Is commercial lighting ready for an explosion of API-led innovation?

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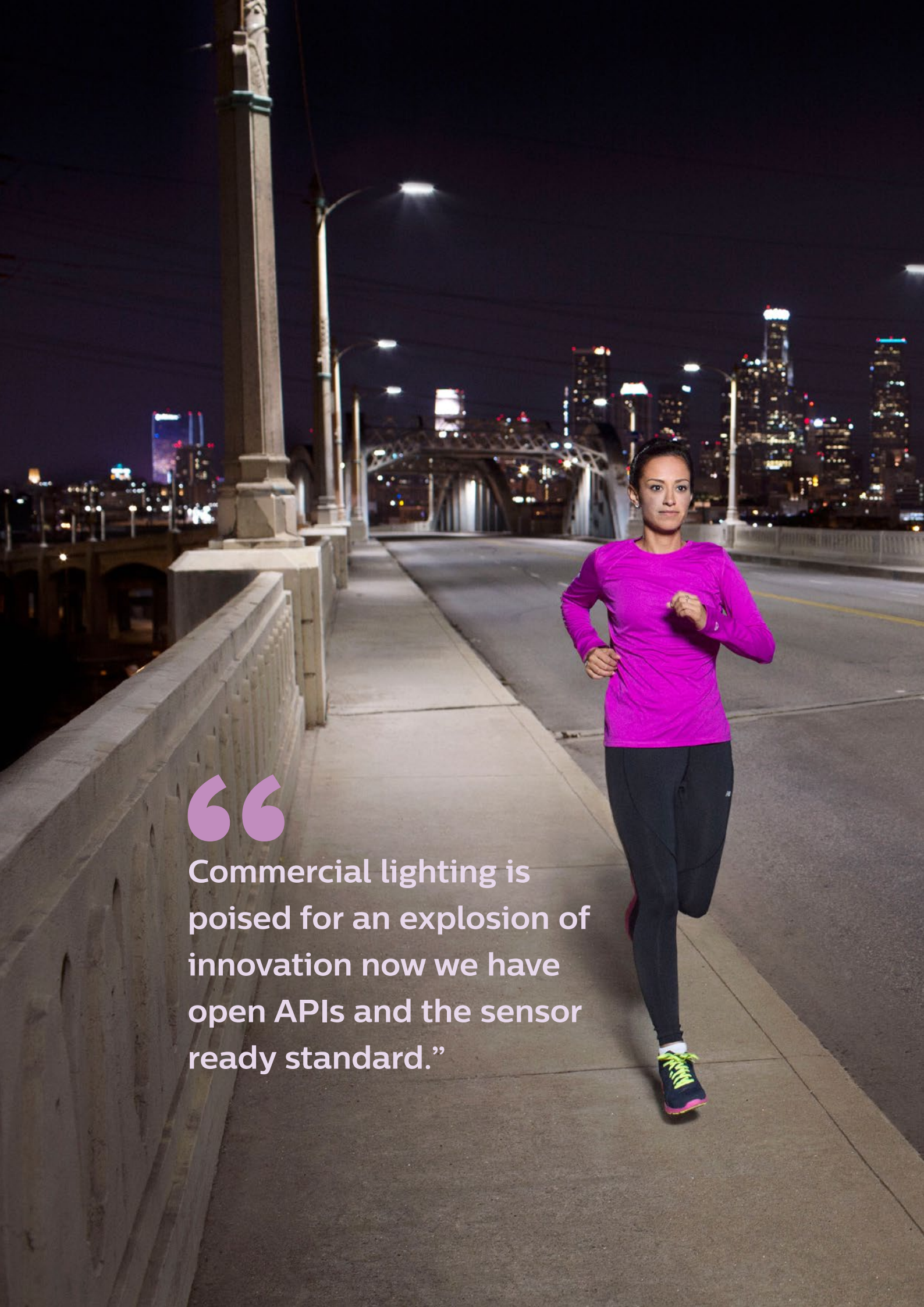
Commercial lighting is no longer a world unto itself. It's poised to become part of the nervous system for smart cities and smart buildings, thanks to standardized application programming interfaces (APIs) that will drive an explosion of innovation in connected lighting.



“Commercial lighting is poised for an explosion of innovation now we have open APIs and the sensor ready standard.”

The power of an open API

Innovation speeds up when you open your interface and let other innovators in. As we've seen in the smart home space with Philips Hue and Amazon Echo, a well-defined open API can lead to phenomenal growth. Today, Philips Hue has more than 700 third party integrations with the Hue API and is the world's leading connected lighting system for the home. The Echo offers a huge array of apps and kick-started the craze for voice assistants, now the fastest-growing consumer technology market with 9 million devices sold in Q1 2018 compared to 2.9 million last year. Now you can file an aircraft noise complaint simply by pressing the button on your Echo, showing the power of APIs and connectivity to automate complex tasks.

What about commercial lighting?

With open APIs reinventing the possible in people's homes, now it's commercial lighting's turn. Connected lighting is an enabler for visionary ideas about what the built environment can be. This is because the lighting grid can provide an intelligent infrastructure for the Internet of Things (IoT) and make smart cities and smart buildings a reality. As internet giants like Google and Amazon step up investment in these markets, we've taken our own important step forward: transitioning to open standards, including the sensor ready (SR) standard.

The sensor ready (SR) standard

The SR standard (adopted by both ANSI and DiiA) will do for the lighting industry what open APIs have done for the software industry. It will provide a standardized intra-luminaire foundation that any application developer can use to reach into lighting to unlock new value. Prepare yourselves for a surge of innovation driven through lighting infrastructure.

Smart cities

Intelligent LED streetlights are poised to become the central nervous systems for smart cities. It may sound futuristic, but it's already happening. This is because connected light poles can now act as communications nodes with sensors, software and controllers to gather and relay city data. Cities are realizing that once they've invested in connected street light infrastructure, they've built a platform for the IoT applications that will turn them into smart cities.

The SR standard paves the way for street lights to provide both a sophisticated data-collection infrastructure and an easy and future-proof integration point for IoT apps. Sensors mounted on light poles can report on everything from air quality, noise, light pollution, traffic congestion and garbage bins to parking availability.

With some help from developers, these new data flows can be surfaced to city authorities so they can take action. They can also trigger city responses automatically – think traffic signals that adjust dynamically to reduce congestion or lighting that self-optimizes to improve visibility and safety in bad weather. And of course, data analytics and artificial intelligence (AI) can be used to surface trends and patterns from this data to help cities optimize public resources and city services.

Cities are already adding these new capabilities. The city of Los Angeles, for example, is monitoring noise levels and the lighting power grid from street lights. And in Toronto, Google is working with city authorities to create a smart city proof-of-concept called Quayside. This sensor-enabled neighborhood aspires to harness the enormous data sets generated by urban living to improve city life.

Smart buildings

Lighting infrastructure can also act as the central nervous system of a smart building, unlocking many more opportunities for innovative applications. One among many is self-reporting emergency lighting systems. Another that looks very promising is using voice technology as an interface for people to interact with lighting. We're already seeing new ideas in this space with Amazon's Alexa for Business, which lets workers activate the right lighting and technology settings when they walk into a meeting room, simply by saying 'Alexa, start my meeting.'

What's next?

As the vision sharpens for smart cities and smart buildings, we are certain that the lighting industry's open standards will spark a thriving ecosystem for years to come. It's time to partner with big tech and other technology leaders to invent the future. With an intelligent fabric of integration points one day on every city street and every ceiling, the opportunities are limitless.