interact City

The future of your city

An IoT-ready smart lighting system that improves city services and safety

Find out more about Interact City
www.interact-lighting.com/city

Jakarta, Indonesia


Cologne, Germany

The new era of the city

Over half of the world's population lives in urban centers[1], and this figure is set to rise.

This presents cities with major challenges globally. Rapid urbanization and population growth are putting more pressure on resources. This is reflected in the environmental impact of cities; despite occupying a mere 2% of the world's landmass, their footprint is staggering. Cities consume over two thirds of the world's energy[2] and account for more than 70% of global CO_2 emissions[3].

Cities must now reduce their environmental impact while adapting to the needs of the people who live there. Cities need to become safe living spaces that facilitate high quality of life for citizens.

[1] World Health Organization: https://www.who.int/gho/urban_health/en/

[2] C40 Cities: https://www.c40.org/why_cities

[3] https://new.unhabitat.org/topic/climate-change

Smart cities: the way forward

How can we successfully navigate these challenges? For many decision-makers, the answer is smart cities.

In an increasingly digitized world, it's clear that technology will significantly impact how we manage, run, and grow our cities. This has spurred a rapid increase in smart city initiatives and interest in the potential for smart cities in recent years.

Smart cities can offer important benefits, including:

- More efficient city planning and operations
- Improved city services
- Increased sense of safety and security
- Significant energy savings and reduced costs
- Enhanced city sustainability potential
- Enabling the community to engage with data from the Internet of Things (IoT)

Albany, New York, USA

Creating a smart city

Making the most of smart city opportunities while navigating technical, legislative and political challenges is a balancing act.

Limited budgets and funding. Resource constraints. Siloed infrastructures. The pressure to solve more immediate problems rather than focusing on longer-term transformative goals. These are just some of the challenges getting in the way of creating a smart city.

But despite these difficulties, city leaders are expected to deliver results. They are often called upon to:

- Continually improve citizen services (e.g. provide inner city parking, reduce traffic, create a healthier environment)
- Enhance the feeling of public safety by reducing crime rates and accidents
- Improve the city infrastructure
- Demonstrate technology leadership (e.g. leveraging technology for more rapid responses to complaints)
- Enhance engagements between citizens and the city
- Save taxpayer dollars, improve operational efficiency and create energy savings
- Access grants and private sector funding via public-private partnerships (PPPs) to attract new citizens and business
- Manage the expectations and ambition of key stakeholders

Get more value from something you already own – your lighting

To create a smart city you need a city-wide infrastructure. Fortunately, street lights are found in abundance all over public spaces, meaning they can easily play a role in the success of smart cities.

The right lighting is essential at night for proper visibility and safety. It can have a profound effect on the attractiveness of a city, which in turn impacts tourism. But the role of lighting is evolving far beyond illumination.

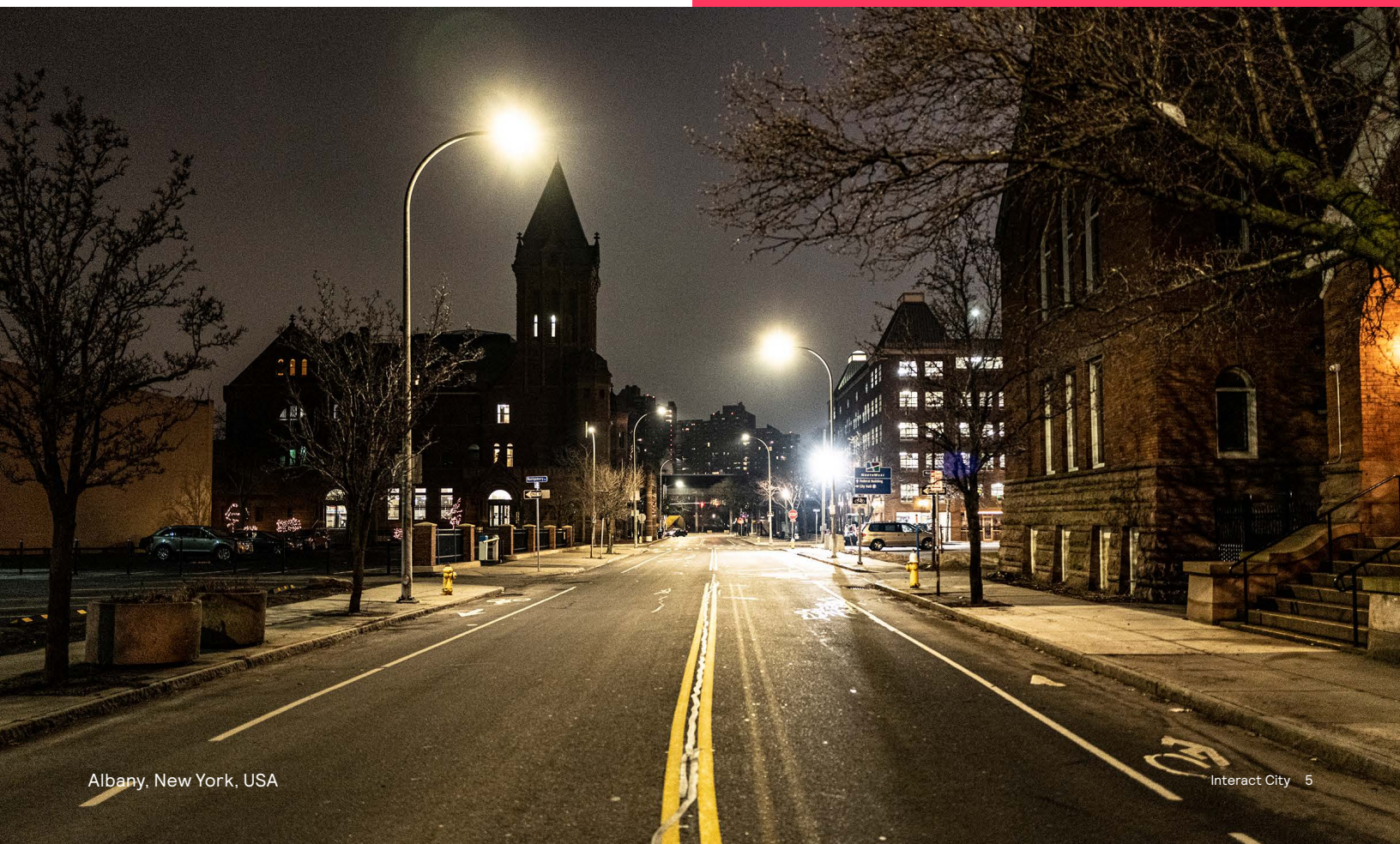
Switching to LED lighting can offer energy savings between 50–70%. And the potential doesn't stop there. By pairing LED with smart controls, cities can realize energy savings of up to 80%.

Connected lighting enables the use of applications that can save energy in numerous ways, like accurate on/off switching, dimming control, light level management and integration with other systems to enable condition-based lighting. It allows cities to fully enjoy the benefits of LED.

Street lighting is everywhere that people need to go. When connected, it can serve as the ideal infrastructure for distributing IoT capabilities across a city, and as an integration point for new applications and services.

"I wanted to plan for the city of the future. We needed to ensure that we're investing now for generations to come."

Kathy Sheehan
Mayor, Albany, United States



Albany, New York, USA

Welcome to Interact City

Interact City is a connected LED lighting management system which helps you improve services, enhance safety, beautify public spaces, encourage civic pride and increase energy efficiency. The connected LED lighting system and management software enable you to remotely manage, monitor and control all city lighting, from roads and streets, to sidewalks and crossings, and parks and plazas, all from one single dashboard. Plus, the savings you make can be reinvested into future projects.

Interact City is also compatible with your existing lighting infrastructure, allowing you to integrate it with a smart city dashboard and other applications like noise and air quality monitoring, incident detection and more, via open APIs. These APIs make it easy to respond to the challenges of the city, improve liveability and create a more attractive urban environment. Overall, Interact City helps you to forge a unique city identity capable of attracting more visitors and investment.

What Interact City can do for you

- Control and monitor lighting remotely
- Set appropriate lighting schedules to deliver the right light when and where it's needed
- Override schedules manually in the event of incidents and emergencies
- Identify lighting failures through real-time fault notifications
- Support sensors that collect both lighting and non-lighting related data, which can be used for further analytics and use cases
- Achieve energy savings of up to 80% over conventional lighting
- Visualize lighting assets in one dashboard
- Export lighting data to smart city dashboards

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Your smart city building blocks

Interact City utilizes powerful software applications which can transform city luminaires into valuable sources of data.

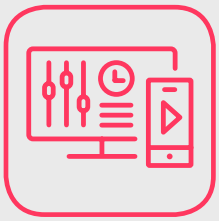
You can then share the data you collect with other city management systems to analyze and gain new insights into your operations.

Lighting asset management

Lighting asset management software gives you full visibility into your lighting infrastructure. Automatic fault detection alerts you to issues for quick response and minimal downtime. Data can be used to make informed decisions and optimize lighting performance. Manage lighting-related workflows from an intuitive application and view data from a centralized dashboard.

Energy optimization

Optimize street lighting performance and accurately measure energy usage in real-time. Full control of your city lighting lets you reduce CO_2 emissions, make progress toward your sustainability goals, and lower energy usage and costs. Those savings can be reinvested into other areas of your city's infrastructure.



Scene management

Remotely adapt city lighting to suit time of night, season, or event. Turn lighting up if there's a traffic incident or a crime. Dim to 30% when the streets are empty late at night. Use sensors on the light poles to detect activity, keeping your citizens safe and comfortable – easily turning parks and plazas into livable spaces.

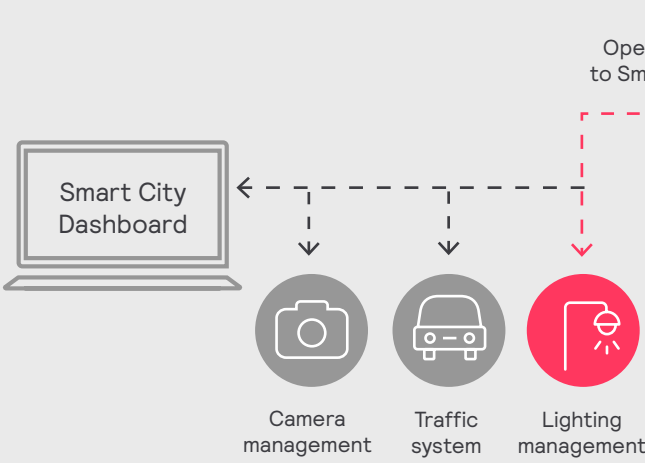
Sensors

Turn every street light luminaire into a city sentinel. Outdoor sensors which detect motion/presence, tilt, vibration, ambient temperature, noise and others, can be attached to a luminaire fitted with the ZHAGA Book 18 push-and-twist lock socket interface. The sensing functions can be remotely configured and data can also be sent directly to the Interact City application.

How it works

Smart street lighting is part of the smart city environment. By integrating smart street lighting into a central dashboard, it enables the lighting to communicate with other smart city applications such as smart parking, waste management and traffic control.

Through this integration, the customer is able to extract, analyze and utilize the data generated from various systems like transportation, environment or traffic. This benefits all stakeholders across the whole range of municipal services.



Individual Light Point

- Cellular networks (3G/4G M1)
- NBIoT*

*In consideration

Future-ready for sensors

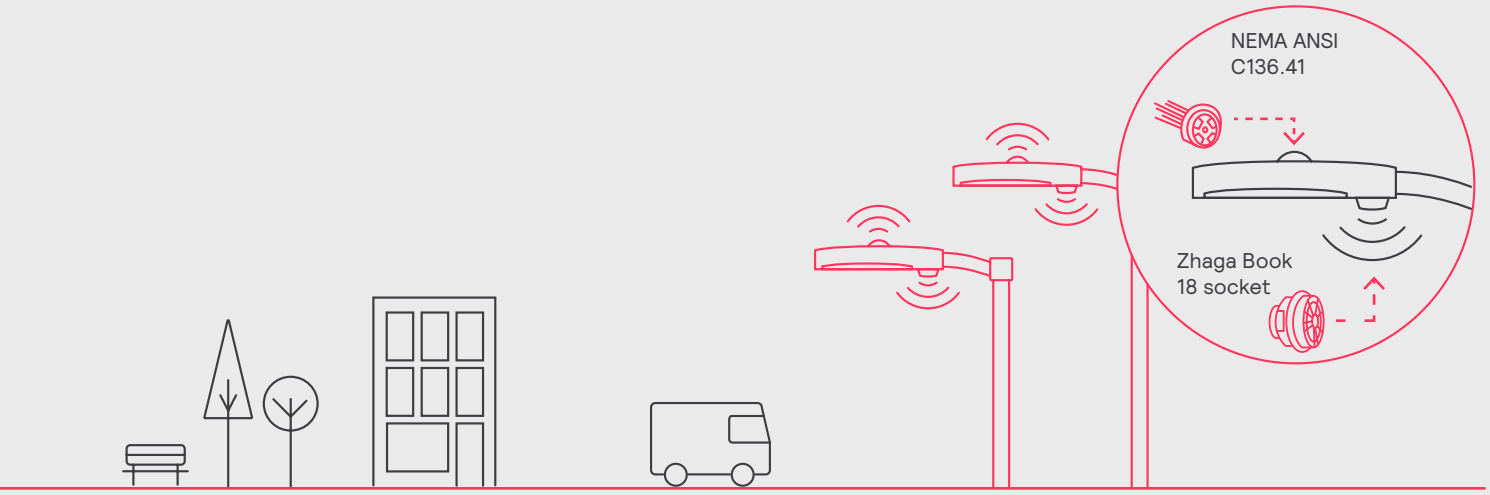
SR, D4i and ZD4i certified luminaires, nodes & sensors

Flexible solutions that adapt to your operations and the way you work

Aesthetically pleasing

Luminaire agnostic

Suitable for new & retrofit projects



State-of-the-art technology in your hands

IT and network security

We take system security very seriously. Interact employs a number of measures to safeguard data integrity and network security.

To ensure that scheduling and control commands are executed properly all network communications are encrypted from end to end. Only registered devices can communicate with the system, and two-factor authentication prevents unauthorized third parties gaining access or tampering with data during transmission. All collected data is regularly backed up and encrypted.

Our policies and processes are aligned with global standards such as ISO/IEC 2700x—Information Security Management Systems (ISMS) and the ISA/IEC 62443 standards suite for product development. We are the first lighting company to be certified to IEC 62443-4-1. The IEC 62443-4-1 is the Security Certification for the product development process which ensures that all identified security requirements are implemented, verified, tested, and documented with traceability. Our business processes are internally and externally audited on a regular basis.

www.signify.com/global/security-and-privacy-statement-for-connected-products

Ecosystem partners

We are constantly expanding our ecosystem partner network. We currently work with partners including Axis, SAP, Cisco and Ruckus on application developments in these specific areas:

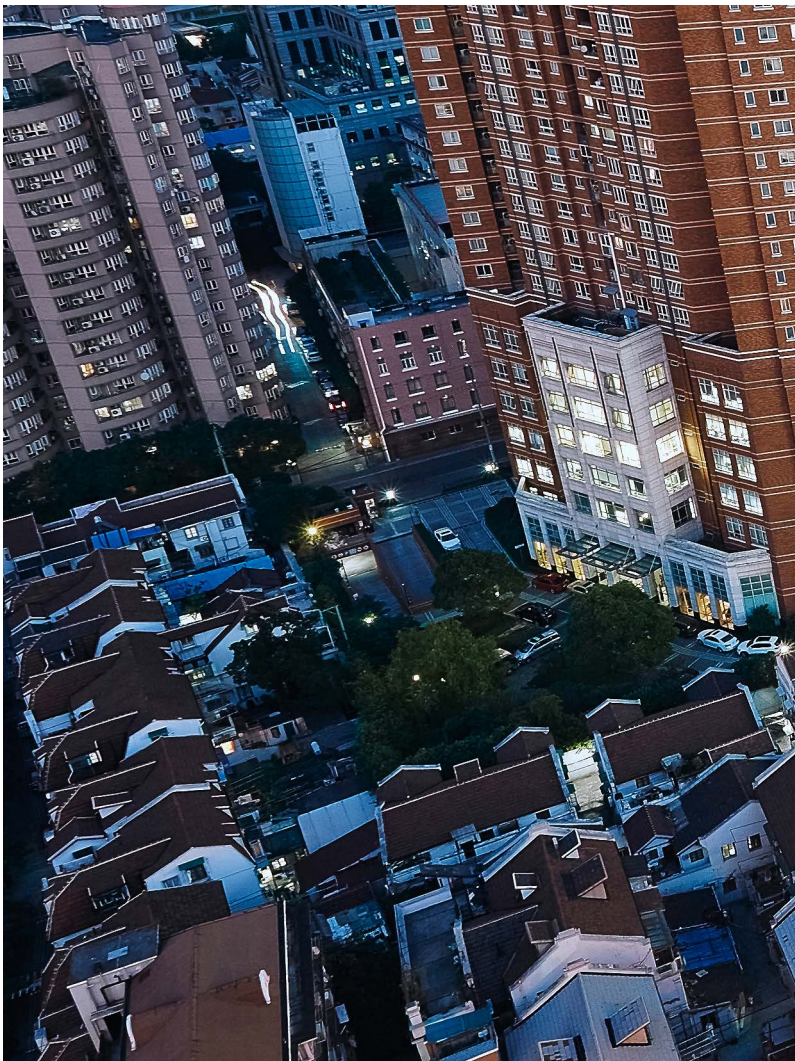
- Motion and presence sensing
- Air quality monitoring
- Weather monitoring
- Traffic monitoring
- Traffic incident detection
- Road surface monitoring, e.g. extreme weather conditions
- Noise monitoring for incident detection, e.g. sudden loud noises
- Intrusion and zone crossing detection
- Personal safety, e.g. emergency panic buttons
- Parking violations

Developing applications

Interact City uses standardized data interfaces and open APIs to enable integration with existing city management systems. We are continuously developing future applications that extend beyond the lighting ecosystem using a combination of sensor technology, data sharing, and platform-level integrations.

Each application is designed to be scalable and future-ready. Partners and third parties can also use the Interact City APIs to develop new smart city applications using the data collected via the connected lighting system.

www.developer.interact-lighting.com



The cellular advantage

Simple, fast setup

Mobile network operators (MNOs) have already established cellular networks in your city. No new networks or planning is required. This makes setting up new lighting controls very fast and cost effective.

Lowest cost of maintenance and no hidden hardware fees

Cellular networks are managed and maintained by the MNOs' technicians and require no additional personnel or maintenance activities from the city or utility. Additionally, direct communication with individual nodes eliminates any hidden hardware fees, such as with gateways.

Lowest total cost of ownership

In addition to low cost of setup and maintenance, with cellular architecture you can avoid unexpected deployment and operational costs elsewhere in the system. For example, cellular, projects can easily be done in phases, as there's no inherent limitations on the number of streetlight points that can be added to the system or where the physical streetlights need to be in relation to one another.

Scalable support for new sensors and Smart City application growth

Cellular communications provide reliable connectivity that can scale from very low to high data throughput to support a wide range of applications. Customers must factor in the diverse range of use cases and future smart city applications needs, like pedestrian and crowd safety, smart parking, and traffic management.

Secure and reliable network

MNOs have rolled out several generations of standardized technology over the past few decades—technology which has been proven over years of operations with many different types of connected devices.

Getty Images

Blazing the trail to a smart, sustainable future

Los Angeles, California, USA

The vision

Los Angeles city officials wanted to upgrade its lighting to make the city more livable and pedestrian-friendly. They wanted a system that would increase street light uptimes, shorten repair cycles, and improve system monitoring and maintenance – all while minimizing initial and ongoing costs and making the city more sustainable.

The solution

Los Angeles converted more than half of its 215,000 street lights to LED, over 110,000 of which are connected to and managed from the Interact City dashboard. The software has greatly simplified lighting asset management and helps the city to be more responsive to the needs of its citizens in different locations.

Software applications used:

- Scene management
- Lighting asset management
- Energy optimization

Project details

- 165,000 street lights converted to LED
- 63% energy savings, allowing funds to be invested in other projects
- 48,000 tons of CO_2 emissions saved annually

> The fact that Los Angeles has selected Interact City sends a very positive signal to other cities. It validates connected lighting as a solution that can deliver really substantial benefits."
>
> **Ben Ferrari, Director of Partnerships, The Climate Group**

A collaboration that serves the public interest

New York Power Authority

The vision

Smart Street Lighting NY was launched in early 2018 by Governor Andrew Cuomo with an ambition to replace at least half of New York's more than 1 million streetlights with energy-efficient and sustainable alternatives. Through the program, NYPA provides financial, logistical, technical, and informational support to help cities upgrade their street lighting to connected LED. Interact City IoT lighting software gives municipalities the option of leveraging the connected street lighting system to deploy smart solutions citywide.

The solution

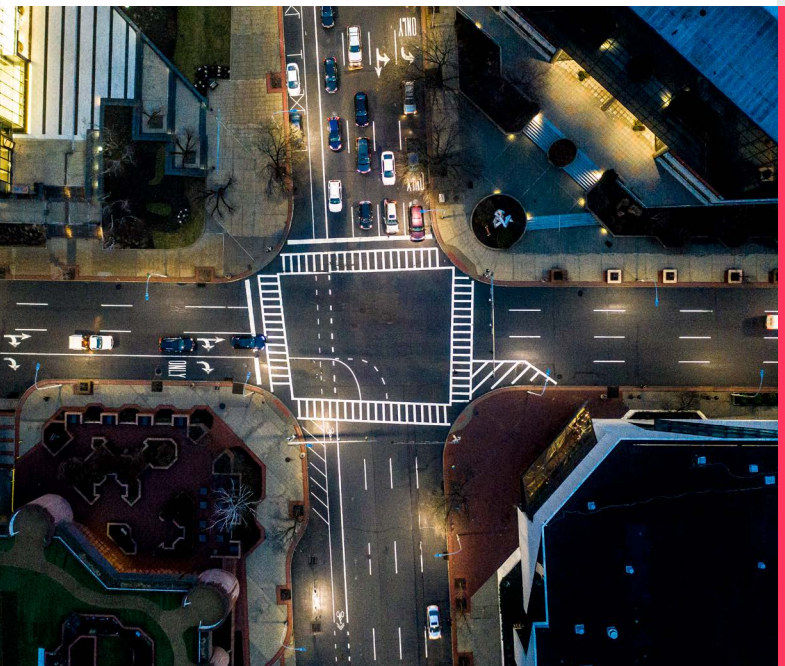
The Smart Street Lighting NY collaboration model is flexibile enough to apply anywhwere in the world where municipal leaders have worthy plans that require financial and logistical help, and where state governments and agencies are willing to lend monetary support and expertise. Government structures, legal regimes, political cultures, and much else may differ, but the basic principles pertain.

Software applications used:

- Scene management
- Lighting asset management
- Energy optimization

Project details

- 50,000 LED street lights have been installed saving more than 50 million kWh and $8.5 million in energy costs per year
- Supports the New York state goal of converting 500,000 street lights across the state
- The NYPA model serves as a supple, multi-layered example of cooperative governance



"As we implemented Smart Street Lighting NY, we came to understand that these systems are no longer used just to illuminate roads. They are in fact vertical assets that can be utilized for smart city deployment."

Gil Quiniones, President and CEO, NYPA

Interact City 's global presence

Here are some countries already benefitting from Interact City:

Abu Dhabi, United Arab Emirates
Badajoz, Spain
Barcelona, Spain
Bergen, Norway
Bergisch Gladbach, Germany
Cardiff, United Kingdom
Lombok, Indonesia
London, United Kingdom
Los Angeles, USA
Rogaland, Norway
Madrid, Spain
Manchester, United Kingdom
Markham, Canada
Pune, India
Scotland, United Kingdom

As you can see, Interact City has customers across the world, from Albany to Jakarta. With more than 2,000 project sites and over 2 million connected light points in 50+ countries, we're growing year after year.

To find out more about our other stories, visit us at:
www.interact-lighting.com/city

Singapore
Tilburg, the Netherlands
Eindhoven, the Netherlands
Trafford, United Kingdom
Warrington, United Kingdom

Wigan, United Kingdom
Kunshan, China
Malacca, Malaysia
Sala, Sweden
Canary Islands, Spain

Rochester, United States
Rio de Janeiro, Brazil
Citta Sant Angelo, Italy
Szczecin, Poland
Singapore

Learn more about Interact City
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