

Organic Response: Turning lighting companies into IoT enterprises

(Excerpt from LEDs Magazine article - [Behind-the-scenes companies usher in the smart lighting era](#) by Mark Halper)

Organic Response is a small company with a goal that is aimed at nothing less than the big wide-open scene.

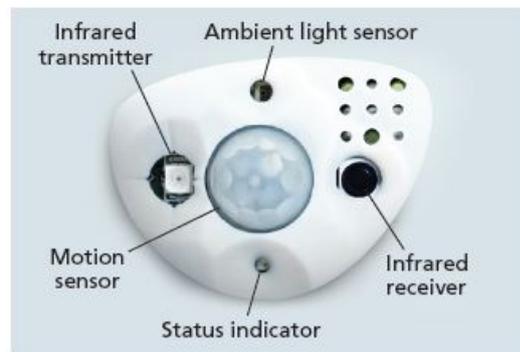


FIG. 2. Organic Response teamed with GE's Current energy and lighting unit on this connected lighting installation at Dixon Advisory, a real estate group in New York City. The inset shows a sample smart sensor that would be embedded in luminaires.

"Our mission is to provide the hardware and software platform to enable traditional lighting companies to transform into an Internet of Things company," said Chris Duffield, co-founder and CEO of the five-year-old Melbourne, Australia firm (Fig. 1).

To help convert office luminaires into IoT nodes, Organic Response is providing a kit of sensors on an OEM basis for vendors to embed in their luminaires. The startup already counts Current, powered by GE and Feilo Sylvania as customers.

The sensors allow end users to take note of room occupancy and lighting levels, and to thus control the lights on an intelligent basis in which luminaires switch on and off and brighten and dim as needed. The immediate benefits are energy savings of 20-40%, according to Duffield, as well as general improvements in light quality and in delivering the right light levels at the right time - something that Duffield claims Organic Response does better than others via use of algorithms that enable lights to be constantly aware of what other lights in the system are doing in response to building occupancy.

But energy savings and lighting comfort are just what Duffield calls Organic Response's "ticket to play" in the IoT lighting game. The big value that Organic Response offers will come from two other aspects of its hardware and software offering: cloud-based occupancy analytics and Bluetooth-based indoor location services.

Embedding occupancy sensors in luminaires "gives us the opportunity to collect vast amounts of information about what's happening in a building, which we can aggregate in the cloud and provide back to tenants and property owners as actionable insights," said Duffield. Those actions can include eliminating unused space, reassigning floors for different purposes, doubling up area functions, and all sorts of other moves that Duffield says will, like with energy reductions, bring another 20-40% savings. In the pricey world of office real estate - New York City rents averaged around \$70/ft² earlier this year, according to The Real Deal - and those savings could add up to much greater numbers than energy savings, Duffield reported.

Meanwhile, Organic Response hopes to soon embed Bluetooth beacons that would underpin location-based services in places like retail stores, hospitals, and other public buildings. In retail environments, luminaire-embedded beacons would ping shoppers' phones and offer special deals on nearby items; in hospitals, beacons could keep track of valuable assets such as medical equipment (nurses spend an inordinate amount of time looking for misplaced things).

Like its rival Gooee, Organic Response is waiting for the Bluetooth Special Interest Group to ratify a standard for a mesh version of Bluetooth that significantly broadens the physical reach of Bluetooth signals, which are currently limited to about 30 ft.

Organic Response is working with another startup - Bluetooth mesh specialist Silvair, based in San Francisco and in Krakow, Poland - to help deliver an indoor location-based offering.

The small Australian company is currently raising funds in an expansion effort, hoping to double its headcount to nearly 60 by the end of the year, from 28 today. It received financial backing last year from German energy utility E.ON and from US venture firm CTV. Its recent deal with GE's Current was cemented with an installation in the offices of Dixon Advisory (Duffield's former employer) in New York City (Fig. 2). Organic Response is not the only smart lighting play at Current. The GE unit recently [acquired front-end controls company Daintree Networks](#), recently [partnered with Honeywell's Tridium unit to help collect and analyze building data](#), and [has worked in the past with visible light communications specialist ByteLight, now part of Acuity Brands](#).

If there's room for all of those players in just one vendor's IoT cast of characters, then things are indeed starting to get big behind the smart lighting scene.