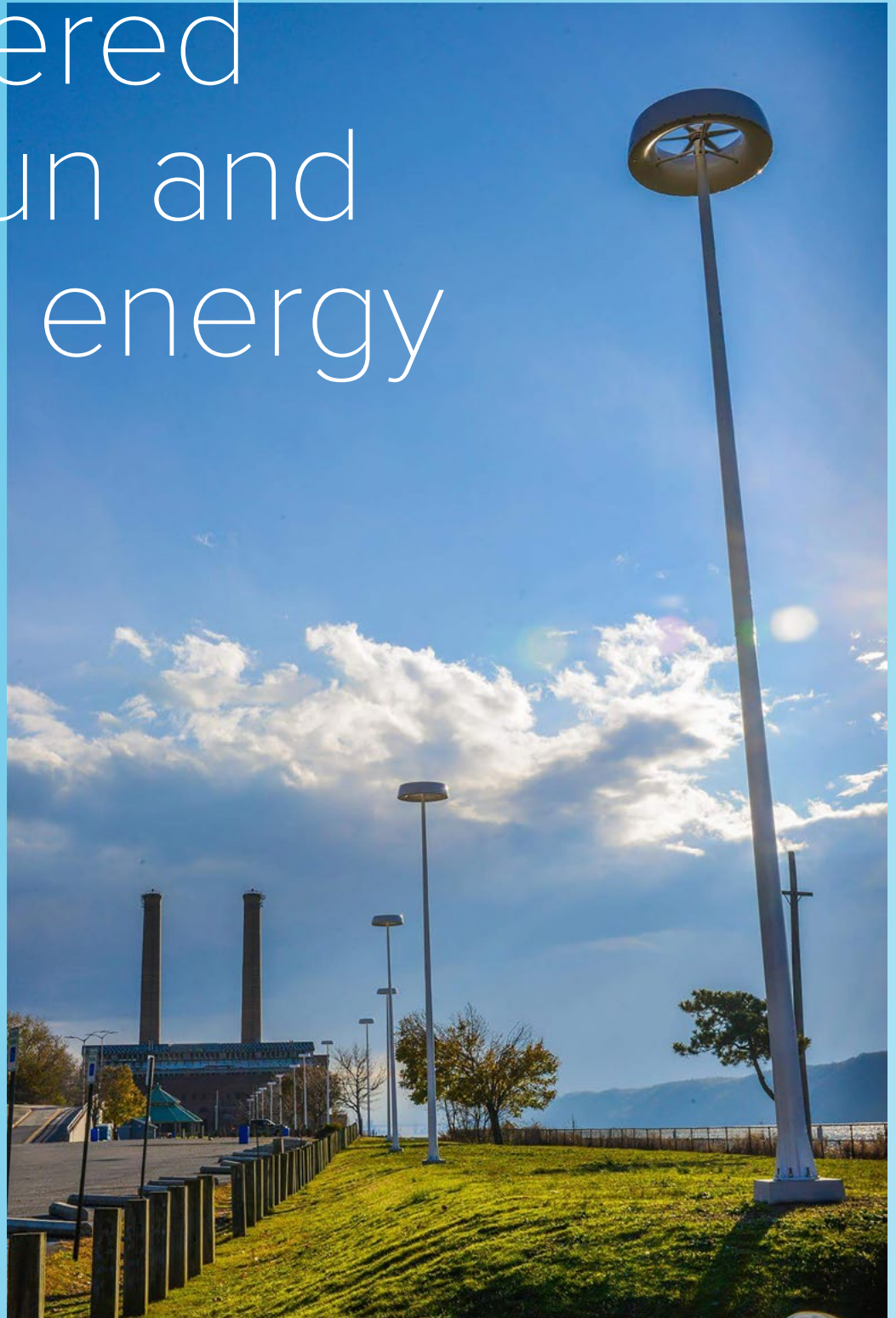


# Smart Cities Solutions

Powered  
by sun and  
wind energy



# Smart IoT Platform OMNILED 07 / 035

Smart IoT Lamppost powered by wind and solar with integrated energy storage and grid connection that enables multiple integrated applications.

With our solution its possible to transform a simple street light into a carbon neutral device that can be used for multiple IoT purposes.

The grid connected unit first uses the available renewable energy. Only if the batteries are depleted it will consume part of the energy from the grid.

With this, Omniflow systems achieve dramatic savings >90% compared with regular lighting and even >60% with standard LED.

Some projects can be done Off-Grid. Please contact us for site evaluation.

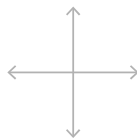


Member of  
**WORLD ALLIANCE** | by **SOLARIMPULSE**  
*for* EFFICIENT SOLUTIONS | FOUNDATION



**Technology**

Hybrid Wind & Solar



**Dimensions**

**Omniled 07**  
0.30 / 1.20 m (h x d)

**Omniled 035**  
0.15 / 0.60 m (h x d)



**Weight**

**Omniled 07**  
40 Kg

**Omniled 035**  
6 Kg



**Solar power**

**Omniled 07**  
60 W (peak)

**Omniled 035**  
15 W (peak)



**Wind power**

**Omniled 07**  
100 W (rated @11 m/s, steady)

**Omniled 035**  
15 W (rated @11 m/s, steady)



**Battery**

**Omniled 07**  
500 Wh C10 Lead Crystal

**Omniled 035**  
172 Wh C10 Lead Crystal



**Lighting power**

**Omniled 07**  
30/ 45/ 60/  
90/ 120/ 180

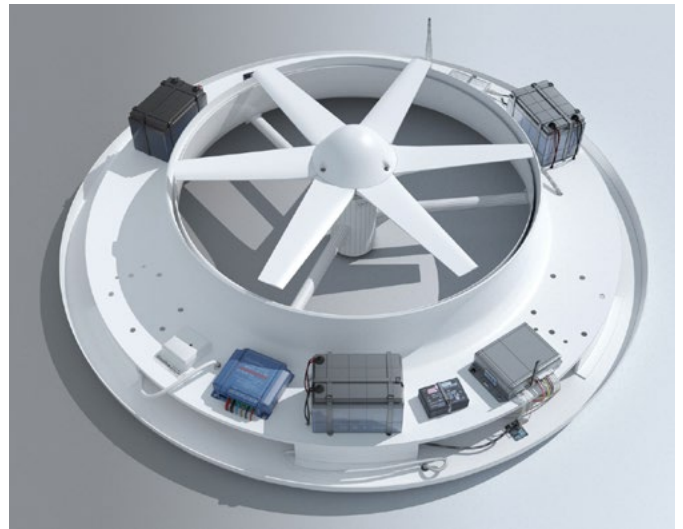
**Omniled 035**  
12/ 24/ 48



**Lumen luminance**

**Omniled 07**  
5100/ 6960/ 9300/  
12630/ 18600/ 25260 lm

**Omniled 035**  
2124/ 3684/ 7368 lm



### Pole height

**Omniled 035**  
6/ 8/ 10/ 12 m

**Omniled 035**  
3/ 4/ 5 m



### Wind power

**Omniled 07**  
100 W (rated @11 m/s, steady)

**Omniled 035**  
15 W (rated @11 m/s, steady)



### Generator

**Omniled 07 / Omniled 035**  
Direct drive iron-less start  
permanent magnet



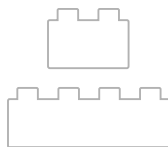
### Color temperature

**Omniled 07 / Omniled 035**  
2700 - 6000 K



### Control

**Omniled 07 / Omniled 035**  
OmniConnect IoT Platform



### Services

**Omniled 07 / Omniled 035**  
Wi-Fi, 4G/ 5G, Small Cell,  
IP cameras and Video Analytics,  
EV Charger, Edge computing

# OMNIFLOW SMART POLE



## SMART LUMINAIRE

Wind turbine  
Solar photovoltaic  
Built-in batteries



## INTEGRATED SERVICES

Ultra efficient LED system  
Computer vision / analytics  
Connectivity 5G / Wi-fi  
Telecom: Small Cells  
Air quality monitoring



## OUTDOOR DISPLAY

QLED  
Advertisement, informative



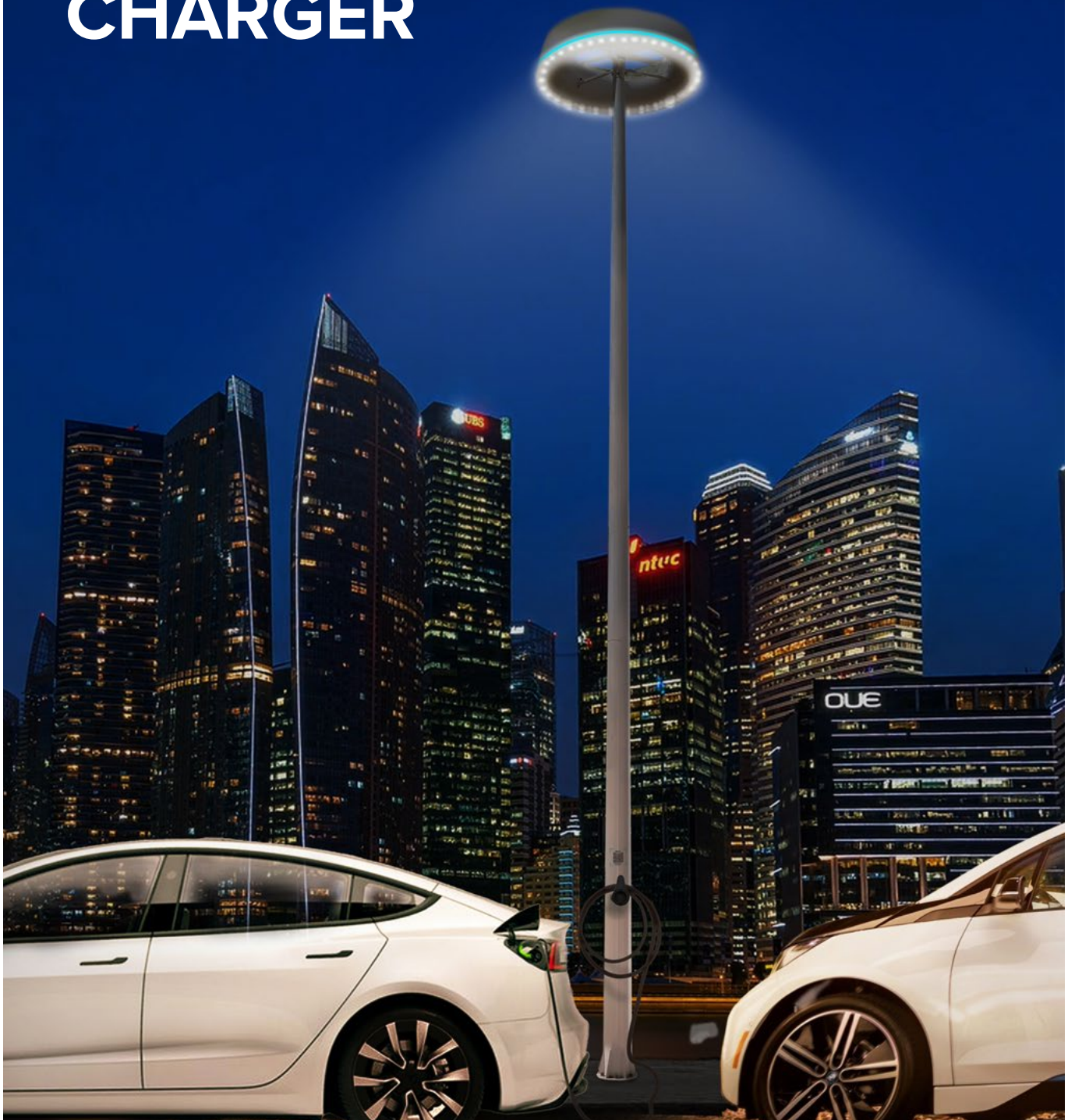
## OMNICHARGER

Integrated EV Charger up to 22 kW  
QR code payment system

The Omniflow Smart Luminaire is an innovative solution that transforms existing street lights into smart poles, bringing intelligence and sustainability to urban spaces without replacing infrastructure. Using renewable energy, it integrates IoT technology to boost energy

efficiency and reduce costs while expanding city connectivity. This versatile luminaire supports multiple applications, from enhancing public safety to monitoring environmental conditions and gathering urban data, making it ideal for the smart city of tomorrow.

# OMNI CHARGER



Our sustainable Smart luminaire powered by wind and solar with a built-in EV Charging Station is the perfect innovative product to facilitate the availability of charging points. All the elements are located inside the luminaire making it much easier to deploy using existing standard poles and power cables.

By embracing this technology, the city can achieve savings exceeding 90%, empowering the deployment of up to 650 EV chargers with a power output of 7kW or an impressive 1,500 chargers with a power output of 3kW.

[Visit our website for more details](#)



### Solar power

**Omniled 07**  
60 W (peak)

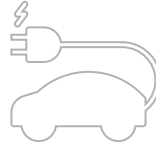
**Omniled 035**  
15 W (peak)



### Wind power

**Omniled 07**  
100 W (rated @11 m/s, steady)

**Omniled 035**  
15 W (rated @11 m/s, steady)



### EV Charger

**Omniled 07**  
up to 22 kW

**Omniled 035**  
up to 7.2 kW



### Color LED status

**Omniled 07 / Omniled 035**

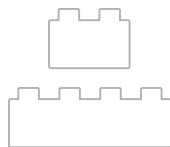
● green LED - available

● blue LED - charging



### Compliances

**Mobi.e approved**  
Protocol OCPP1.6J  
ISO15118  
IEC61851



### Services

**Omniled 07 / Omniled 035**  
Wi-Fi, 4G/ 5G, Small Cell,  
IP cameras and Video Analytics,  
Computer vision, Edge computing

# OMNICONNECT

## Digital Twin Urban Platform

### IoT Monitoring and Control

OmniConnect is the Omniflow's platform that gives you full visibility and control over your smart urban infrastructure.

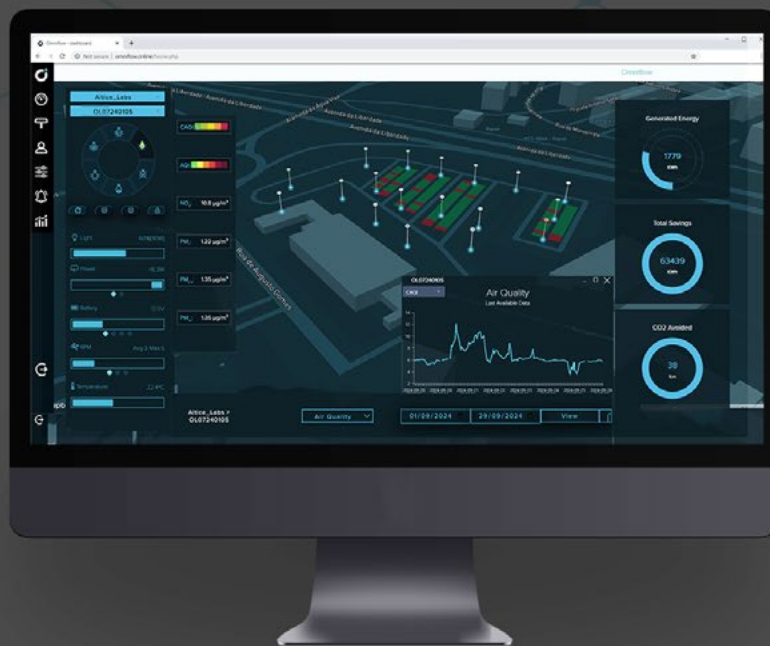
Through a real-time digital twin, you can monitor, manage, and optimize the performance of all Omniflow devices from a single, intuitive interface.

Designed for **seamless integration**, OmniConnect allows you to:

- Visualize your devices' status and key metrics in real-time.
- Remotely control and configure device settings.
- Analyze data to improve operational efficiency and sustainability.

With **AI-embedded driven services**, OmniConnect provides:

- **Cost Savings:** Reduce operational expenses by monitoring and maintaining devices remotely.
- **Improved Decision-Making:** AI-powered insights help you make smarter, faster decisions.
- **Simplified Maintenance:** Quickly detect and resolve issues before they escalate, reducing downtime.



cloud service by aws



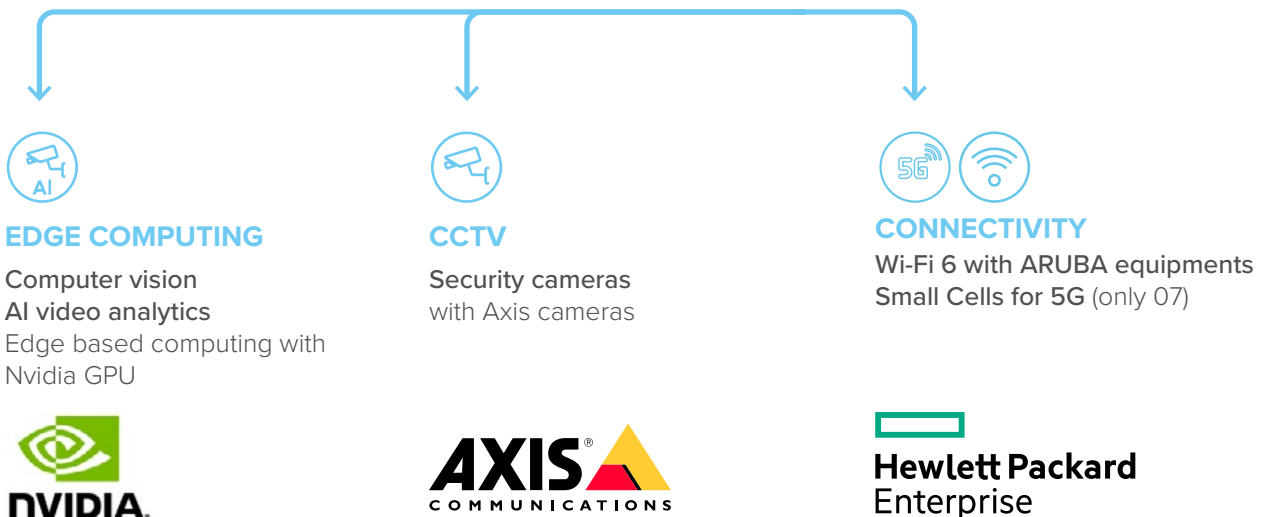
Take full control of your smart urban equipment with OmniConnect and drive efficiency, sustainability, and innovation through the power of AI.



# Smart City solutions

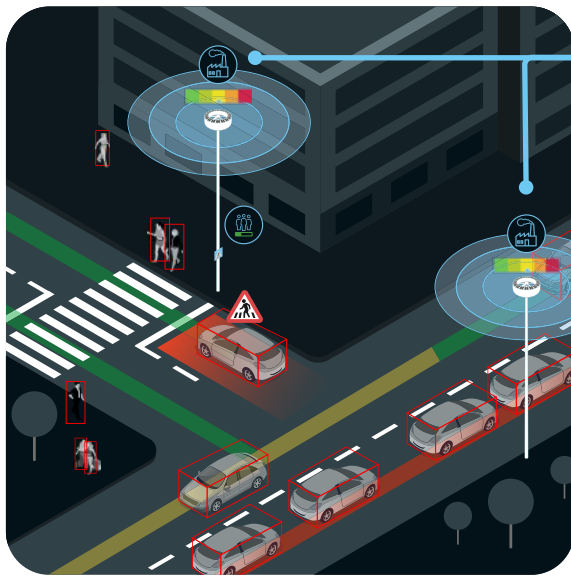
Our Omniflow solution is an integrated Smart Lamp Post powered by wind and solar with integrated battery storage. It transforms a regular street light into a sustainable smart infrastructure capable of housing multiple added value services like 5G/LTE Small Cell, public wifi, security cameras, EV charging, IoT sensors/gateways and even integrated audio for public communication. Our solution has the added benefit of being a resilient solution that can still provide lighting, surveillance and other functionality during grid outages through the integrated battery storage.

We can **use existing poles** in most cases because most of the services are integrated inside the Omniflow protective shell in the top so this transformation is much more economical avoiding expensive and time consuming civil works. To transform a simple old light into a smart pole you will only need to change the head of the unit.



# Air Quality Monitoring

As cities expand and traffic congestion worsens, the combustion of fossil fuels in vehicles becomes a significant contributor to air pollution. To combat this challenge effectively, **accurate and real-time data on roadside air quality is indispensable.** This is where Omniflow's Air Quality Sensor steps in, providing a comprehensive solution for monitoring pollution caused by the combustion of fossil gases in traffic.



## BUILT-IN SENSORS



## EDGE COMPUTING

Computer vision / analytics  
 Optical sensors  
 ≈ 95% accurate  
 Connectivity 5G | LTE small cell  
 IoT cloud based control system

# AI/ML Traffic Analytics

Discover how our advanced traffic flow monitoring system revolutionizes urban environments by optimizing vehicle and pedestrian movement, enhancing safety, and transforming city experiences.

Traffic flow with Omniflow utilizes on the edge computer vision technologies, processing data locally for reduced data consumption and privacy protection with no video stream being sent out of the Omniled. Our system offers a multitude of applications for smart cities, including:

- » [Optimizing Traffic Signals](#)
- » [Enhancing Public Transportation](#)
- » [Improving Road Safety](#)
- » [Urban Planning](#)
- » [Event Management](#)

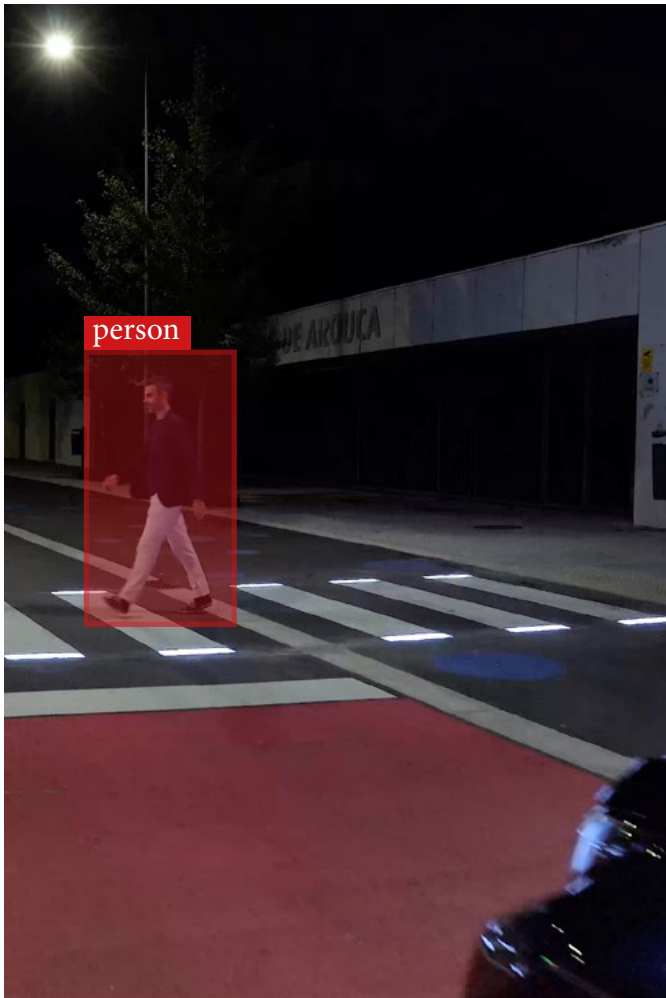
## Air Quality Sensor

### Technical Data

|            |                                                        |
|------------|--------------------------------------------------------|
| Gas        | NO <sub>2</sub>                                        |
| Range      | 0 - 1000 µg/m <sup>3</sup>                             |
| Resolution | 0,01 µg/m <sup>3</sup>                                 |
| Particles  | PM <sub>1</sub>   PM <sub>2,5</sub>   PM <sub>10</sub> |
| Range      | 0 - 500 µg/m <sup>3</sup>                              |
| Resolution | 0,01 µg/m <sup>3</sup>                                 |

## Edge Computing System

| Technical Data  | Omniled 035 | Omniled 07 |
|-----------------|-------------|------------|
| Optical sensors | up to 2     | up to 4    |
| Resolution      | Full HD     |            |
| AI Performance  | 472 GFLOPS  |            |

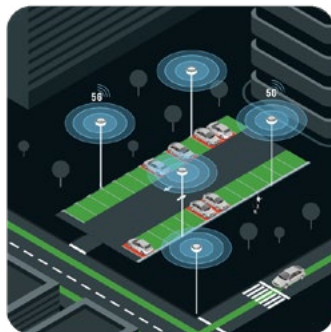


# AI/ML

## People Counting

Discover how our advanced people counting system revolutionizes urban environments by optimizing traffic, enhancing safety, and transforming city experiences. People counting with Omniflow utilizes on the edge computer vision technologies, processing data locally for reduced data consumption and privacy protection with no video stream being sent out of the Omniled. Our system offers a multitude of applications for smart cities, including:

- » [Managing Public Spaces](#)
- » [Traffic Management](#)
- » [Retail Analytics](#)
- » [Security and Safety](#)
- » [Urban Planning](#)



### COMPUTER VISION

**Optical sensors**  
 ≈ 95% accurate  
 up to 60 parking spaces  
 per Smart Lamppost



### EDGE COMPUTING

IoT cloud based  
 monitoring and control system  
 Connectivity 5G / Wi-Fi

# AI/ML

## Smart Parking

Smart parking with Omniflow utilizes on the edge computer vision technologies, processing data locally for reduced data consumption and privacy protection. Control room operators can easily flag parking offenses like incorrect space occupation through the OmniConnect dashboard, and parking users can easily identify available parking spaces. This system benefits cities by **reducing congestion, improving air quality, and ensuring equitable parking access**. Private parking operators also gain from optimized space utilization and enhanced customer satisfaction.

#### Real-Time Occupancy

- spot by spot
- occupancy rates

#### Export data for API integration:

- displays
- external platform

#### Alerts for parking offenses like:

- no parking areas
- special parking spaces
- EV charger spaces occupied without use

**Data storage up to 3 years**

### Edge Computing System

| Technical Data  | Omniled 035 | Omniled 07 |
|-----------------|-------------|------------|
| Optical sensors | up to 2     | up to 4    |
| Resolution      | Full HD     |            |
| AI Performance  | 472 GFLOPS  |            |

# Tech specs

## Omniled 07

### Models

|                      |                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------|
| OMNILED Smart Hybrid | Wind & Solar generation with built in battery, optional lighting (see Smart Lighting for options) |
|----------------------|---------------------------------------------------------------------------------------------------|

### Wind Turbine

|            |                                                                                                    |
|------------|----------------------------------------------------------------------------------------------------|
| Generator  | Permanent magnet generator – Axial flux type                                                       |
| Diffuser   | Single-element flatback shroud                                                                     |
| Rotor      | 6 blades, reinforced polyamide PAG<br>Dimension: 0.70m diameter                                    |
| Controller | 12VDC Programmable PWM                                                                             |
| Noise      | <28 db(A) at 25m @ 8m/s (very low)                                                                 |
| Power      | 100W rated power (@11 m/s, steady)                                                                 |
| Regulation | Turbine stops rotating when system is fully charged, wind is too high or by remote manual shutdown |

### Solar

|            |                                                                                   |
|------------|-----------------------------------------------------------------------------------|
| Solar Cell | n-type, monocrystalline Si, >22%Eff @STC                                          |
| Controller | MPPT Solar Charge Controller                                                      |
| Power      | 60Wp, 0 degrees<br>Optional: Additional Mast Integrated Panels from 70Wp to 150Wp |

### Battery

|              |                                                                        |
|--------------|------------------------------------------------------------------------|
| Battery Bank | 500Wh (3x 12V 14Ah C10 Lead Crystal)<br>Optional: Lithium Battery Pack |
| Charging     | Initial Charging Current 4.2A/14.7V/ (25°C)                            |
| Cycle Life   | Typical 3,392 cycles (@40% DOD, 25°C), Max 6,000+ cycles               |

### Smart Lighting

|                  |                                                                                                                                                                                                                                                                                                                  |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Luminaire        | 15, 30 or 60 LED array<br>Lens: Optical Grade PMMA<br>5100 lm (30W)<br>6960 lm (45W)<br>12630 lm (90W)<br>18600 lm (120W)<br>25260 lm (180W)<br>Efficiency 170 lm/W at 350mA (30W)<br>Efficiency 196 lm/W at 125mA (10W)<br>Light Pattern: Type III & Type V<br>Optional: from 2700K - 6000K Light Temperatures  |
| Control          | OmniConnect IoT Platform<br>Remote On/Off/Dim with Timer, Time control, Auto Night/Day<br>Operation mode defined by 3 battery voltage levels<br>Auto DIM via integrated infrared motion sensor<br>2 (Two) additional functionalities independently programmed and triggered by night/day, Time or Sensors events |
| Lighting Spacing | Indicative spacing (simulation recommended):<br>35-40m (12m mast)<br>25-30m (8m mast)<br>20-25m (6m mast)                                                                                                                                                                                                        |

### Mast

|          |                                                                                        |
|----------|----------------------------------------------------------------------------------------|
| Height   | 6m, 8m, 10m or 12m                                                                     |
| Material | Galvanized Steel                                                                       |
| Paint    | C3 or C4 paint scheme (optional)<br>Color: RAL 9010<br>*only use approved mast designs |

### Body Shell

|              |                                                                                                              |
|--------------|--------------------------------------------------------------------------------------------------------------|
| Material     | Composite Fiberglass/Resin<br>Transparent to radio waves                                                     |
| Finishing    | Marine grade gel coat                                                                                        |
| Colour       | RAL 9010<br>Optional: Other colours available by request.                                                    |
| Space inside | Can fit 3 (Three) objects up to: 270 x 400 x 50mm<br>Antennas or other electronics. See Optional accessories |

### OmniBrain

|                 |                                                                                                                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Energy          | AI energy and functionalities management system<br>Connection to: Wind, Solar, Battery, Sensors, LED drivers and extra functionalities. |
| Light functions | PWM for LED driver control<br>2 (Two) motion sensor control (infrared*; optical or radar)<br>*1 (One) infrared motion sensor included   |
| Accessory Ports | 2 (Two), 12VDC/5A (Max) each                                                                                                            |
| Communications  | Communication link via integrated industrial 2G/ 4G modem with included Global SIM card                                                 |
| Built in memory | Stores 5 days hourly based vital data. Voltage (V)<br>Current (A) Rotor Speed (RPM) Temperature (°C)                                    |

### General

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions              | 0.3m height, 1.2m diameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Weight                  | 40Kg (500Wh batteries & without optionals)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Nominal Voltage         | 12VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Ingress Protection      | IP55                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Impact Protection       | IK08                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Mounting                | Mounts on 80mm tube<br>2 (Two) crossed stainless steel M10 bolts for fixing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Transportation          | Package dimensions: 1.3m x 1.3m x 0.35m<br>Foam protected<br>Up to 5 units stackable<br>20 units on 20" container<br>45 Units on 40" container                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Approvals and Standards | CE and UKCA Marking<br>UL/CSA Listed – UL 6142, CSA 22.2, UL 1004-1, UL 1004-4, UL1598<br>Eye Safety IEC 62471<br>Safety IEC 60598, IEC/EN 60529, IEC 62031, UL 8750 CAN/ CSA No. 250.13<br>IEC 61400-2 Small wind design<br>2005/88/EC Noise limits<br>ISO 2394:1998(E) Reliability for structures<br>EMC Directive 2014/30/EU – EN 61000-3-2, EN 61000-3-3, EN55015, EN61547-1<br>Low Voltage Directive (LVD) 2016/95/EC                                                                                                                                                                                                                                                                                         |
| Grid-Tie (optional)     | Input Voltage: 230VAC/50Hz or 110VAC/60Hz<br>Isolation Class: Class II<br>Ingress Protection: IP 67                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Operating conditions    | Temperature: -20 to 55 °C<br>Max wind speed: 45m/s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Protection              | 20A 32V fuse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Optional Accessories    | IoT integration inside Body Shell for multi-application:<br>- Wifi Ethernet Router AP<br>- Wifi Ethernet Fiberoptic Router AP<br>- LoRA Gateway (under consultation)<br>- Transmission - 4G/ 5G Modem, ethernet, fiber, P2P, P2MP<br>- Small Cell integration (under consultation)<br>- Weather station<br>- Environmental sensors (under consultation)<br>- Surveillance cameras:<br>IP modular camera (single dual or quad lens)<br>integrated 1080p WDR Forensic Capture<br>IP PTZ Camera (mast mounted)<br>IP Thermal Camera (mast mounted)<br>Video analytics: Smart parking, perimeter security, smoke and fire detection, audio processing, people counting, heat map...<br>**only use approved accessories |
| Monitoring Software     | Remote web management cloud based<br>Open API for Smart City platform integration<br>Realtime reporting and control of device subsystems and accessories<br>AI and machine learning capability<br>User and Administrator Level control<br>Configuration and reading of 92 telemetry parameters<br>Alarms settings<br>Maintenance triggers by proprietary algorithm<br>Single unit and group configuration<br>Multi-unit light synchronization by Time Control function<br>Real time unit test (Shows actual program being used by blinking code on lighting system)<br>Day, Week, Month, Year data report                                                                                                          |
| Warranty                | 2-year warranty, Extended EOL support option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



**ALL UNITS ARE GRID CONNECTED**  
**FOR OFF-GRID PROJECTS, SITE ENERGY EVALUATION IS NECESSARY,**  
**PLEASE CONTACT OMNIFLOW**  
**A. OMNIFLOW® IS REGISTERED TRADEMARK IN VARIOUS JURISDICTIONS**  
**B. OMNIFLOW® PRODUCTS ARE PROTECTED BY INDUSTRIAL PATENT AND DESIGN PATENT**  
**IN VARIOUS JURISDICTIONS**

# Tech specs

## Omniled 035

### Models

|                      |                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------|
| OMNILED Smart Hybrid | Wind & Solar generation with built in battery, optional lighting (see Smart Lighting for options) |
|----------------------|---------------------------------------------------------------------------------------------------|

### Wind Turbine

|            |                                                                                                    |
|------------|----------------------------------------------------------------------------------------------------|
| Generator  | Permanent magnet generator – Axial flux type                                                       |
| Diffuser   | Single-element flatback shroud                                                                     |
| Rotor      | 6 blades, reinforced polyamide PAG<br>Dimension: 0.35m diameter                                    |
| Controller | 12VDC Programmable PWM                                                                             |
| Noise      | <28 db(A) at 25m @ 8m/s (very low)                                                                 |
| Power      | 15W peak power                                                                                     |
| Regulation | Turbine stops rotating when system is fully charged, wind is too high or by remote manual shutdown |

### Solar

|            |                                                                                  |
|------------|----------------------------------------------------------------------------------|
| Solar Cell | n-type, monocrystalline Si, >22%Eff @STC                                         |
| Controller | MPPT Solar Charge Controller                                                     |
| Power      | 15Wp, 0 degrees<br>Optional: Additional Mast Integrated Panels from 35Wp to 50Wp |

### Battery

|              |                                                                       |
|--------------|-----------------------------------------------------------------------|
| Battery Bank | 172Wh (2x6V 7.2Ah C10 Lead Crystal)<br>Optional: Lithium Battery Pack |
| Charging     | Initial Charging Current 4.2A 14.7V/ (25°C)                           |
| Cycle Life   | Typical 3,392 cycles (@40% DOD, 25°C), Max 6,000+ cycles              |

### Smart Lighting

|                  |                                                                                                                                                                                                                                                                                                                  |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Luminaire        | 12 LED array<br>Lens: Optical Grade PMMA<br>2124 lm (12W)<br>3684 lm (24W)<br>7368 lm (48W)<br>Efficiency 170 lm/W at 350mA (12W)<br>Efficiency 196 lm/W at 125mA (4W)<br>Light Pattern: Type III & Type V<br>Optional: from 2700K - 6000K Light Temperatures                                                    |
| Control          | OmniConnect IoT Platform<br>Remote On/Off/Dim with Timer, Time control, Auto Night/Day<br>Operation mode defined by 3 battery voltage levels<br>Auto DIM via integrated infrared motion sensor<br>2 (Two) additional functionalities independently programmed and triggered by night/day, Time or Sensors events |
| Lighting Spacing | Indicative spacing (simulation recommended):<br>8-12m (3m mast)<br>10-15m (4m mast)<br>12-18m (5m mast)                                                                                                                                                                                                          |

### Mast

|          |                                                                                        |
|----------|----------------------------------------------------------------------------------------|
| Height   | 3m, 4m or 5m                                                                           |
| Material | Galvanized Steel                                                                       |
| Paint    | C3 or C4 paint scheme (optional)<br>Color: RAL 9010<br>*only use approved mast designs |

### Body Shell

|              |                                                                                                              |
|--------------|--------------------------------------------------------------------------------------------------------------|
| Material     | Composite Fiberglass/Resin<br>Transparent to radio waves                                                     |
| Finishing    | Marine grade gel coat                                                                                        |
| Colour       | RAL 9010<br>Optional: Other colours available by request                                                     |
| Space inside | Can fit 3 (Three) objects up to: 135 x 200 x 25mm<br>Antennas or other electronics. See Optional accessories |

### OmniBrain

|                 |                                                                                                                                         |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Energy          | AI energy and functionalities management system<br>Connection to: Wind, Solar, Battery, Sensors, LED drivers and extra functionalities. |
| Light functions | PWM for LED driver control<br>2 (Two) motion sensor control (infrared*; optical or radar)<br>*1 (One) infrared motion sensor included   |
| Accessory Ports | 2 (Two), 12VDC/5A (Max) each                                                                                                            |
| Communications  | Communication link via integrated industrial 2G/ 4G modem with included Global SIM card                                                 |
| Built in memory | Stores 5 days hourly based vital data. Voltage (V)<br>Current (A) Rotor Speed (RPM) Temperature (°C)                                    |

### General

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions              | 0.15m height, 0.6m diameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Weight                  | 6Kg (172Wh)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Nominal Voltage         | 12VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Ingress Protection      | IP55                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Impact Protection       | IK08                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Mounting                | Mounts on 45mm tube<br>Fixes with 3 self drilling screws<br>Optional: Pole Adapter for different diameter mounts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Transportation          | Package dimensions : 0.65m x 0.65m x 0.175m<br>Foam protected<br>Up to 10 units stackable<br>295 units on 20" container<br>594 units on 40" container                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Approvals and Standards | CE and UKCA Marking<br>UL/CSA Listed – UL 6142, CSA 22.2, UL 1004-1, UL 1004-4, UL1598<br>Eye Safety IEC 62471<br>Safety IEC 60598, IEC/EN 60529, IEC 62031, UL 8750 CAN/ CSA No. 250.13<br>IEC 61400-2 Small wind design<br>2005/88/EC Noise limits<br>ISO 2394:1998(E) Reliability for structures<br>EMC Directive 2014/30/EU – EN 61000-3-2, EN 61000-3-3, EN55015, EN61547-1<br>Low Voltage Directive (LVD) 2016/95/EC                                                                                                                                                                                 |
| Grid-Tie (optional)     | Input Voltage: 230VAC/50Hz or 110VAC/60Hz<br>Isolation Class: Class II<br>Ingress Protection: IP 67<br>Rated Power: 30-80W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Operating conditions    | Temperature: -20 to 55 °C<br>Max wind speed: 45m/s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Protection              | 20A 32V fuse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Optional Accessories    | IoT integration inside Body Shell for multi-application:<br>-Wifi Ethernet Router AP<br>-Transmission - 4G/ 5G Modem, ethernet, fiber, P2P, P2MP<br>-Environmental sensors (under consultation)<br>-Surveillance cameras:<br>IP modular camera (single lens) integrated 1080p WDR<br>Forensic Capture<br>IP PTZ Camera (mast mounted)<br>IP Thermal Camera (mast mounted)<br>Video analytics: Smart parking, perimeter security, smoke and fire detection, audio processing, people counting, heat map...<br>**only use approved accessories                                                               |
| Monitoring Software     | Remote web management cloud based<br>Open API for Smart City platform integration<br>Realtime reporting and control of device subsystems and accessories<br>AI and machine learning capability<br>User and Administrator Level control<br>Configuration and reading of 92 telemetry parameters<br>Alarms settings<br>Maintenance triggers by proprietary algorithm<br>Single unit and group configuration<br>Multi-unit light synchronization by Time Control function<br>Real time unit test (Shows actual program being used by blinking code on lighting system)<br>Day, Week, Month, Year data reports |
| Warranty                | 2-year warranty, Extended EOL support option                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |



**ALL UNITS ARE GRID CONNECTED**  
**FOR OFF-GRID PROJECTS, SITE ENERGY EVALUATION IS NECESSARY, PLEASE CONTACT OMNIFLOW**  
**A. OMNIFLOW® IS REGISTERED TRADEMARK IN VARIOUS JURISDICTIONS**  
**B. OMNIFLOW® PRODUCTS ARE PROTECTED BY INDUSTRIAL PATENT AND DESIGN PATENT IN VARIOUS JURISDICTIONS**



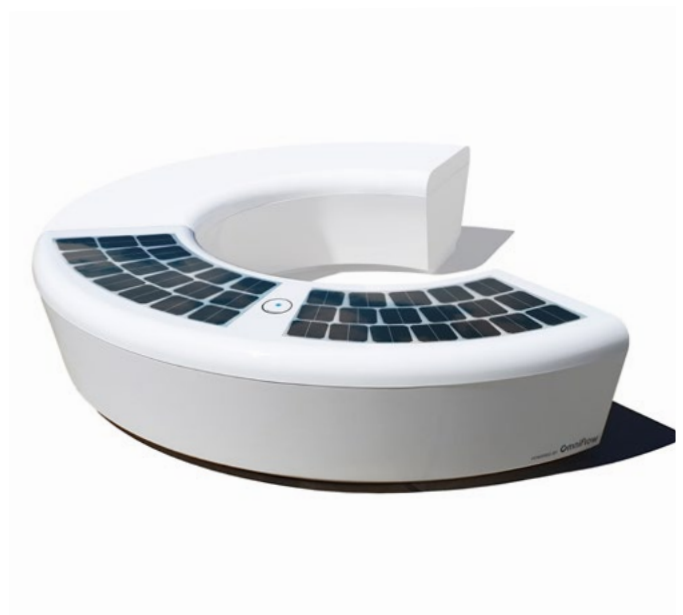
# Omnibench

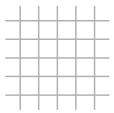
Omnibench is a smart urban furniture designed for public spaces and patented by Omniflow.

The contemporary design is inspired in the Omniled Smart Lamppost shape and can interact with this product with multiple optional features like, architectural lighting, USB or wireless charging points and electric bicycles docking stations.

The water tight bench can be opened and be used for other technical purposes like the installation of a camouflaged base station for a telecommunications provider or simply more batteries.

The Omnibench can be filled with sand/water or simply bolted to the ground.

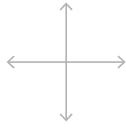




### Features

Modular Design  
Solar Optional

IoT monitor and control



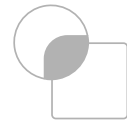
### Dimensions

2.16/ 0.5 m (w x h)



### Weight

50 Kg per module



### Finishing

Marine grade gel coat



### Color

RAL 9010



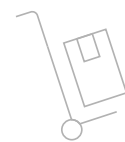
### Space inside

Can fit 3 (three) objects up to:  
500 x 500 mm  
1.25 m (external radius)



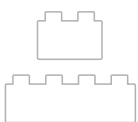
### Installation

Bolted to the ground  
Filled with water  
Filled with sand



### Transportation

Package dimensions:  
2.20 x 0.95 x 0.50 m  
Up to 6 units stackable



### Optional

Architectural lighting  
USB Charger ports  
Wireless Induction Charger  
Wi-Fi AP  
LoRA Gateway  
Small Cell Basestation

# Tech specs

## Omnibench

### Models

OmniBench

**Solar** Optional

Solar Cell n-type, monocrystalline Si, >22%Eff @STC

Controller MPPT Solar Charge Controller

Power 120Wp, 0 degrees

**Battery** Optional

Battery Bank 500Wh (3x 12V 14Ah C10 Lead Crystal)  
Up to 2400Wh (2x 100Ah 12V C10 Lead Crystal)

Charging Initial Charging Current 4.2A14.7V/ (25°C)

Cycle Life Typical 3,392 cycles (@40% DOD, 25°C), Max 6,000+ cycles

### Body Shell

Material Composite Fiberglass/Resin  
Transparent to radio waves

Finishing Marine grade gel coat

Color RAL 9010

Space inside Can fit 3 (Three) objects up to:  
500 x 400 x 300mm

### General

Dimensions 0.5m height, 2.16m maximum length

Weight 50Kg per module

Nominal Voltage 12VDC

Ingress Protection IP55

Impact Protection IK08

Mounting Mounts:  
Bolted to the ground  
Fill with water  
Fill with sand

Transportation Package dimensions:  
2.20m x 0.95m x 0.50m  
Up to 6 units stackable

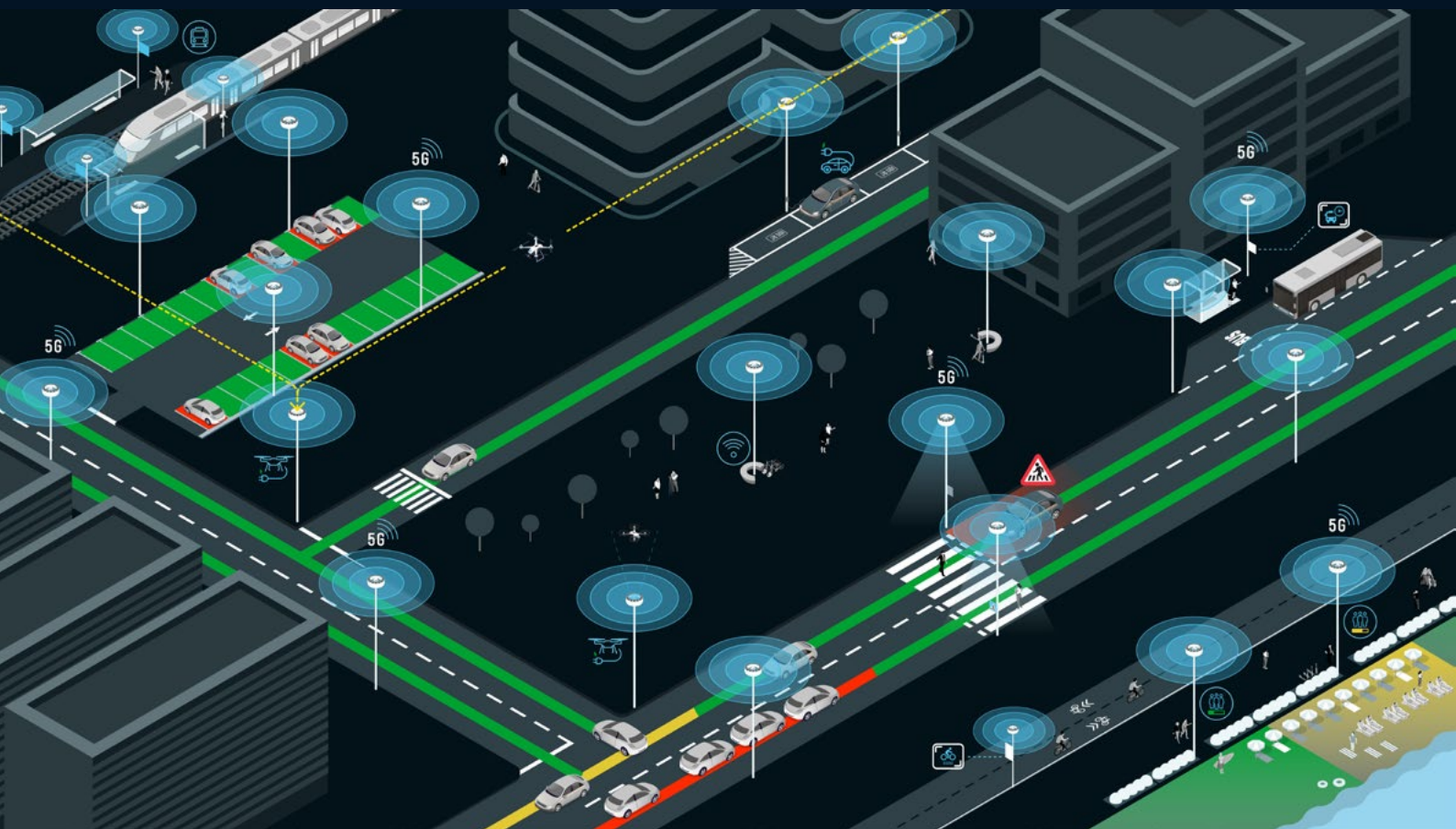
Optional Accessories IoT integration inside Body Shell for multi-application:  
- Bottom lighting (bench)  
- E-Bike Charging Station  
- E-Scooter Charging Station  
- USB Charger ports  
- Wireless Charger  
- Wifi Ethernet Router AP  
- Wifi Ethernet Fiberoptic Router AP  
- LoRA Gateway (under consultation)  
- Transmission - 4G Modem, ethernet, fiber, P2P, P2MP  
- Small Cell integration  
(under consultation)

Warranty 2-year warranty, Extended EOL support option





# Sustainable Smart City Solutions



## Smart Pole

The Omniflow Smart Pole is a comprehensive solution that combines the core Smart Luminaire with additional integrated services and other options like outdoor display and EV charger, transforming traditional streetlights into smart, sustainable infrastructure. This solution allows cities to seamlessly transition urban infrastructure to the digital era.

## 5G base-stations (small cells)

5G or LTE small cells can be integrated within our products creating the perfect street level solution to deploy sustainable network infrastructure.

Radio and antennas can be integrated both on Omniled 07 and also on Omniflow Smart Bench.

## EV Charging

The Omniflow Smart Luminaire with an integrated EV Charger offers a cost-effective, efficient solution to accelerate the transition to electric vehicles. Its primary advantage is leveraging existing cables and transformers, which are already equipped to handle the required power levels, thereby eliminating the need for additional infrastructure investments.

## Pedestrian Crosswalk

We designed an intelligent crosswalk system to enhance pedestrian safety in areas with high vehicle and foot traffic. Using advanced technologies like sensors and smart signaling, this system improves safety and helps prevent accidents.

## Bus Stop

Smart Bus Stop provides the users of public transportation of a better service experience improving safety, information, connectivity and comfort.

The pole integrates the Omniflow smart IoT pole powered by wind and solar that can host, light, information display, Wi-fi AP, Security camera and USB/wireless charging.

## Smart Parking

The computer vision is capable of identifying if specific parking places are free or occupied. This information can be processed in the cloud or in the edge.

The metadata can be sent to display, app or directly to the car.



## V2X

Events detected by computer vision will be transmitted C-V2X our using a RSU (road side unit) the information can be directly transmitted to the vehicles and pedestrians near the event.

## Traffic Monitoring

The integrated IP cameras can be used to stream the video to a control center or video processing can be executed inside our unit to detect vehicles and events.

## Edge Computing

Local processing is used to process the raw data coming from our sensors on our local computer. The system is also capable of processing low frame rate video analytics like smart parking. For more demanding applications a local GPU can be used for video analytics, data processing or content on the edge.

## Micro Mobility

Our Omniled and Omnibench can be used to charge e-scooters, e-bikes or just parking.

All the electronics and control can be hosted inside of the Smart Bench solution that can also have additional solar power capability to reduce the power consumption from the grid.

## Wi-fi Access Point

Public WI-FI access points can be hosted in all of Omniflow products.

Our solution is agnostic in terms of particular vendors used to provide the service.

All of our products are transparent to radio waves, so the AP can be installed inside our weather protective enclosure.

## Security

Our systems can host up to 4 IP security cameras completely integrated into the shell of our Omniled solution. The integrated IP cameras can be used to stream the video to a control center or the video processing can be executed inside our unit using the camera processing capacities or edge computing.



## **Weather/ environmental/ IoT sensors**

All this IoT sensors and gateways can be easily integrated in our units where we can offer the power, connectivity and space to host all this services.

## **Drone Charging/ control Hub**

We can retrofit existing lamp posts with Omniflow smart pole powered by wind and solar using the existing poles and avoiding expensive and time consuming civil works.

Every Omniflow smart pole can be upgraded to host the drone charging pad and 5G, so with Omniflow you will be able to create sustainable networks and highways for autonomous drone services.

## **Smart urban lighting**

Our solution achieves a power reduction of more than 90% transforming a simple street light into a carbon neutral object that can be used for multiple IoT purposes in a single infrastructure without the need of creating new ones.

We have 2 available models for smart lighting, the Omniled 07 for pole heights of 6-12m and the Omniled 035 for pole heights of 3-5m.

## **Rail Stations**

By retrofitting old lights with highly efficient and beautifully designed Omniflow systems our customers are reaching savings of more than 90% translating into good investments and good ROI.

Information can be displayed on digital signage together with Wi-Fi, Audio and security cameras.

## **Parking lots**

By retrofitting old lights with highly efficient and beautifully designed Omniflow systems our customers are reaching savings of more than 90% translating into good investments and good ROI.

Lights can be dimmed after closing time and motion sensor activated to help the security team to secure the perimeter. We also normally supply in this projects Wi-Fi and security cameras that can be also used for Smart Parking.

## **Beach/ Crowd monitoring**

Omniflow's technology analyses how busy the beach or location is and shows real-time occupancy levels on a local E-ink screen or an app so a user can make an informed decision about where to go.

Audio warnings can also be used.

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