HUB.NODE
MULTI FUNCTION TECHNOLOGY NODE.
MAKING SMART CITIES REAL.
Multi Function Technology NODE (MFTN) for Smart Cities

The HUB.NODE is a beautifully designed, modular and scalable product system. The HUB.NODE is a ‘beginning to end’ product system for smart cities. It will grow and adapt to current and future smart functions.

The HUB.NODE is available in two versions, HUB.NODE 4G discretely accommodates 4G / 5G technology, while HUB.NODE does not accommodate this technology.

Both versions invisibly accommodate the following functions:

- Wi-Fi
- Data-Capture,
- Smart Wireless LED Street, Roadway, Area lighting as well as Floodlights / Spotlights
- Banner arms
- Decorative beacon (RBG light)
- CCTV
- Speakers and Community Messaging
- EV Charging and Parking Management
- GPOs / Events Power Outlets and traditional smart pole functions like signage, traffic and lighting.

Local and State Governments embrace the HUB.NODE because:
1. It reduces street clutter
2. It is well designed
3. It invisibly accommodates all of the disparate technologies converging on our public spaces
4. It can accommodate all current smart city technologies
5. Its modular design allows for new public domain technologies that may be required in the future. (Driverless cars)

TELECOMMUNICATIONS

The HUB.NODE 4G invisibly accommodates all 4G, 5G and Wi-Fi equipment which makes the HUB.NODE 4G an effective and discrete addition to any telecommunications network. Importantly, the antennae are mounted at a height that ensures optimal performance (7 - 11m).

The HUB.NODE 4G, is a replacement for the traditional street light and when deployed in cities, results in a high density of small cell and Wi-Fi locations, thereby ensuring the best coverage and capacity for any telecommunications network.

4G, 5G AND WI-FI EQUIPMENT ACCOMMODATED:

- 4 x Nokia Flexizone (4G) with external antenna’s (including splitters and combiners)
- Nokia Flexizone with integrated Wi-Fi supported
- Commscope Tri-Sector Monopole Antenna 3X-V65S-G-3XR
- Cisco Aironet 1570 Series Outdoor Access Point
- Cisco Aironet Dual-Band Omnidirectional Antenna (AIR-ANT2547V-N) mounted within module in the upper HUB.NODE
- Multiband Combiner
- Multi-vendor support for antenna’s
- All antennae are encased by an RF transparent cover

LED LIGHTING

The HUB.NODE by HUB incorporates the latest in LED lighting. The integrated minimal design of the HUB.NODE is maintained by having all LED Lights housed within the circumference of the node – NO OUTREACHES! Any lighting application can be accommodated by the HUB.NODE. The lighting output can be adjusted to meet any international standard for lighting.
PELCO CCTV CAMERA
CCTV Camera and data gathering are driven by the explosion of a internet of things coupled with increasing requirements for security at a streetscape level. The connection to power and telecommunication make the deployment of closed circuit television through HUB.NODE fast and seamless compared to alternatives. HUB.NODE surveillance is supported by various cameras, and complies with Australian and International standard. As sensors become more sophisticated and their application becomes broader - to include the monitoring of environment and traffic management, HUB.NODE enables the efficient capture of information for the use by the operator as they become smart cities of the future.

4G / 5G
There are up to 4 areas to install up to multiple 4G / 5G compatible small cells in the base of the HUB.NODE to provide high bandwidth and fast data communications services. Communities increasingly require reliable and high speed data connections in their urban centres. HUB can bring these services into town centres in an unobtrusive manner. The antenna is located within the beacon light at the top of the pole.

RGB BEACON
The RGB beacon light position at the top of the pole consists of an opalescent tubular lens which is designed to fit over a range of communication antennas. The lens mechanically fixes to a cast aluminium part fitted to the upper pole aluminium extrusion. Within the cast aluminium beacon base is housed a ‘halo’ of small package coloured LEDS designed to shine upwards between the shell of the antenna and the opalescent lens. The beacon light output offers a soft glow that is achieved by a shielded LED light source (LEDs mounted to a circular ring MPCB) mounted within the cast aluminium beacon base shining up into the tubular lens.

WI-FI
The Wi-Fi module is discretely integrated into the HUB.NODE structure. HUB digitally connects down centres and communities with access to high speed Wi-Fi in an unobtrusive manner.

360° LED AREA LIGHT
>45% Reduction in energy consumption
>55% Reduction in maintenance
Significantly reduced carbon emissions
Full compliance to Australian Lighting Standards
The LED lighting portfolio that HUB offers is innovative and designed for Australian standards. It is beautiful, functional and robust.

FLOODLIGHT / SPOT LIGHT
Incorporated with the HUB.NODE is the provision for dedicated precise accent lights. The majority of applications will be up lighting tree canopies, however the Floodlight / Spot Light can be utilised to illuminate and external features including building facades. The Floodlight / Spot Light is available in white or coloured versions.

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HELP BUTTON WITH MICROPHONE
The Help Button is an important safety feature, which seamlessly integrates into the design of the HUB.NODE. The Help Button with its ‘two way communication feature’ demonstrates safety, provides easy access to immediate help and emergency services and lets authorities react quickly in case of an incident or public safety hazards.

BANNER ARMS
The HUB.NODE can incorporate a 4.5m x 1.5m Vertical Banner. Smaller Banners can be accommodated and provide a valuable canvas for marketing and advertising activities.

SPEAKER
Integrated into the design is a public speaker capable of broadcasting community messages. This can be linked to event announcements in town centres, and can be integrated into an emergency broadcast system. In combination with a WiFi network, push messaging is possible, as it localises advertising.

ENVIRONMENT SENSOR
This, into the structure of the HUB.NODE, integrated environment sensor can measure and track humidity, temperature, air quality and pollution levels and also transmits real-time reports. In combination with the integrated Wi-Fi, the collected data can be issued to the public or any facility in which the information can be further processed.

EVENTS POWER OUTLET
More and more street festivals, events and concerts are brought into the public space. The Event Power Outlet, integrated into the base of the HUB.NODE, provides quick and easy access to power right where it is needed without adding cables and clutter to our public spaces.

ELECTRIC VEHICLE CHARGER POINT
Electrical motor vehicles are 30% more efficient in their cost to operate than traditional petrol or diesel powered vehicles. They are more environmentally sustainable. However, their adoption in Australia has been constrained by the lack of charging infrastructure. HUB addresses this limitation and the HUB.NODE provides electric vehicle charging and enable the growth in the use of electric motor vehicles.
Royal Botanic Garden

CLIENT: Royal Botanic Garden & Domain Trust Sydney

- 40 HUB.NODE
- Smart Lighting System
- 4G / 5G Network
- Public Wi-Fi

ONGOING:
From September 2016 till March 2017

FUNCTIONS:
- Telecommunications
- RBG Beacon Light
- Wi-Fi
- LED Street and roadway lighting
- Community messaging
- Parking management
- Data capture
- Surveillance
- People counting
- Electric vehicle car charging
- Traditional smart pole functions (signage, traffic and lighting)
Bay Run - City of Canada Bay Council

CLIENT: City of Canada Bay Council

- 10 HUB.NODEs
- Smart Lighting System

COMPLETED: November 2016

FUNCTIONS:
- RBG Beacon Light
- LED Street and Roadway Lighting
- Banner arms
- Way finding
- Future proof modules
Sydney Airport

CLIENT: New Era Electrical Services Pty Ltd

- 10 HUB.NODEs
- Surveillance and Wi-Fi Network

COMPLETED: November 2016

FUNCTIONS:
- CCTV
- Speakers
- Wi-Fi
- Emergency Lighting
- Strobe Light
- GPOs
- RBG Beacon Light