Lighting and the IoT

Lighting Analytics | Building Intelligence | Beacon Management

EDA Regional Business Forum 2016
“IoT will have 5-10 times more impact than the Internet … IoT is a $19 trillion dollar opportunity.”

- John Chambers, CEO of Cisco
Why lighting and the IoT?

Hardware
$50 Billion

$550 Billion
Software & Services

Gartner estimates that IoT product and service suppliers will generate incremental revenue exceeding $300 billion in 2020.
Gooee is an enterprise scale IoT lighting ecosystem that provides sensing, control & communication layers that integrate with its cloud API & Management platform.

The innovative service-driven, scalable framework enables lighting manufacturers & building management companies to connect to the IoT.
The Evolution of the IoT

Creating End-Points and Connecting Devices
- Creation of new devices for sensing and control
- Development of connectivity into existing products
- Maturing & development of network & communications
- Price reduction on IC’s other components

Storing and Managing IoT Big Data
- Scalable data platforms developed to store transactional activity
- Data analytics and processing engines offered on PaaS model
- Commoditization of physical infrastructure by companies like Amazon enable large-scale deployments

Effective consumption of Data for Applications
- Easy access to the data on mass scale
- Easier development of Applications and Data visualisations
- Platforms to remove the complexity of coding & scripting
- Packaged SDKs that securely expose the data environment
"Lighting is the ‘Trojan Horse’ of the Internet of Things as the most pervasive & ubiquitous element in any building"
Lighting Analytics
Lighting Analytics

Average Dimming and Daylight Contribution

- **Daylight Factor**
- **Average Dimming**
- **Dimming Range**

**Dimming Range**
- **Mon–Fri**: min. 40%, max. 79%
- **Sat–Sun**:
  - min. 30%
  - max. 50%
- **Week**
  - average: 65%
- **Daylight Contribution**
  - average: 0.33
Emergency Lumen Maintainence

Control Group: 1.36 Corridor
Floor: Lower Ground
Emergency Type: Maintained
Luminaire Quantity: 4

Group Status: Good
Last Test: Function Test
Test Date: Nov 2016
Maximum Lumens: 0.988
Minimum Lumens: 0.969
Average Lumens: 0.983
Lumens Range: 0.019
Hardware Technology - IOT Sensor

**Key Innovations**

- Smallest multi-function lighting & data analytics sensor
- Reduce cost and size compared to existing options
- Edge-Node Processing to optimise mesh network performance
- 3rd party sensor integration
Value Proposition - Gooee Hardware

2. WIM EXPLODED
   - Power & Metering
   - Communications
     - Bluetooth Smart Mesh
     - Zigbee + Thread
   - Control
     - DALI, DMX, 0-10 & 1-10

3. SENSOR BOARD

4. RETROFIT CLIP

5. GATEWAY
The Cloud Platform is the brain of the ecosystem.

Gooee’s enterprise cloud has been designed to manage the high-velocity/high-volume transaction data from the on-premise environment and provide an extensible platform to develop applications and data visualizations through its API and SDK.

Employing the latest security implementations in every area, the Gooee cloud is a highly secure, scalable and robust platform on which to develop service-driven applications for the lighting sector.

Every device on the Gooee network is assigned a unique ID, allowing us to individually address them to control and read sensing data.
Value Proposition - Gooee Cloud

Key Innovations

- Powerful secure cloud-based management portal
- Automated lighting control through scheduling and rules
- Multi-location/building management
- Multi-user with granular permissions
- Beacon management, allowing on/off control
- Energy & Lighting analytics reporting
Value Proposition - Gooee API

Key Innovations

- Encrypted REST and Pub/Sub (Real-time) API
- Designed for the management of Connected Devices across multiple sites and buildings
- Secure and granular data access
- Scalable usage tiers to allow Lighting Manufacturers flexibility in their business model
- Fully interoperable for 3rd party integration and application development
Gooee has designed & engineered an enterprise scale IoT lighting ecosystem that provides sensing, control & communication layers that integrate with an enterprise scale cloud platform.

The innovative service-driven, scalable framework enables lighting manufacturers & building management companies to connect to the IoT.