



# ORWAY

That's the way to communicate

הפתרון המתקדם  
לאתרי מיקרו דור 4 ו-5  
וסנסורי IOT ברמת  
הרחוב



# החזון שלנו

לאפשר קישוריות מאובטחת  
ומהירה לכל היישומים המתקדמים  
בכל מקום במרחב האורבני



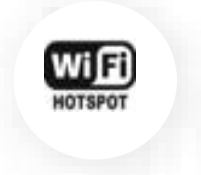
Private  
Networking



mmWave



4G/5G  
facilitation



WiFi AP

## הפתרון הייחודי שלנו



- חברתנו מתמחה בפלטפורמת תקשורת לדור 4 ו-5 ומערכות סנסורי IOT מקיפות כקו מוצרים המשתלב בצורה מלאה במרחב האורבני.
- הפלטפורמות מאפשרות שילוב של יצרני הרדיו הגדולים שפועלים בישראל Nokia, Ericsson, Siklu ויצרני סנסורי IOT מובילים אחרים.
- הפלטפורמה משלבת שימוש מקסימלי **באנרגיה ירוקה**, מקדם את הפחתת הפליטות תוך חיבור לגריד במידת הצורך.



## אופציה א'

פלטפורמת עמוד חכם מבית **Signify** לתמיכה  
במתקני שידור זעירים (**Small Cells**) ומגוון

סנסורי **IoT**

# BrightSites

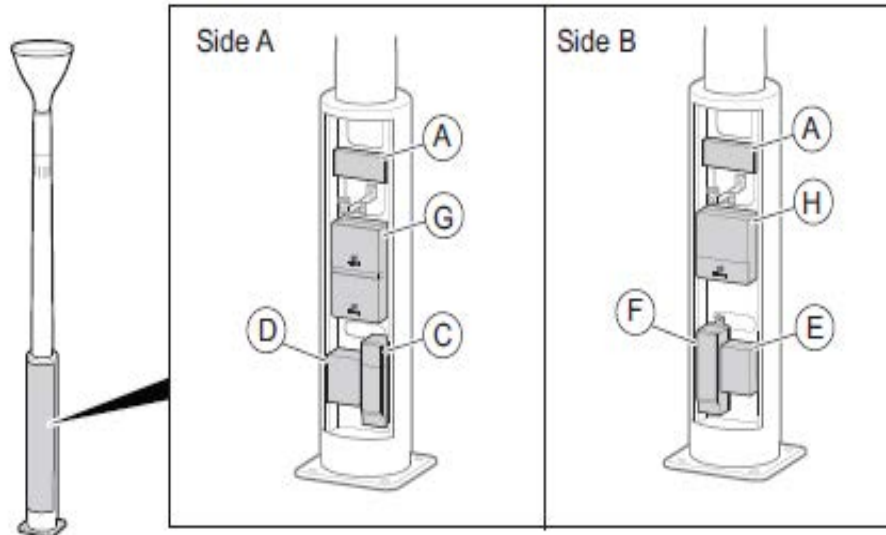
by ©ignify



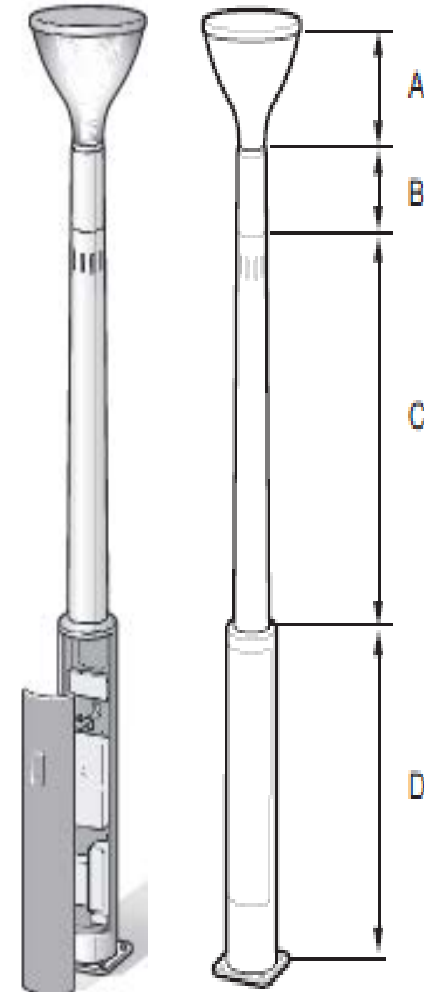
- Ultra-connectivity**  
Capacity for WiFi 4G/5G and LoRa
- Elegant, multi-functional design**  
Choice of styles, heights and colors
- Smart IoT applications**  
Wide range of IoT applications with environmental sensors and camera
- Easy to deploy at scale**  
100s of cell sites upgrade network capacity and coverage
- Clutter-free**  
Purpose-built interior offers ample room for technology, including future upgrades
- Energy-efficient lighting**  
Philips LEDs provide cost-effective low-maintenance and high-quality light

## היטמעות מלאה במרחב האורבני

שימוש בפלטפורמת עמוד  
חכם מאפשרת את התקנם  
המהירה של **מאות אתרי**  
**מיקרו חדשים** ברמת  
הרחוב ללא צורך בהיתרים  
מיוחדים וללא פגיעה בנוף  
האורבני



Position	Name of Unit
A	Diplex filter
B	Radio 2203, single
C	Power fuse box for luminaire
D	Fiber termination box
E	Power distribution box
F	Radio fuse box
G	Radio 2203, dual
H	Baseband 6502



Position	Unit/Part of Pole
A	Luminaire
B	Antenna
C	Mid pole
D	Base pole

# דוגמאות לפרויקטים ויישומים בעולם

# איינדהובן – הולנד

- **Connected lighting**
- **Small cell radios**
- **Safety & Security + Public Wi-Fi**
- **Advertisement / Information**
- **Air Quality monitoring**





# Paris2Connect – פאריס רובע ה 16

- **Connected lighting , Air Quality monitoring**
- **Urban Data Generation**
- **Safety & Security**
- **Autonomous Driving**
- **5G Network**



# ריבאס - ספרד

- **Connected lighting**
- **4G LTE densification**
- **Public WiFi**
- **Air Quality monitoring**





## אופציה ב'

פלטפורמת **IoT** חכמה עם יכולות  
אגירה וניצול של אנרגיות  
מתחדשות רוח/שמש

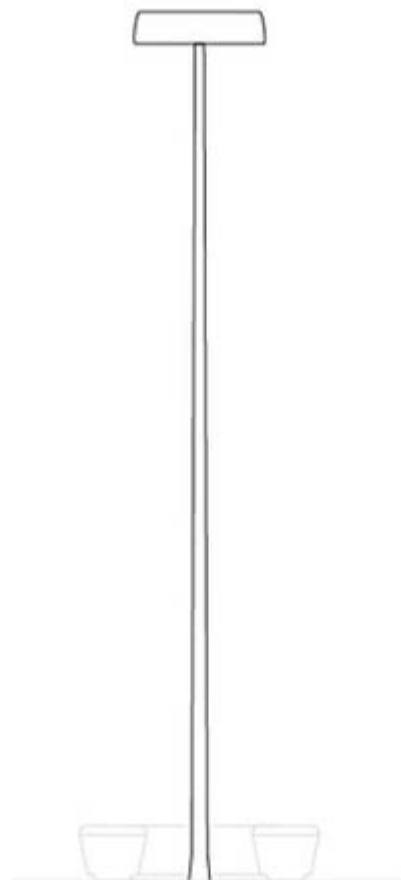
**Omniflow**<sup>®</sup>

# פלטפורמת IOT חכמה עם יכולות אגירה לאנרגיית רוח/שמש

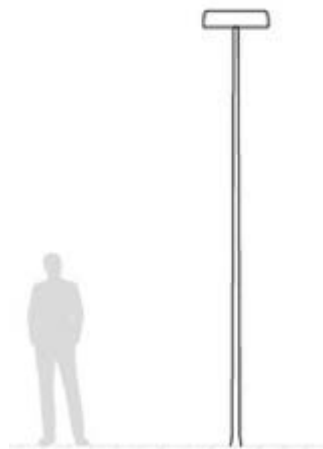


# OMNIFLOW – מוצרי בסיס

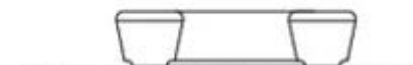
**Omniled 07**  
Pole height 8m



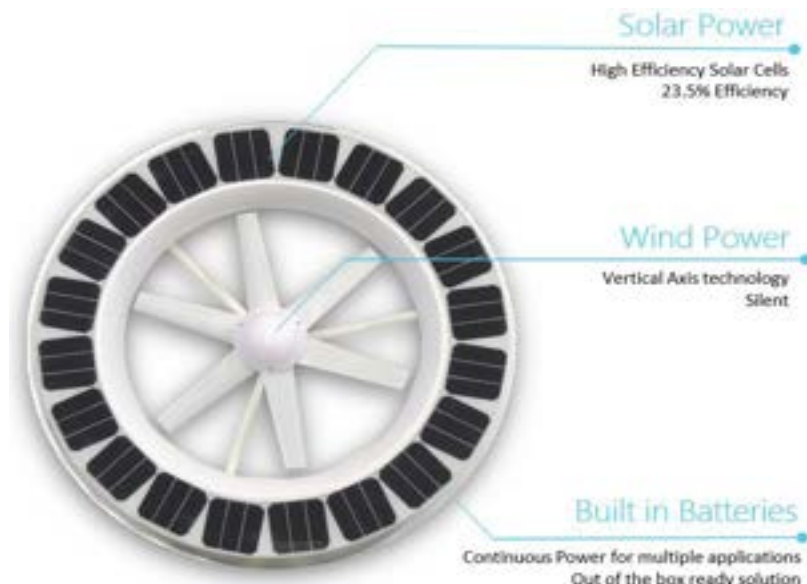
**Omniled 035**  
Pole height 4m



**Omnibench**  
2 modules



# OMNIFLOW – מרכיבי מערכת



## Efficient Lighting

60W for 9300 lm  
120W version with 18600 lm  
3000K light temperature

1000 19-02 100 01  
www.omniflow.com



## IP Security Camera

Optical or Thermal  
Integrated Design  
Enables Smart Analytics for:  
Smart Parking, People Counter, etc

## More Light Patterns

Possible Lighting patterns:



## Motion Sensor

Infrared motion sensor  
Enables dimming feature  
or camera activation

## Built in Battery Pack

6x 12V 14 Ah Lead Crystal  
1000 Wh Storage

## Space for optional Applications

Edge Computing | AI  
Small Cell - 5G / LTE  
Public WIFI  
USB Charging Station  
LoRa Sensors  
Air Quality sensors  
...



## OMNIBRAIN

Connectivity to Internet  
Monitoring and control  
Adaptive programming thru AI and weather forecasts

## LED Lighting

State of the Art LED  
Up to 220 lm/w  
  
More than 12x than  
conventional light bulb

# OMNIFLOW – שילוב ספסל ועמוד לעמדות הטענה לקורקינטים



## Modular Design

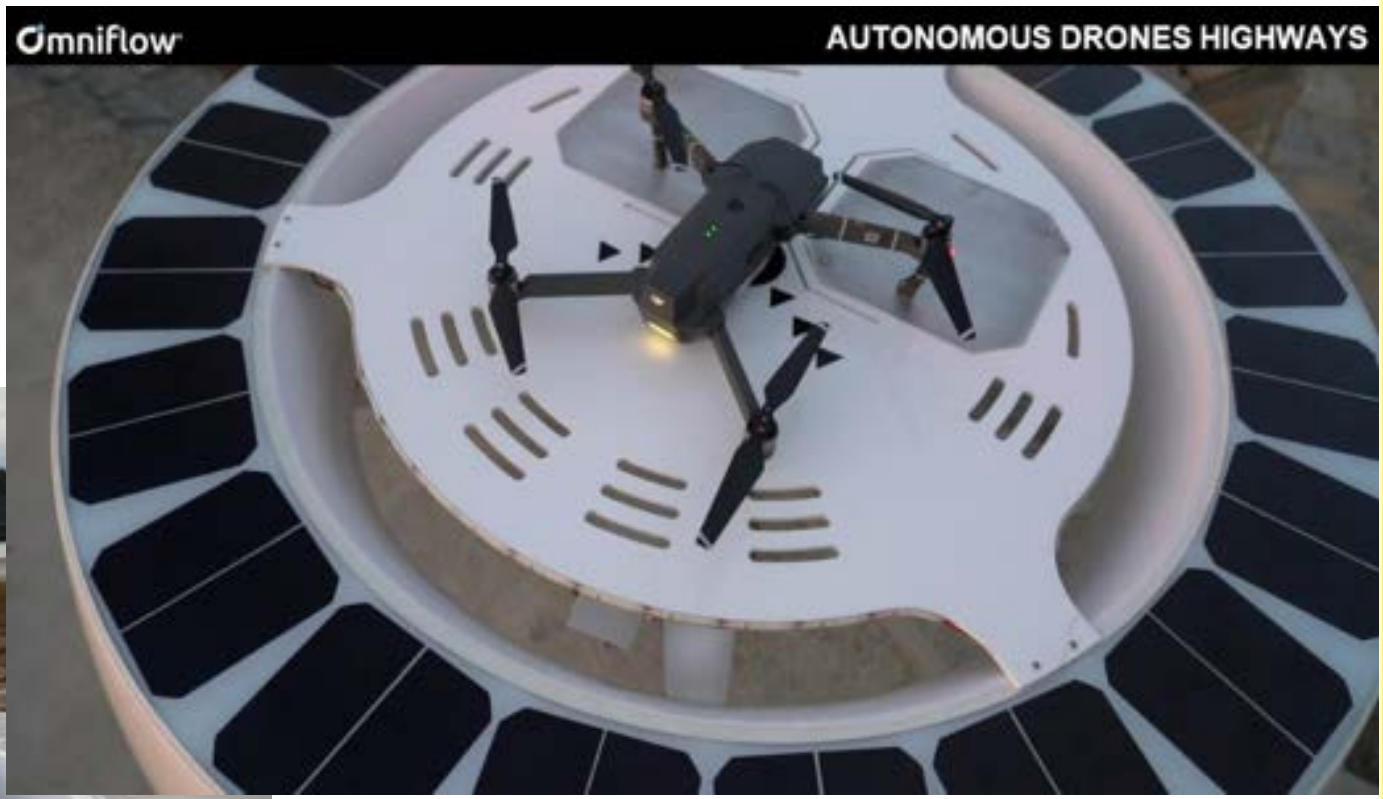
- Technical equipment can be stored inside
- Audio system for public broadcasts
- Batteries or BTS systems
- E-bike Charger
- Wireless Charging for small devices

# פתרונות חנייה חכמה משולבי מצלמות 360

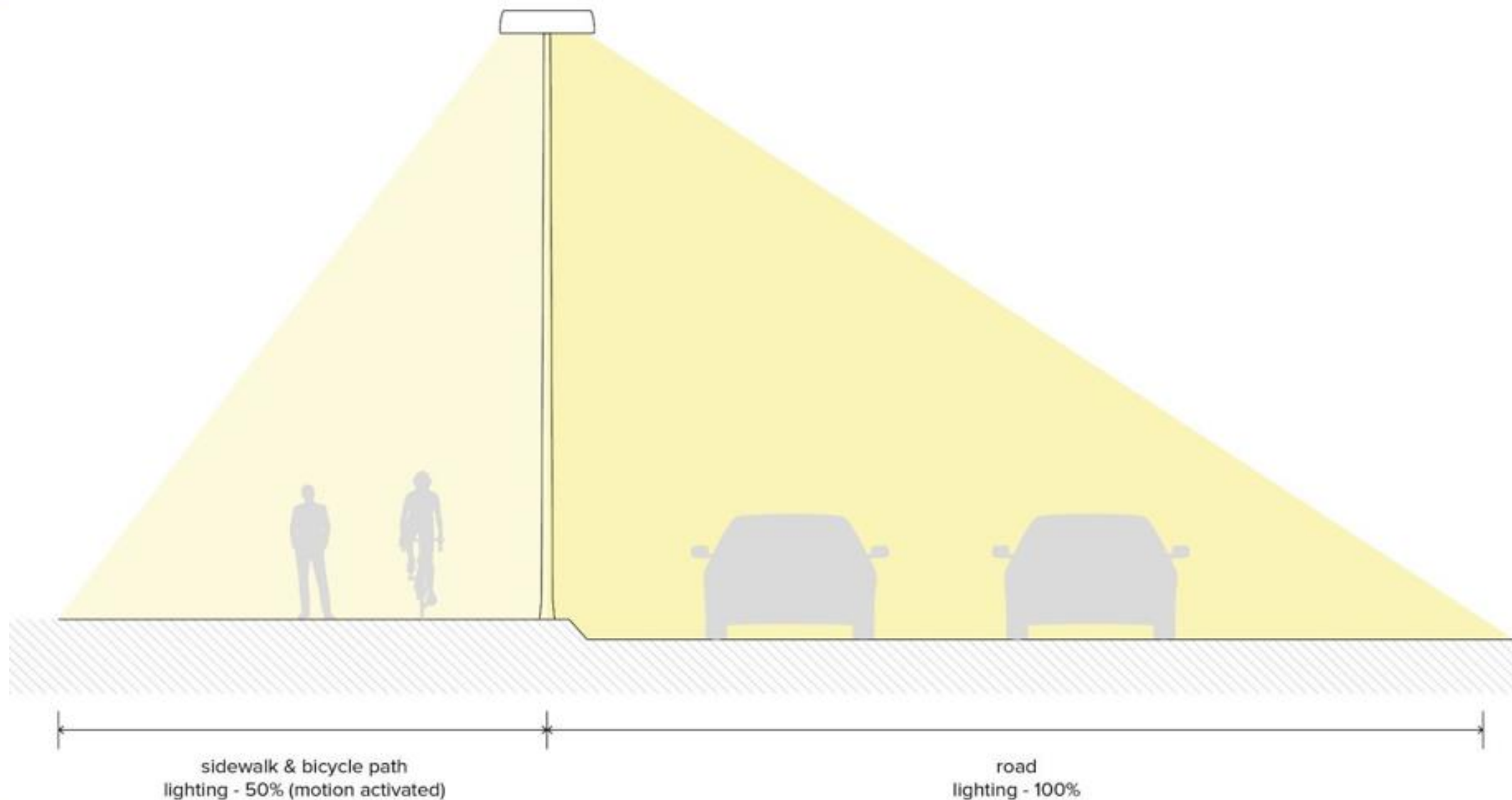




# תחנות עגינה וטעינה לרחפנים



# אפשרות התאמת תאורה בהתאם למרחב



# פתרונות לעולם ה-TELCO ופריסת רשתות דור 4 ו-5 מבוססות Small Cells



## Camouflage Antenna

Omni or sectorized antenna  
Multi sectors possible  
Installed inside the shell

## Backhaul

Fiber, Wireless, Microwave  
5GHz  
60-80GHz

## RRU

Remote Radio unit inside or in ground box  
Multi carrier possible  
Multi RRU possible  
12-48VDC

## Battery & UPS

12V individual batteries  
12-48VDC configuration  
Up to 2000Wh storage  
Grid connection 110-240VAC



# שילוב של Baseband בספסל ו-RRU בגובה העמוד



## LTE

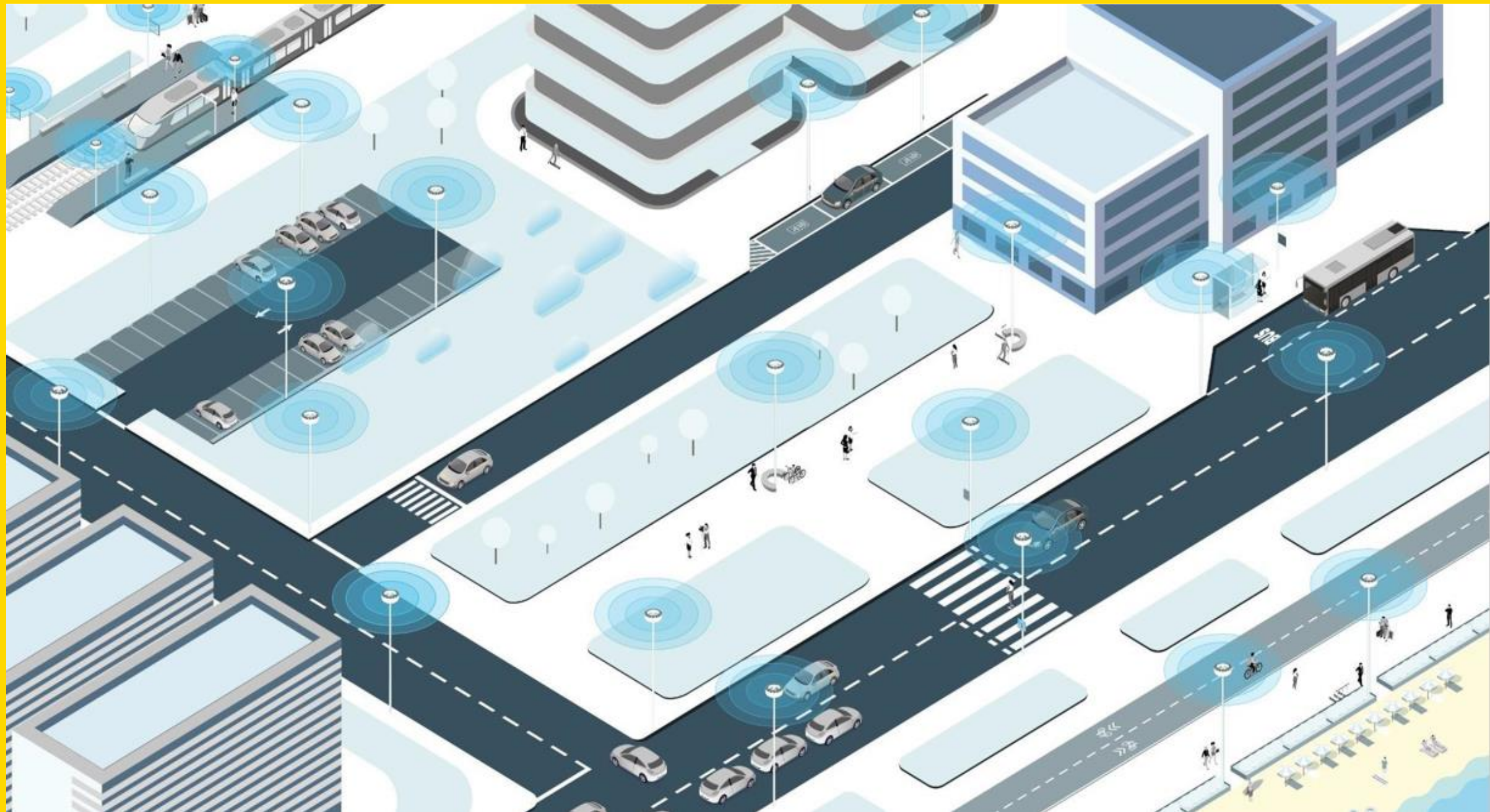
Baseband 6502 (if required on site) 48VDC

RRU 2203 or 2205 (up to 3 radios inside our unit for multi-sector/freq) 48VDC

## 5G/LTE

Baseband 6303 (if required on site) 48VDC

RRU 4402 or 4408 (up to 3 radios inside our unit for multi-sector/freq.) 48VDC

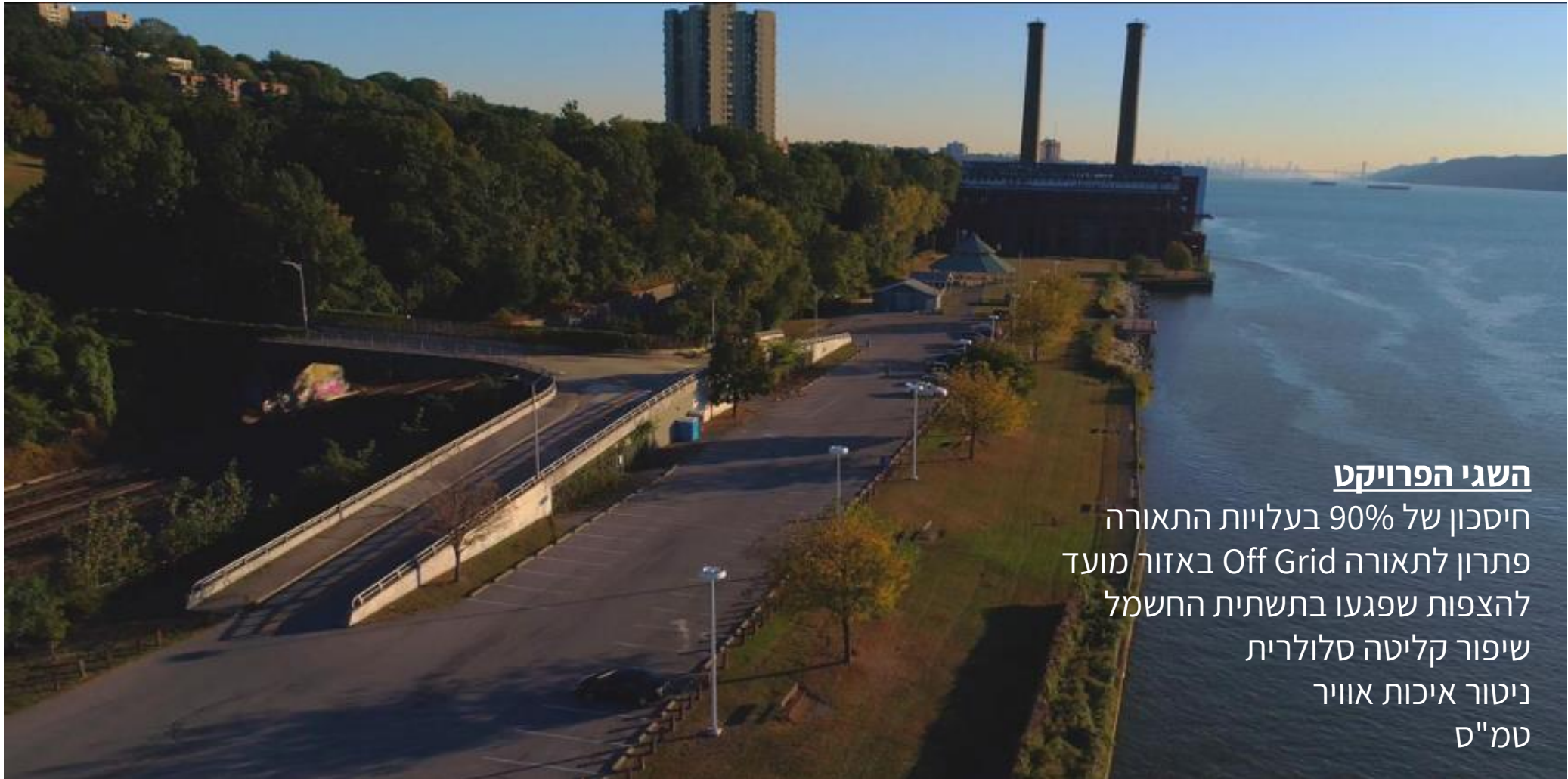


# דוגמאות לפרויקטים ויישומים בעולם

# יישומים בעולם - פרויקט בפורטוגל



# יישומיים בעולם – פרויקט בעיר ניו-יורק



## השגי הפרויקט

חיסכון של 90% בעלויות התאורה  
פתרון לתאורה Off Grid באזור מועד  
להצפות שפגעו בתשתית החשמל  
שיפור קליטה סלולרית  
ניטור איכות אוויר  
טמ"ס



# יישומיים בעולם – פרויקט במרכזי קניות רשת איקאה



## השגי הפרויקט

חיסכון של 90% בעלויות התאורה  
הפחתת פליטות ופתרון ירוק שרשת איקאה מקדמת בעולם  
שיפור קליטה סלולרית ומעבר לדור 5  
אנליטיקה לחנייה  
הפצת WIFI

# יישומיים בעולם - הקמת אתר סלולארי בספרד



## השגי הפרויקט

שיפור קליטה סלולרית ומעבר לדור 5  
אנליטיקה לחנייה  
הפצת WIFI



## אופציה ג'

פתרון **HIGH END** לסלולר  
וסנסורי **IOT** כולל מערכת ניטור **SaaS**

**ENE.HUB**

## עמוד חכם מבית ENE-HUB



עמוד מודולרי אשר מסוגל  
להכיל מגוון אמצעי IoT  
שונים הכוללים מערכת  
ניהול ביחד עם מתקני  
שידור זעירים ( **Small**  
**Cells** ) לדור 4 ו-5

# בסיס חכם – יכולות רדיו ואחסון



## Base Zone

The Base of the SMART.NODE™ has three main purposes. The lower hatch hosts the electrical and communications infrastructure of the SMART.NODE™, while the middle and top hatches accommodate 4G/5G small cell technology. Finally, the Base also accommodates a range of Smart City Services.

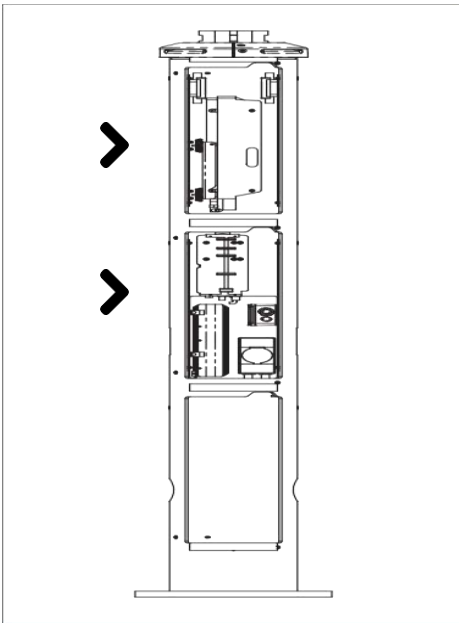
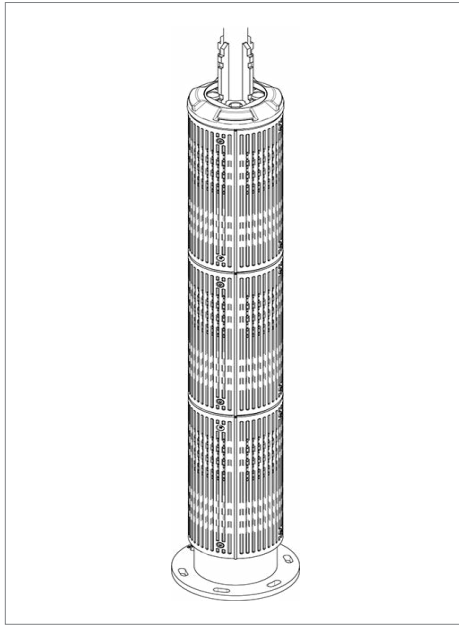


## SMART.NODE™ 4G/5G Capability

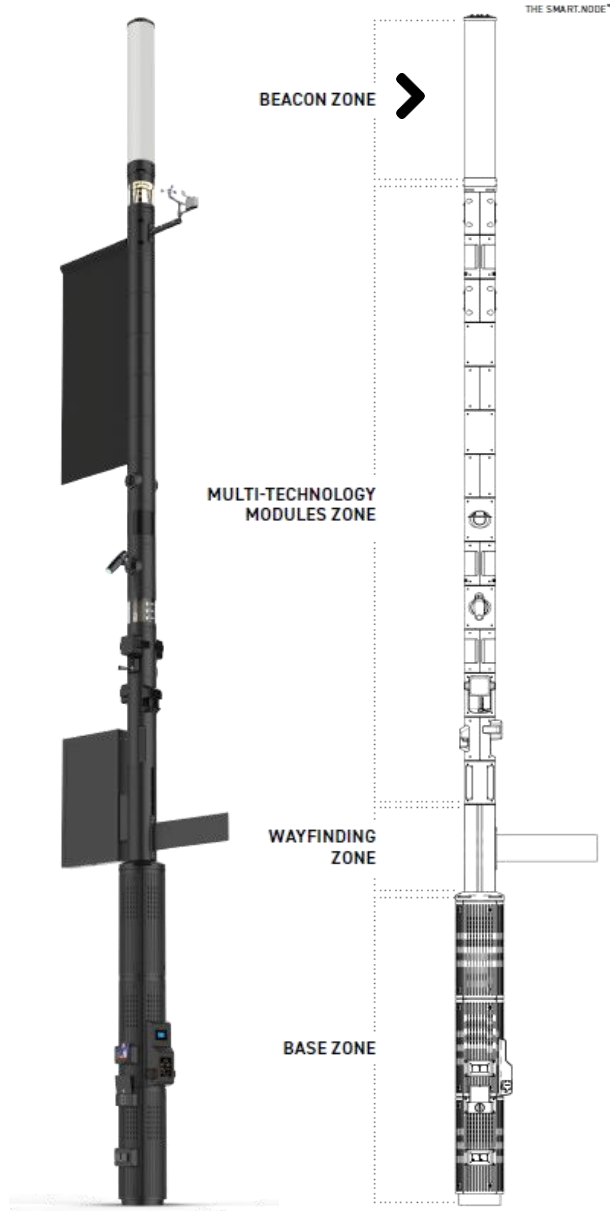
The SMART.NODE™ is a discreet, neutral host piece of urban infrastructure and can host multiple small cells and antennas from within the structure. The type of Beacon selected for the SMART.NODE™ determines whether it supports 4G and/or 5G cellular service.

**Nokia and Ericsson 4G/5G small cell equipment** are all accommodated by the SMART.NODE™.

**There are three areas designated to accommodate** the required telecommunications equipment, including one area in the Beacon and two areas in the Base.



# התקנת אנט' וציוד רדיו - BEACON



Beacon

The Beacon offers programmable LED lighting and 4G and 5G capabilities, discreetly housed within a cylinder **912mm in height**.

The Beacon can accommodate:

- 4G/5G radio and antenna
- 4G/5G omni-directional antenna
- Panel antenna



Beacon+

The Beacon+ offers programmable LED lighting and 4G and 5G capabilities, discreetly housed within a cylinder **1615mm in height**.

The Beacon+ can accommodate:

- 4G/5G radio and antenna
- 4G/5G omni-directional antenna
- Panel antenna

# התקנת אנט' וציוד רדיו - BEACON



## eBeacon

Discreetly housed within the eBeacon are the antennae and radio systems which enable 4G and 5G capabilities on behalf of mobile operators, as well as the programmable LED lighting. **The eBeacon has a 2500mm height** and houses a shared antennae system at a SMART.NODE™ height between 7 and 12m.

The eBeacon can accommodate:

- 4G/5G radio and antenna
- 4G/5G omni-directional antenna
- Panel antenna
- Active Radio antenna
- Wi-Fi antenna



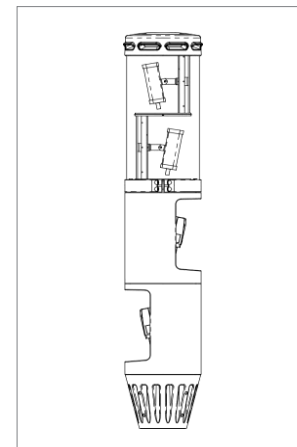
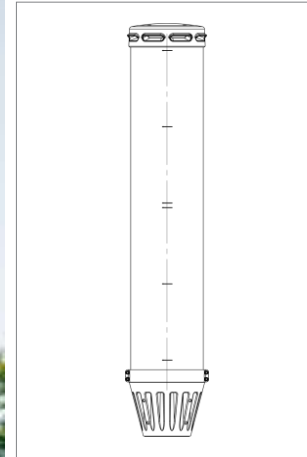
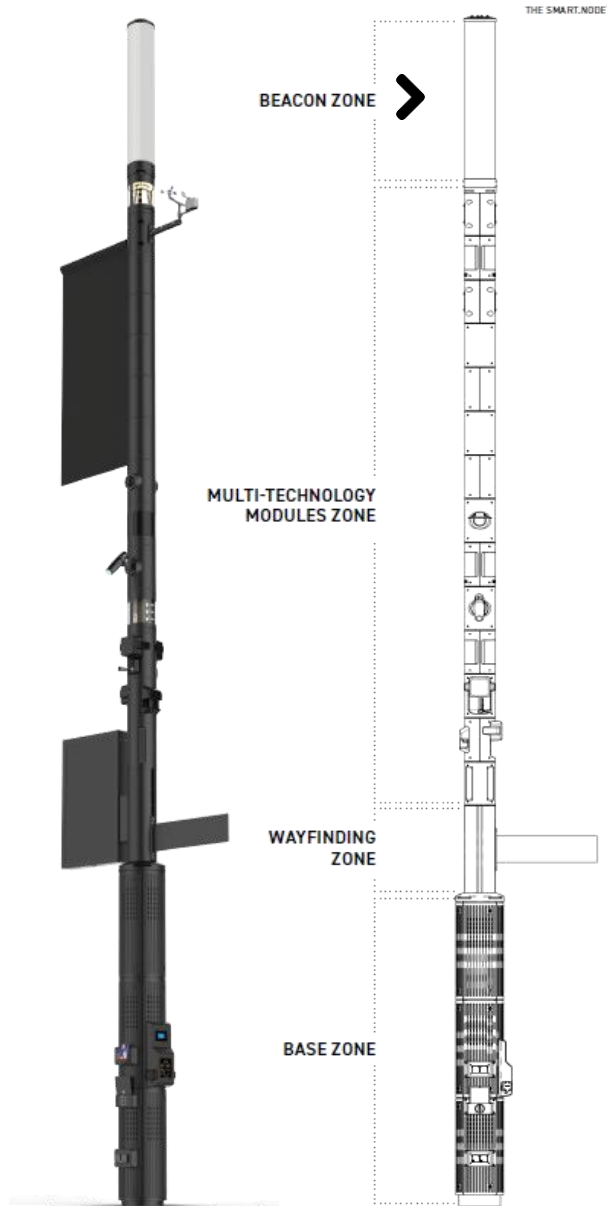
## mBeacon

The mBeacon is designed to house a mix of antennas and radio systems which enable 4G and 5G capabilities in the traditional radio frequencies as well as the new mmWave frequencies.

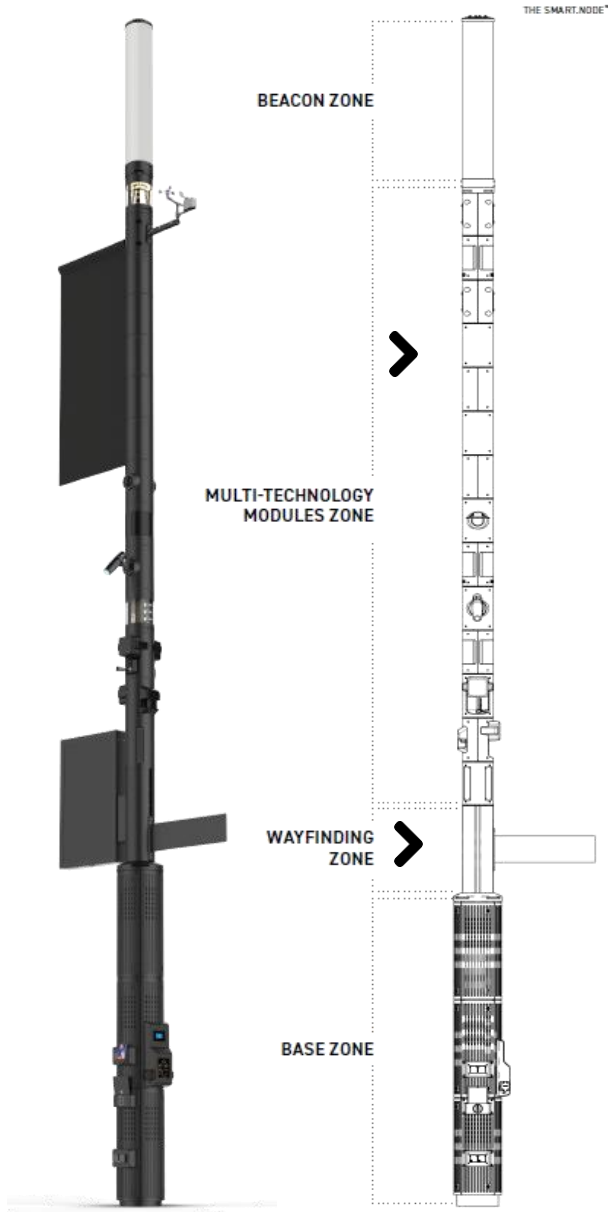
The mBeacon retains the programmable LED lighting. **The mBeacon has a 2500mm height** and houses a shared antennae system.

The mBeacon can accommodate:

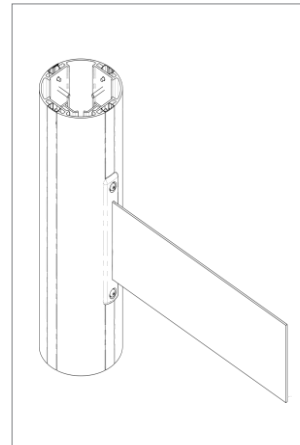
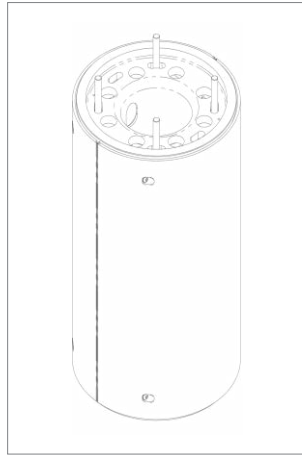
- 4G/5G radio and antenna
- 4G/5G omni-directional antenna
- Panel antenna
- Active Radio antenna
- Wi-Fi antenna
- mmWave radio and antenna



# רכיב מודולרי גנרי ומודול התקנת שילוט רחוב



THE SMART.NODE™



## Multi-Technology Modules Zone

The modular design of the SMART.NODE™ allows for the discreet accommodation of a range of Smart City Services. Every MTM zone is a blank canvas ready to facilitate the evolving needs of Smart Cities. The Smart City Services accommodated by the MTMs are explored in the next section



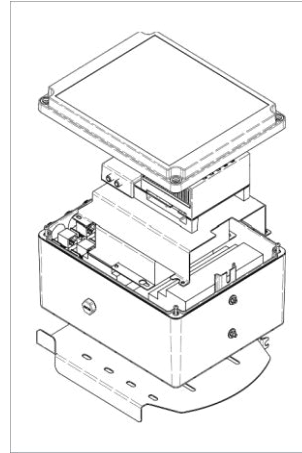
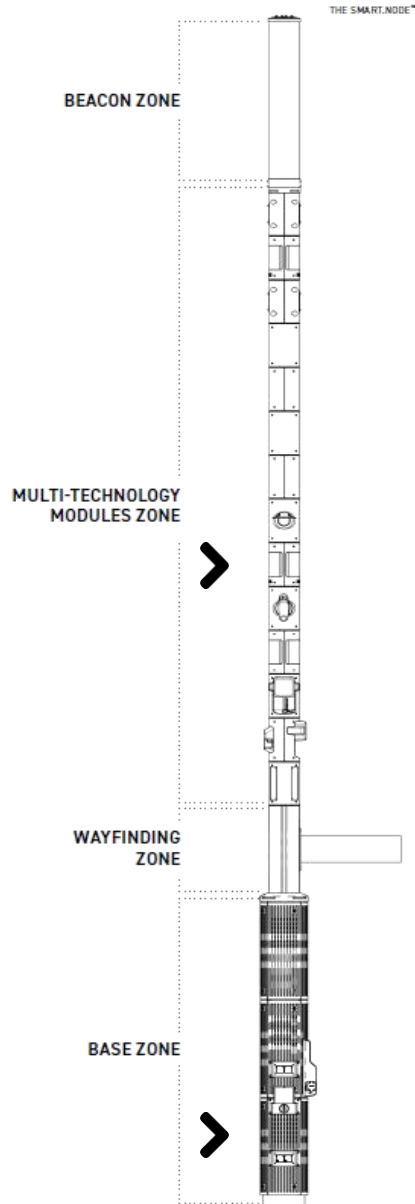
## Wayfinding Zone

As urban spaces expand and become more sophisticated, wayfinding services are vital in guiding people through a public area while enhancing their understanding and experience of the space.

Thanks to its modular assembly, the SMART.NODE™ is designed to accommodate the evolving wayfinding needs of a Smart City.

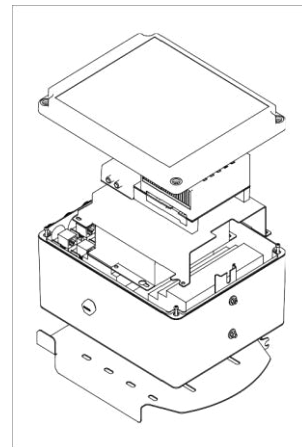


# רכיבי תקשורת - רכזת עמוד חכם ו-LoRa



## Communications Hub

The Communications Hub is a computer which allows the owners of SMART.NODEs™ to communicate with, operate, and undertake analytics direct from the Product site without the need for optical fiber infrastructure.



## LoRaWAN Gateway

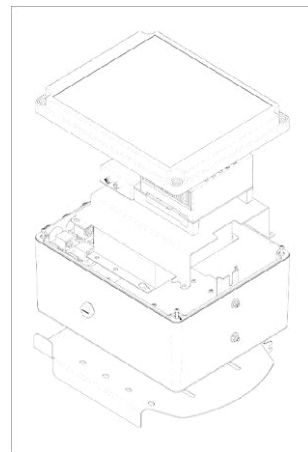
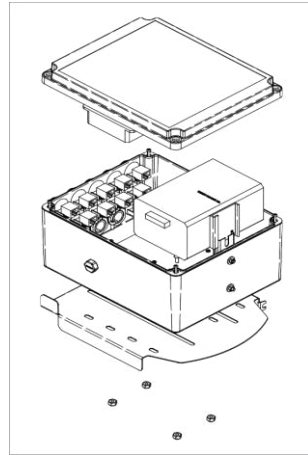
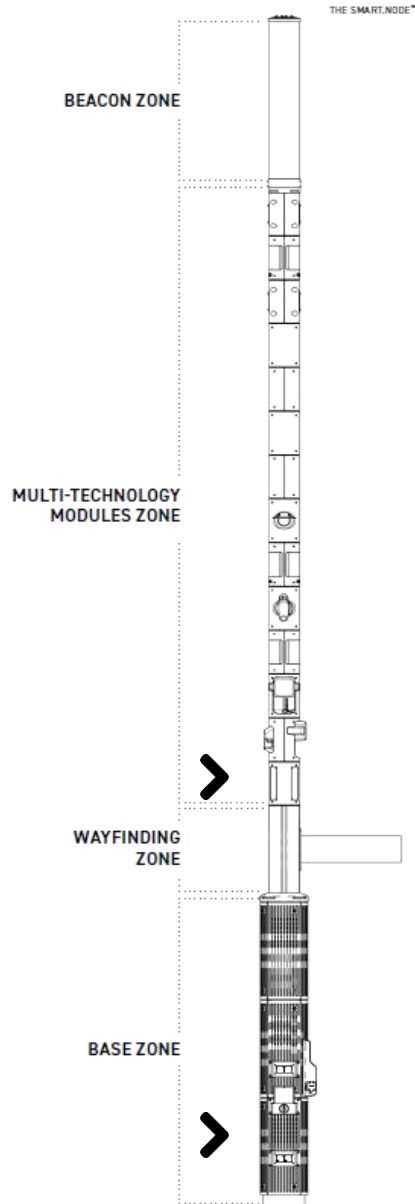
LoRaWAN allows for multiple devices to communicate back to the SMART.NODE™ and uses the optical fibre high speed network to then push this information to the e3 platform. A network of SMART.NODEs™ is required to deliver LoRaWAN gateways via the ethernet cable infrastructure, which are monitored by a number of communication protocols.

### Equipment List

Devices used for LoRaWAN Gateway are as follows:

- MultiTech Gateway

# רכיבי תקשורת - מתג PoE ומערכת כריזה IP



## Power Over Ethernet

Power Over Ethernet (PoE) is the combination of communication and low voltage power within one data cable. Used within the SMART.NODE™, this allows the client to utilize the infrastructure cabling to supply gigabit communication and power to every MTM. PoE ensures wireless access points are activated within the SMART.NODE™, and that **gigabit power and communication are supplied to every MTM.**



## Public Address System

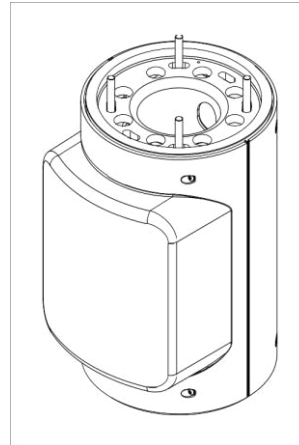
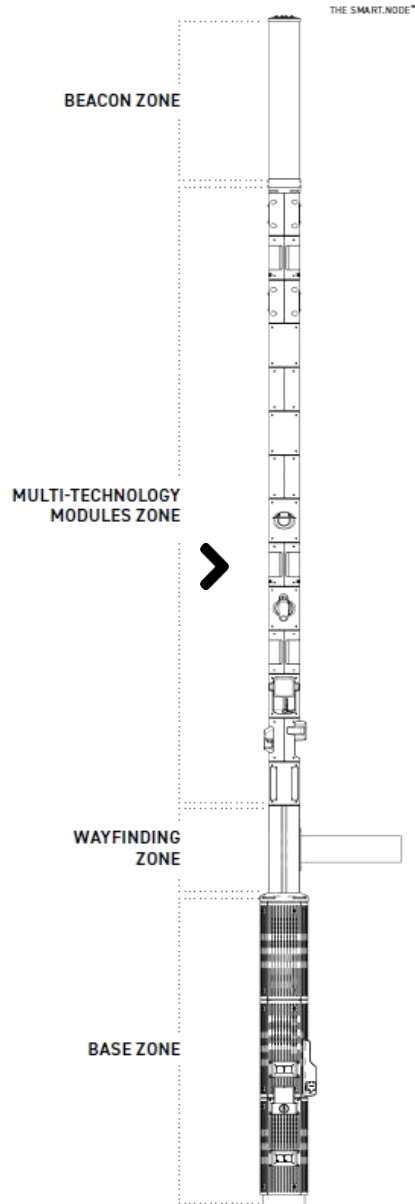
Encased in a classic design, the Public Address System SCS includes speaker hardware such as slim column speakers designed for sound reproduction in large venues, providing optimised sound dispersion and speech intelligibility.

### **Equipment List**

Devices used for Public Address System are as follows:

- Speaker
- Audio Bridge Axis C8053

# רכיבי תקשורת - WiFi



## Wi-Fi

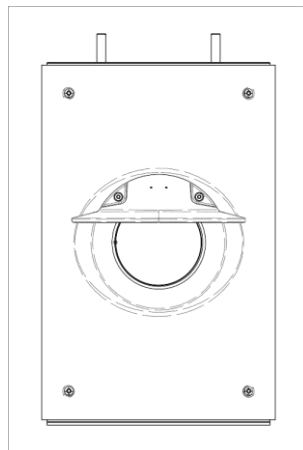
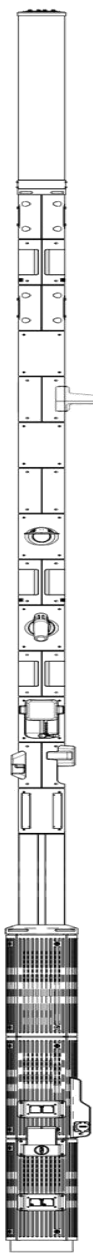
The installation of a wireless access gateway in the Base of the SMART.NODE™ gives the general public access to connect devices remotely to the internet. This component includes the installation of the Wi-Fi Repeater and connectivity via the ethernet cabling installed.

### **Equipment List**

Devices used for Public Wi-Fi are as follows:

- Cisco, Aruba, Advantech, Ruckus, NetGear Compliant
- 2.4 GHz/ 5 GHz & Lite GHz

# מודולי אבטחה – מצלמות מובנות ו-PTZ



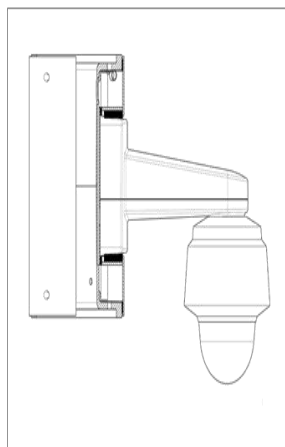
## CCTV

The SMART.NODE™ can readily integrate fixed CCTV domes for outdoor use. The current models offer HDTV 1080p video, varifocal lens with remote zoom and focus, and eliminate the need for hands-on fine tuning.

### **Equipment List**

Devices used for CCTV are as follows:

- Axis P3225 LVE MkII
- Axis Q6055



## PTZ Camera

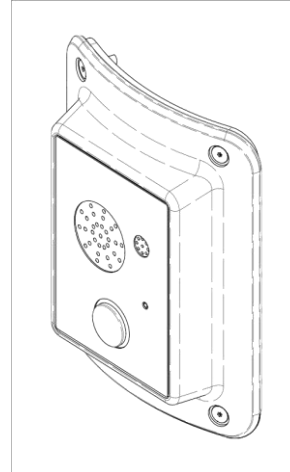
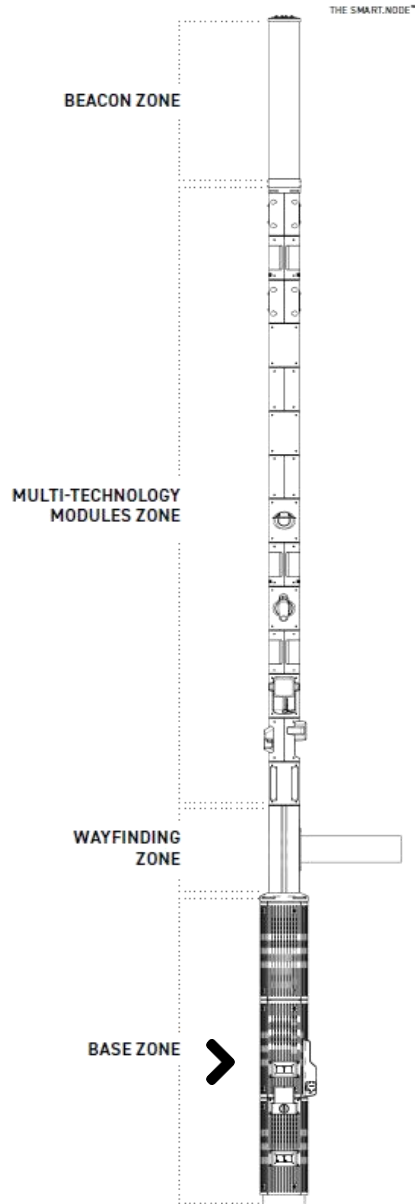
The PTZ (Pan/Tilt/Zoom) Camera provides the SMART.NODE™ with top-of-the-line, outdoor-ready CCTV services with HDTV 1080p, 32x optical zoom and rapid pan/tilt capabilities for wide area coverage and detailed surveillance at a distance.

### **Equipment List**

Devices used for Environmental Noise are as follows:

- Static and PTZ (Pan / Tilt / Zoom)
- Flush Mount and Outreach Arm Slung (Inverted Snow Globe)

# מודולי אבטחה – כפתור מצוקה IP



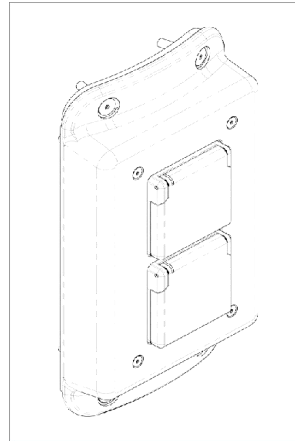
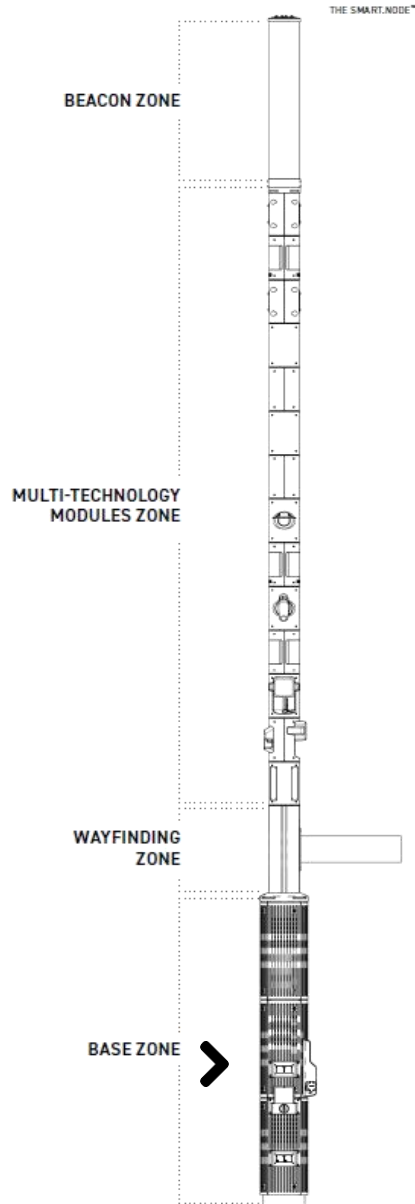
## Help Assist Button

The Help Assist Button is installed in the Base Zone and is to be used by the general public in the case of an emergency. The current designs for the service are vandal resistant, with a 3mm stainless steel front panel, and offer high volume capacity and superior speech quality from the integrated 10-watt amplifiers and eHD voice.

The unit encompasses a durable microphone and speaker to allow two-way communication. **The device can interact with other devices** through the e3 platform, such as the PA system for a higher capacity spoken volume and CCTV camera so the person using can be viewed.

The routing of emergency calls is at the discretion of Land Authorities and is based on a TCP/IP configuration.

# מודולי טעינה – USB ו-Wireless



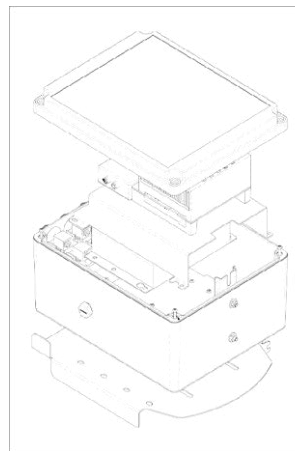
USB

External USB charging units installed in the SMART.NODE™ allow the general public to charge their portable devices, including Smartphones, music devices, and tablets. Current USB charging models offer options for single and double sockets.

## Equipment List

Devices used for External USB Charging are as follows:

- Legrand
- USB charging capacity 2.0, 3.0, Micro, C
- Compatible with iOS, Android.



Wireless Qi Charging

The SMART.NODE™ has the option for Qi wireless charging.

Wireless charging is a technology that allows charging over short distances without cables, the advantage being that it is quicker and easier as there is no need to plug and unplug every time.

The Wireless Qi Charging service may not be readily available for inclusion in the SMART.NODE™ as it is **still in the design phase**.

# אפשרויות תאורה מגוונות



## Smart Pedestrian Lighting

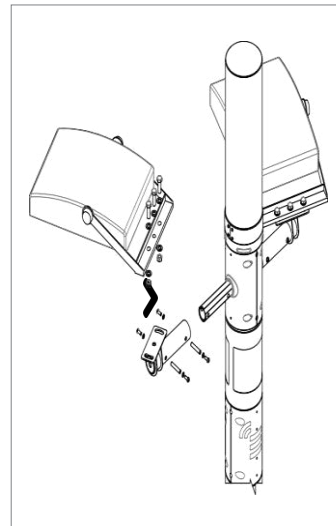
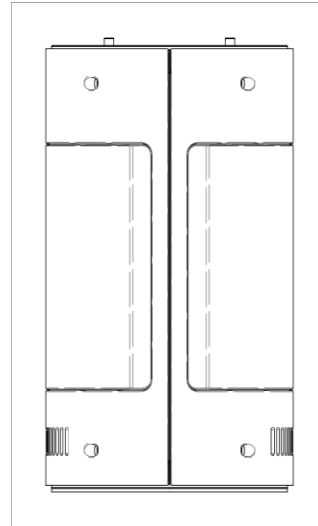
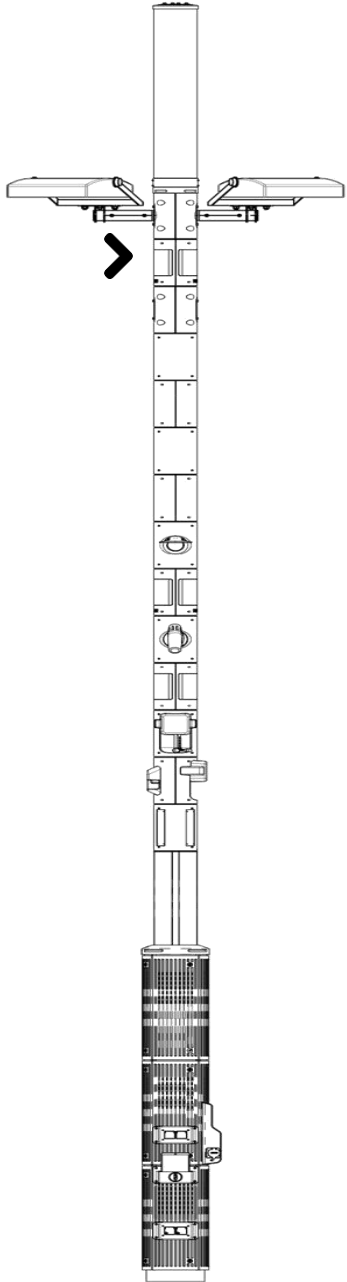
Lighting plays a very important part in the design of public spaces and urban design in general. Smart Pedestrian Lighting is specifically designed to light foot paths and is installed as a LED unit separate to the SMART.NODE™ Beacon.

LED lights ensure the highest savings per watt, and by combining energy efficiency with high performance, the Smart Pedestrian Lighting can be used to create visual spaces that benefit communities, increase safety, and boost tourism.

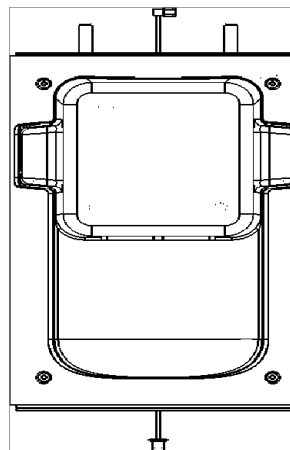
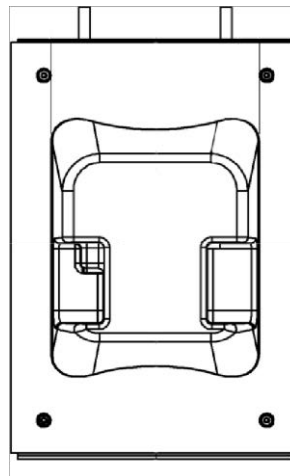
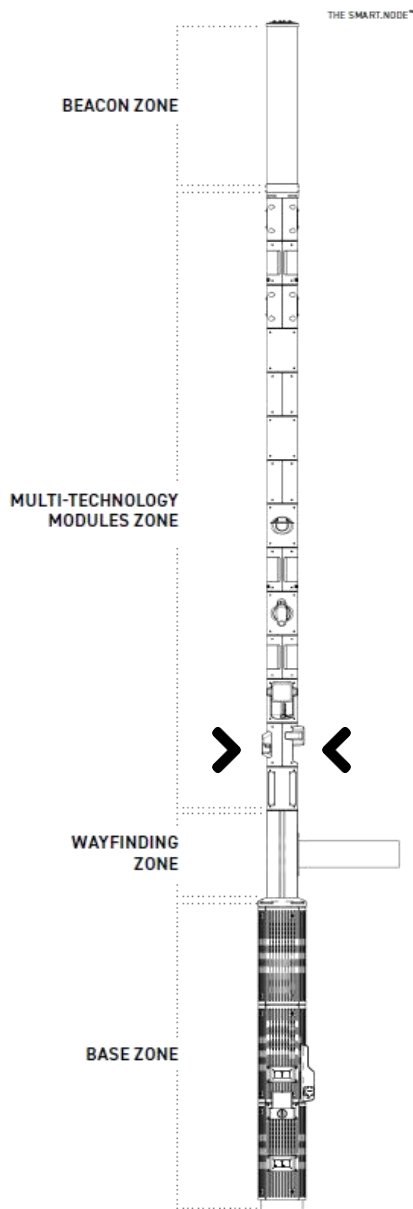


## Floodlight

The Floodlight SCS is a general purpose, high-intensity light with a broad beam that is attached externally to the SMART.NODEs™ primary structure. The SMART.NODE™ can host a range of flood lighting fittings, including those used for landscape, architectural or security lighting, or as a specific lighting instrument during public events.



# מודולי סביבה – ניטור אוויר ו"מפגעי רעש"



## Air Quality

Tiny particles from industrial activity, exhaust fumes, building heating and pollen all pose a risk to people as they navigate public spaces. As such, measuring the Air Quality Index (AQI) is an essential function of every Smart City.

### Equipment List

Devices used for Air Quality are as follows:

- OPC-N2 Particle Matter Dust Sensor
- Libelium Smart City Pro Waspote



## Environmental Noise

The SMART.NODE™ can host a range of sensors that monitor noise from road traffic, nightlife and other outdoor activities. For reference, sound pressure is measured in decibels (dB).

Refrigerators typically run at around 40dB, while heavy traffic typically reaches 90dB. The human threshold of discomfort is measured at 120dB.

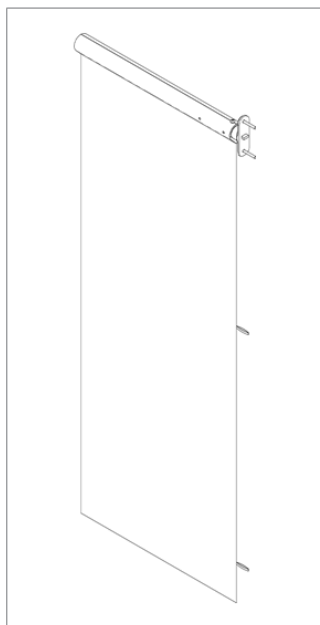
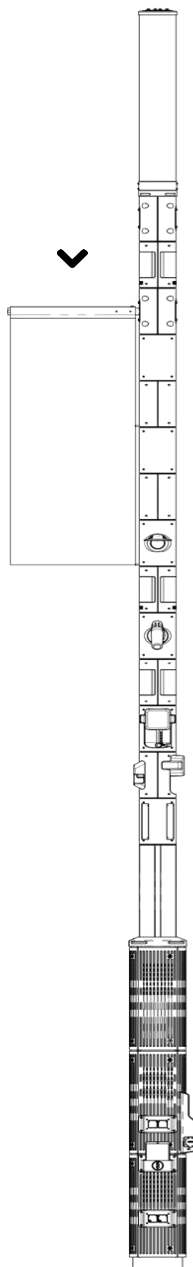
### Equipment List

Devices used for Environmental Noise are as follows:

- Libelium NLS
- Libelium Smart City Pro Waspote



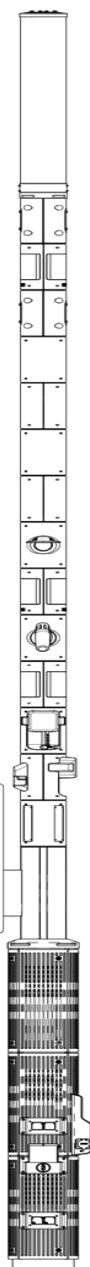
# מדיה ופרסום - שלטי באנר ומסכי חוץ



## Banners & Outreach Arms

The Banners & Outreach Arms SCS offers single banners on the SMART.NODE™ for a range of outdoor messaging needs. Banners are a vibrant and effective method in promoting local events, festivals and exhibitions.

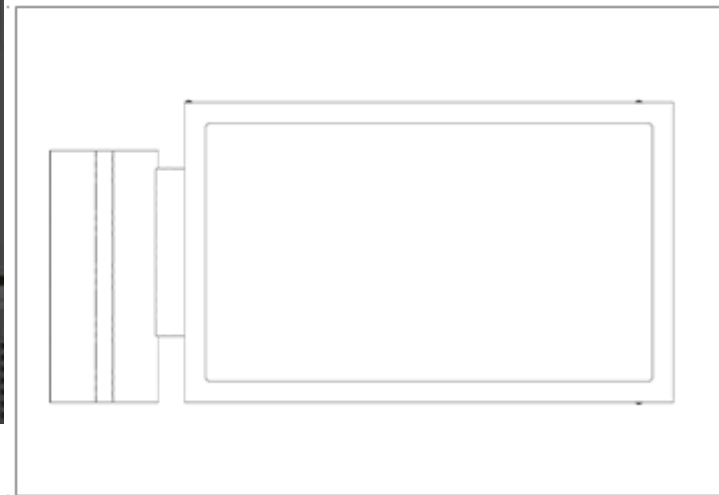
The specially designed outreach arms can be used to accommodate additional services where needed.



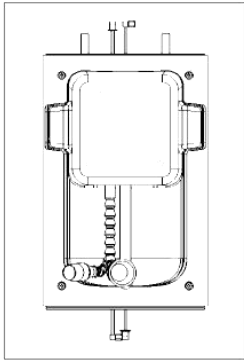
## Visual Display Screen

The SMART.NODE™ can accommodate a range of outdoor Visual Display Screens (VDS), **including a 46, 55, 75 or 85-inch screen in landscape or portrait, touch and non-touch screens.** VDS has can scale pictures and videos to suit the screen resolution, can feature scheduled content, and users can connect to the screen for local control.

Current VDSs feature a slim depth (85mm) design, the convenience of an embedded power box, as well as added **durability and flexibility even in extreme temperatures.** Combined with **2,500 nit brightness, a 5000:1 contrast ratio and anti-reflection glass,** these VDSs ensure messages are displayed effectively in a variety of public spaces.



# מודולים אופציונליים נוספים



CLIMATE, FRONT VIEW



RENDER



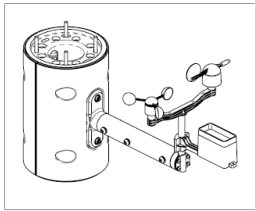
## Climate

3.3.2 Climate

ENVIRONMENT



SANDGATE FORESHORE, BRISBANE



WIND & RAIN WEATHERVANE, ASSEMBLED VIEW



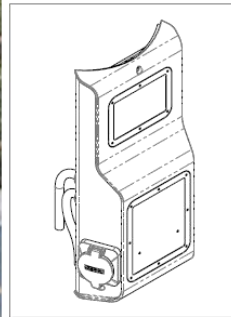
## Wind & Rain

3.3.7 Wind & Rain

ENVIRONMENT



BLACK TOWN, SYDNEY



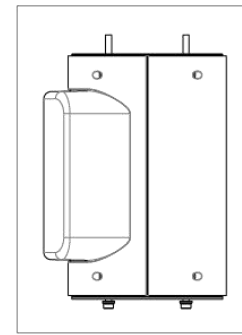
EV CHARGING, ASSEMBLED VIEW



## EV Charging

3.2.7 Electric Vehicle Charging

ENVIRONMENT



SMART PARKING, SIDE VIEW



ROYAL BOTANIC GARDEN, SYDNEY



## Smart Parking

3.4.5 Smart Parking

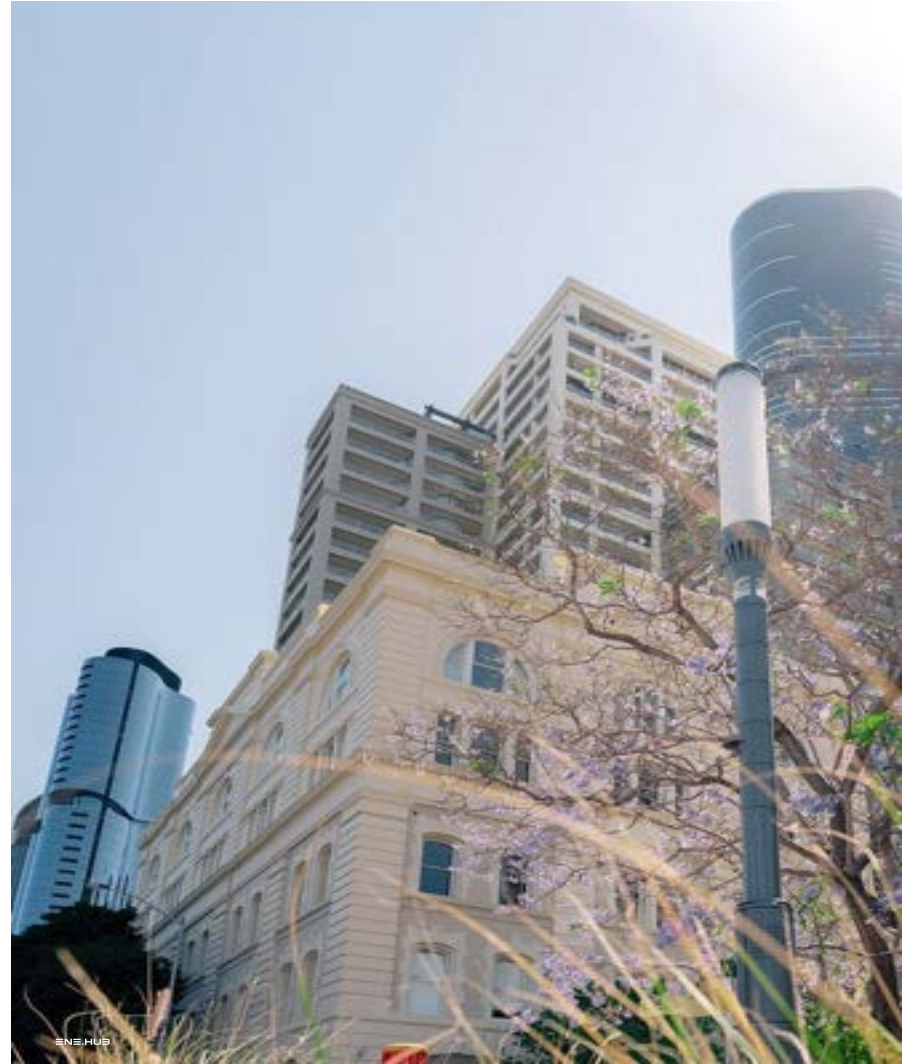
TRANSPORT

# דוגמאות לפרויקטים ויישומים בעולם



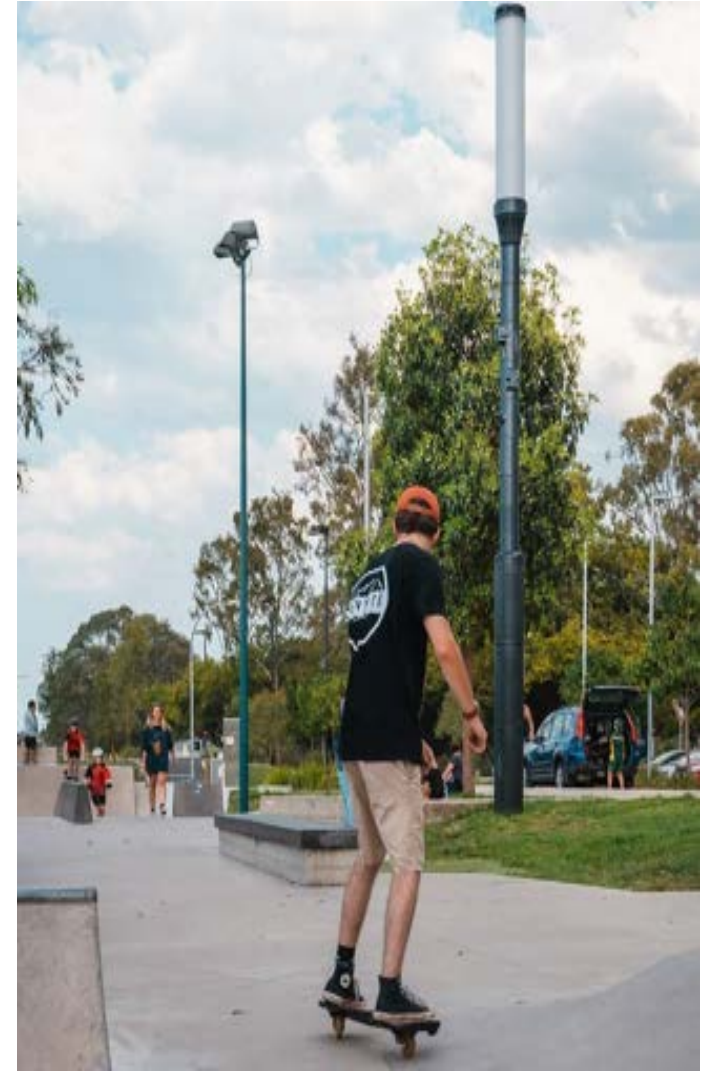
# ORWAY

That's the way to communicate



# ORWAY

That's the way to communicate



**ORWAY**

That's the way to communicate



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# תודה רבה