PHILIPS

*City***Touch**

Public lighting

Future-focused
street lighting

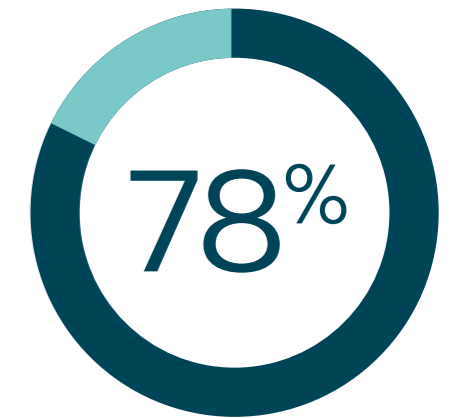Use connected lighting to transform your city

The city and the
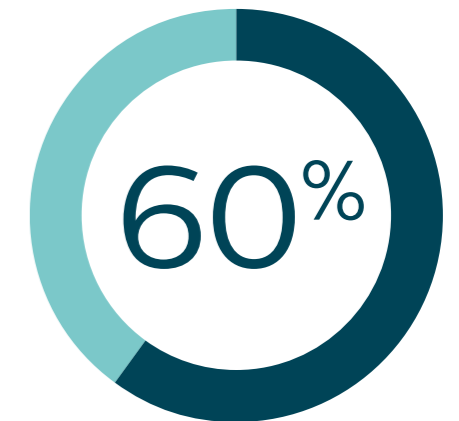# planet

The challenge of the city

Modern cities face a host of demands. The economic climate means that those responsible for their administration must find cost savings wherever they can. Meanwhile, increasing regulation, public opinion and awareness of the importance of environmentally friendly practices mean that cities are seeking new ways to minimize their impact on the planet. Also, residents expect an increasingly better quality of life. So cities need to find ways to be safer, cleaner, brighter and more dynamic – ways to create appealing neighborhoods that people can identify with.

The role of lighting

In creating tomorrow's city environment, public lighting delivers more than illumination. Lighting is essential for orientation and most importantly, for safety perception. It's also part of the economic conversation and can have a profound effect on the attractiveness of a city, which in turn impacts tourism. And of course, modern LED lighting offers great cost savings. Culturally, public lighting can help in the staging of sporting events, lighting busy parts more brightly as fans arrive while keeping quieter residential areas at a lower level. It also offers the flexibility and dynamism to become part of the expression of a city's identity, emphasizing the character and diversity of areas within it. Lighting benefits everyone across the social spectrum – the young and old, businesses and individuals. And finally, public lighting is at the heart of the debate on environmental concerns, with new answers to questions of sustainability, light pollution and wildlife preservation. Across the globe, the city is evolving rapidly and its lighting with it.
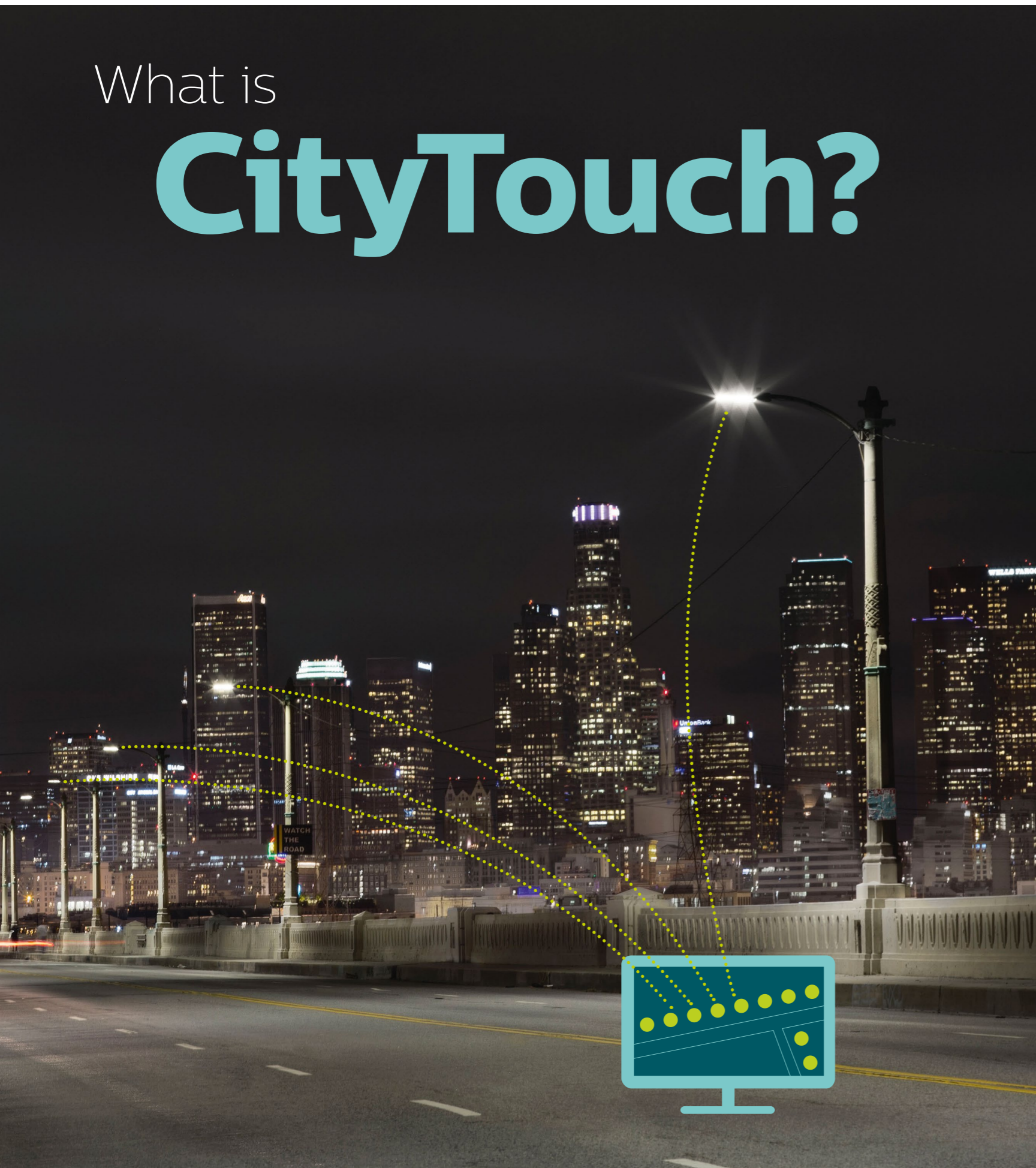
78%

Today, cities consume 78% of the world's energy.*

60%

Cities today also produce more than 60% of all carbon dioxide.*

Source: UN Habitat (United Nations Human Settlements Program)

The growth of the city

What is
CityTouch?

How CityTouch can help

For anyone responsible for maintaining and improving a city's infrastructure, these are challenging, and yet invigorating times. New technologies like CityTouch offer opportunities undreamed of a few years ago. Connected lighting is an end to end solution that allows city authorities to provide a better lighting service, while residents enjoy a lively city that feels safer too.

A fully integrated end to end solution

CityTouch is the future of city lighting. It offers you an incredible level of control and monitoring, as well as significant energy savings. It is built on three pillars integrated into one solution: software, luminaires and services. Our smart and intuitive applications revolutionize the way you operate your city's street lighting; products like CityTouch Ready luminaires are able to 'talk' to the software; while services such as data and consulting provide guidance and support to ensure you get the most out of our solutions.

CityTouch offers more flexibility for your city's lighting operations, new insights and an improved service your citizens will notice and appreciate. All with a lower environmental impact, creating significant cost savings.
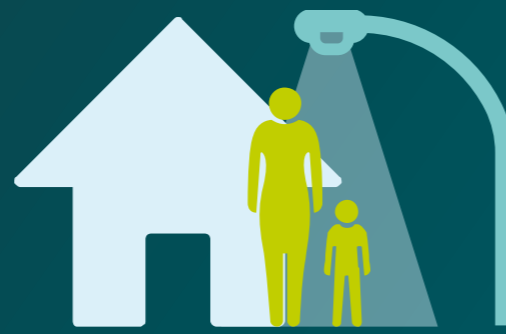
Welcome to the future of light.

Contents

A huge
balancing act

City lighting can mean different things to different people. Each has different objectives, but they all want their city to be safe, dynamic, well-run and efficient.

City officials

For anyone involved with city administration, it can feel as if you're trying to pull off an incredible balancing act. On the one hand, you want to create a beautiful and safe city. On the other, you need to save money. Meanwhile, you have challenging sustainability goals to achieve. It's no easy job, but CityTouch can help you to achieve all of these objectives.

Citizens

If you're a citizen, you want your city to feel like a modern and positive place to live: to feel inviting and safe. At special times, you want it to feel lively and celebratory. And of course, you also want your city to be environmentally responsible as well as financially prudent. CityTouch brings cities alive and helps to reduce carbon emissions too.

Lighting operators

If you're involved in running and maintaining your city's lighting system, it will reassure you to know that CityTouch can provide a detailed overview of all your lighting assets, to help you plan repairs and maintenance in the most efficient way possible. CityTouch helps you with planning and budgeting by providing detailed data and rich workflow functionality.

External service providers

If you're a company supplying electricity or managing street lighting for a city, CityTouch can help you offer the highest level of customer service. You'll be able to minimize light outages, help reduce energy consumption and provide detailed information about the city's assets.

Ready
for the future

As a city manager or administrator, you want to make sure your city invests in sustainable systems. CityTouch uses the latest technology and our software is delivered as a service over the Internet, so it's easy to integrate and upgrade.

Similarly, if you're the CEO of a utility or managed services company, you'll want to help the cities you're working with manage their energy costs while improving service levels. That's where CityTouch can help.

"How can I make my city more attractive **without breaking the bank?**"
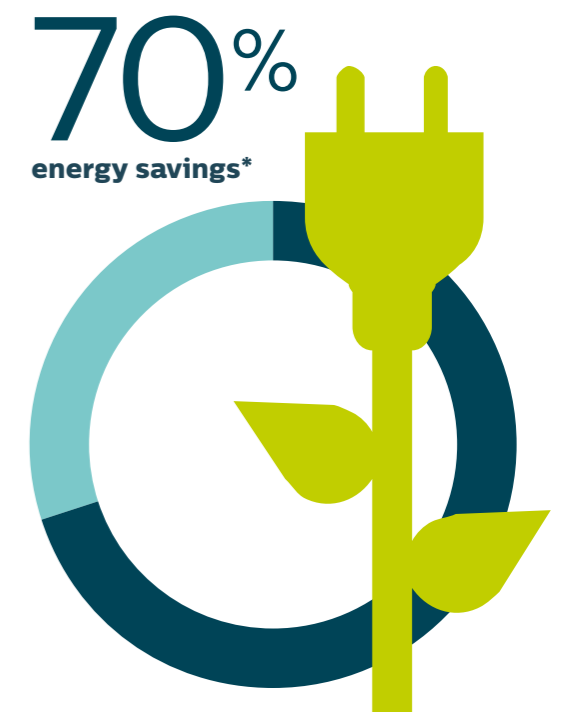
Flexible

CityTouch allows cities to adapt public lighting to all kinds of changing conditions and situations, while realizing energy and cost savings. And by digitizing your data you have the freedom to use it in many different ways.

Sustainable

CityTouch lighting management software combined with LED luminaires can reduce energy use by more than 70% as well as significantly lowering CO_2 emissions. It's an opportunity to make your city more attractive, dynamic and environmentally responsible, along with saving money.

Responsible

CityTouch is lean, efficient and helps you to take control of your public lighting infrastructure – a very visible indication to the people that the city government is making good decisions and using their money wisely.

70%
energy savings*

Source: Report, Gas Natural Fenosa (2012)

Lighting up
Los Angeles

The City of Los Angeles has a population of over 3.5 million, with more streets than anywhere else in America. The city's **215,000 street lights are made in 400 different styles and cover 7,500 miles of roadway.**

L.A. needed a connected system that could easily handle and control every aspect of its lighting, simply and accurately. After piloting several different systems Ed Ebrahimian, Director of the Bureau of Street Lighting for Los Angeles chose Philips CityTouch.

The CityTouch connect application offers system managers a real-time, map-based view of all connected light points via any standard web browser. It also securely and remotely manages all connected light points, tracks their energy consumption, and continuously monitors their status.

Outages and other event notifications are automatically generated with accurate data about the affected light point, its location, type, and the nature of the issue. None of this information was available before CityTouch.

The bureau can now identify luminaire outages without relying on scouting patrols or reports from citizens (previously there were close to 40,000 of these a year). CityTouch's 'close-to-real-time' data eliminates much of the on-site investigation that work crews had to perform prior to repairs, and response times have been reduced from days to mere hours.

"
Street lights play a major role for people at night, whether they're walking their dog, driving, conducting business or visiting a restaurant. **Good lighting makes people feel a lot safer,** so it has become a very important aspect of the city's infrastructure."

Ed Ebrahimian
Director, Bureau of Street Lighting,
City of Los Angeles

"
With this technology, it's just so headache-free. We just install it and move on."

Ed Ebrahimian
Director, Bureau of Street Lighting,
City of Los Angeles

In focus:
CityTouch connector node

Made specifically for the Americas, the CityTouch connector node is lightweight and simply plugs into the standard NEMA socket on top of an existing street light. Connector nodes work with street lights from any manufacturer, both LED and legacy – a key consideration for any city with many different types of street lights.

Once installed, it immediately starts transmitting location and operational information via the cellular network.

Los Angeles looks **ahead**

Ebrahimian is interested in how much extra value CityTouch might offer the city of Los Angeles in the future. He has already piloted the use of CityTouch to remotely manage event-specific lighting in parks and other locations. And he believes that CityTouch may be able to play a role in reducing accident and crime rates.
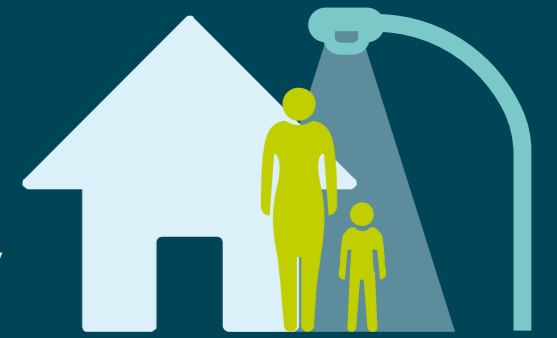
The better reliability that CityTouch brings to lighting operations may be hard to quantify, but Ebrahimian speaks passionately about its value. "I call it priceless, because if we can save one life by finding out if a light is out and fixing it right away, we've done our job."

Safe
in the city

We believe your citizens have the right to go out at night without fear. With CityTouch, brightness levels can be set appropriately for different areas and adjusted easily when needed. This adaptable lighting allows you to keep lights on where you might once have turned them off to save energy. Most importantly, when a light is out, CityTouch will notify you immediately for quick response and repair.

"How will you make my part of the city **feel safer?**"

Flexible public lighting can also help to improve road and street safety by illuminating "dark corners", individual roads and streets, and increasing light levels at junctions and pedestrian crossings.

The right light for every occasion

In fact, whatever their age, gender or interests, citizens expect their city to be a pleasant place to work and live. CityTouch offers a bright, lively, and varied cityscape to not only increase the local people's sense of security and wellbeing but to transform a city's nightscape.

The city can become an inviting place for residents and visitors alike, easily integrating cultural events. So if there's a central festival or city event that people are celebrating, your lighting department can match the lighting to the atmosphere, while keeping residential areas at a lower level.

+10%
sense of security*

Source: Municipal Street Lighting Consortium, City of L.A. (2012)

A greener lighting solution for
Szczecin

100% light output for a main road through the city

Lighting levels programmed to a comfortable level for pedestrians

In focus:
Financing options

Your city can choose to finance a CityTouch implementation in the way that suits it best. For example, Szczecin received central government funding through a green investment scheme.

Other options include PFI (private finance initiative) or ESCO (energy service company). Philips also offers financing services.

> " The CityTouch connect app provides a high level of **flexibility to meet the different lighting needs in our city at any time.**"

Radoslaw Tumielewicz
Director of Roads and Transport Authority, Szczecin

Szczecin is the seventh largest city in Poland, with more than 400,000 residents. It's one of the centers of the country's maritime economy, handling shipping from around the world. The city's charming downtown area, filled with greenery and rivers, has earned it the nickname, the 'Floating Garden'.

Szczecin aims to be an attractive place for investors, tourists and residents alike. The city administration wanted to replace their existing street lighting with a modern, eco-friendly, and economical system. Our challenge was to create a smart street lighting system to make Szczecin feel as safe and be as attractive at night time as during the day.

A beautiful city by night as well as day

Our solution was to install Philips Luma LED luminaires, managed by the CityTouch connect app. This allows them to be flexibly dimmed depending on the weather, traffic movement, or organized events, saving further energy. Luma luminaires are equipped with the latest LED technology, which enables pre-programming of the light output, lifetime of luminaires and power usage. Together with communications and control of individual light points, the entire lighting network can now be controlled centrally from an operator's computer.

Today, Szczecin's residents and visitors can truly appreciate the charms of the city at night. New white LED light makes the cityscape, parks, and squares look more beautiful and bright, while helping people feel safe and secure too.

Efficiency and sustainability

As well as making Szczecin more attractive, the new connected lighting system has produced cost savings of up to 70% for the city. The use of LED technology reduces electricity consumption by up to 50% compared to the previous sodium lighting system, while further efficiencies have been achieved through flexible dimming and the elimination of some manual tasks.

The Luma CityTouch Ready luminaires allow auto-commissioning, auto-locating, and automatic fault notification via the public mobile network, so the complex and labor-intensive process of adding and importing all luminaire data into a conventional lighting management system is no longer necessary.

The CityTouch software platform with its friendly user interface and map-based navigation makes it easy to access data about the status of each luminaire as well as information about faults as they develop. If there are luminaire failures, the maintenance crew can be instructed immediately, therefore improving maintenance efficiency as well as lighting standards. The CityTouch connect app also helps the city realize additional savings through accurate energy metering.

The 'Floating Garden' is suddenly looking a lot greener. Szczecin's lower energy consumption directly translates into reduced CO_2 emissions of almost 7,000 tons per year – supporting the European initiative to achieve a 40% reduction of carbon emissions over 1990 levels by the year 2030. It will save the city up to €360,000 every year.

Smarter system,
easier operation

With CityTouch you can control your city's lighting simply and reliably. Our intuitive software lets you manage it dynamically, interactively and flexibly, so you have perfect control over all your assets.

Our systems are designed for people who manage lighting. With our long-standing experience, we understand city workflows and can help you choose the best luminaires for your city, together with the software and connectivity that will suit your city both aesthetically and financially. We'll also help to upload your city's data to the CityTouch system so you can benefit immediately from new levels of control and transparency.

Flexible

CityTouch can handle a very high level of detail about your data and is extremely flexible, so everything can be configured to your specifications. The huge computing capacity offered within the Platform as a Service (PaaS) allows for a limitless number of lighting assets to be monitored, managed, expanded and adapted, without the need to change or update the infrastructure.

Open

Using open standardized network technologies, CityTouch can integrate seamlessly with any existing systems that your city has already adopted and there's no vendor lock-in, so your city has free choice to install luminaires from different providers. Philips offers end-to-end, cost-effective integration services and technical support, so your city is ready for the future.

Secure

Your data deserves to be protected, which is why our software meets the most stringent security standards with SSL encryption and two-factor authentication. We also hire an external agency to conduct regular penetration tests, so that we can quickly detect and eliminate any potential security issues.

99.9%
system uptime*

*Source: Availability report, CityTouch (2011–2014)

> ❝ How can the lighting information I receive be **more detailed, yet easier to use?**❞

Big change in
Buenos Aires

Buenos Aires is a megacity. Lighting it efficiently required some mega changes.

As the largest city in Argentina, the problem for Buenos Aires' ambitious authorities was that its constantly growing population was resulting in a corresponding growth in energy consumption, costs, CO_2 emissions and light pollution. However, in line with the city's enlightened ambition to be a leader in terms of creating a sustainable, environment-friendly, safe and liveable place, we were challenged to design a new lighting solution that would be more sustainable, more innovative, and more welcoming. In other words, a lighting system that would meet the future demands of city life and make it a better place to live.

To realize the full potential of sustainable public lighting, Buenos Aires mayor Mauricio Macri entered into a public-private partnership with Philips Lighting. As a result, we've now installed an intelligent, future-proof public lighting solution, combining energy efficient LED luminaires with sophisticated lighting management from CityTouch.

In focus:
Integration with other systems

CityTouch has partnered with SAP to help cities plan better and manage costs. Already in Buenos Aires the combined SAP and Philips solution links real-time information from Philips connected street lights with data from other sensors in a single integrated city dashboard to help cities gather valuable information.

As a result, Buenos Aires has been able to increase operational efficiency, realize energy savings of over 50% and greatly improve safety and quality of life for its 13 million residents. We believe that other cities around the world will be able to achieve similar benefits thanks to this innovative and exciting new partnership.

"We have heard many anecdotes about changes in people's habit. They enjoy the parks and squares of the city much more. **People are able to enjoy the city more because they feel safer now."**

Gladys Gatti
Outdoor Segment Leader, Philips LatAm

Giving the controllers more control

CityTouch has provided Buenos Aires with complete control of its lighting system. Lighting operators can now activate, control and monitor each individual light point, aligning the city's lighting output with day-to-day requirements. Energy consumption is therefore optimized, along with maintenance management, via constant monitoring and diagnosis across the network. This level of flexibility and control also facilitates better management of energy consumption peaks, while always ensuring safe conditions for both vehicles and pedestrians.
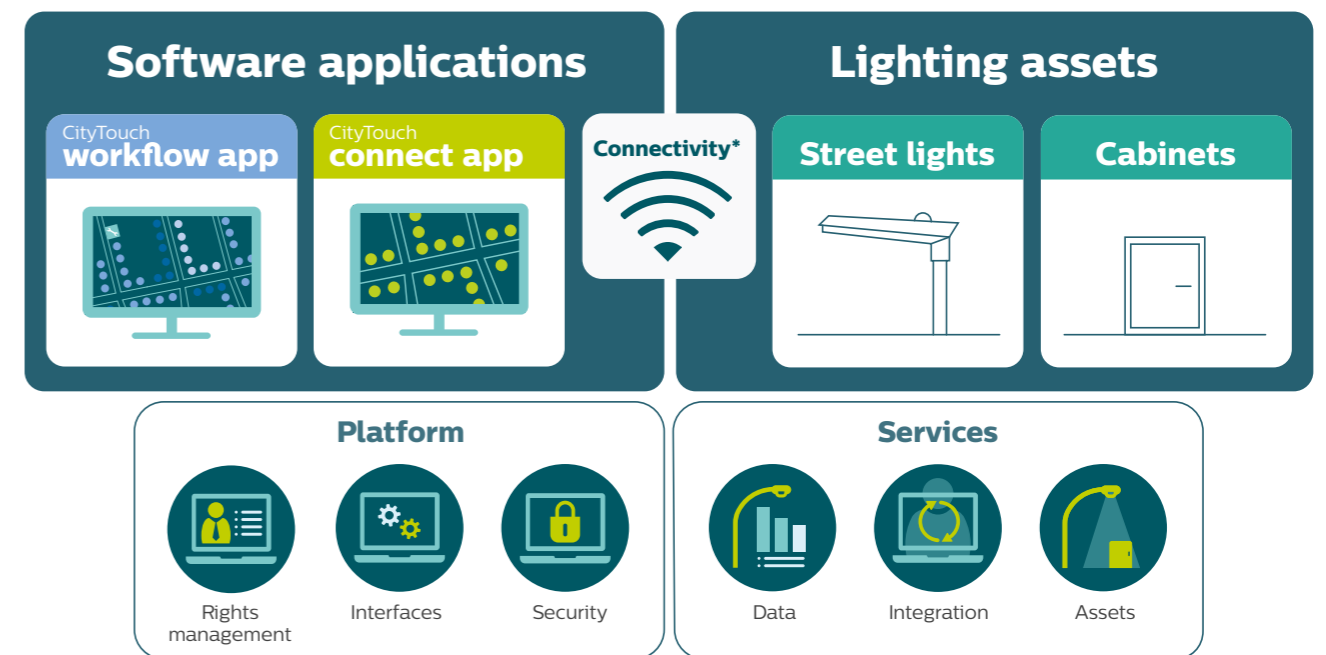
Easy to phase in

The installation was done in three phases. In 2013, 11,000 LED luminaires were installed on main avenues and streets. Then an additional 40,000 were installed in both 2014 and 2015 on secondary streets, making a total of 91,000 new light points. As a result, by 2015 we've now upgraded 75% of the lighting in Buenos Aires.

But what about the city's ambition to be more environmentally friendly? The good news is that CityTouch is providing the city with significant electricity cost savings and massively reduced CO_2 emissions. Meanwhile, Buenos Aires has been able to save 50% in operational costs, which is a big change.

CityTouch
portfolio

Simply
connected

CityTouch is an end-to-end street lighting management system that integrates connected devices, intuitive software-as-a-service applications, and specialized services to transform your city's lighting operations.

Software applications

CityTouch **workflow app**

CityTouch **connect app**

Connectivity*

Lighting assets

Street lights

Cabinets

Platform

Rights management

Interfaces

Security

Services

Data

Integration

Assets

Software applications

These are the core of our solutions, offering you close to real time control and detailed data of your whole city.

Lighting assets

Our extensive range of CityTouch products are designed to be as flexible and unique as your city.

Platform

Intuitive, personalized and secure, your tailored CityTouch platform gives you complete visibility and control.

Services

From data input to asset management, we can help you manage the entire lifecycle of your city's lighting portfolio.

*only in conjunction with CityTouch connect app

CityTouch
connect app

Future-proof street lighting

The CityTouch connect application lets you manage all connected street lights securely and remotely through a real-time, map-based view using any standard web browser.

Manage

The intuitive user interface allows you to control and program lighting levels for every individual street light, a street, or an entire district. Depending on the specific need, you can boost light levels to improve safety and visibility, or dim them to save energy and prevent light pollution.

The CityTouch calendar function also allows you to pre-set different light levels as appropriate. Special events are already in your city's diary, so the lighting should be too.
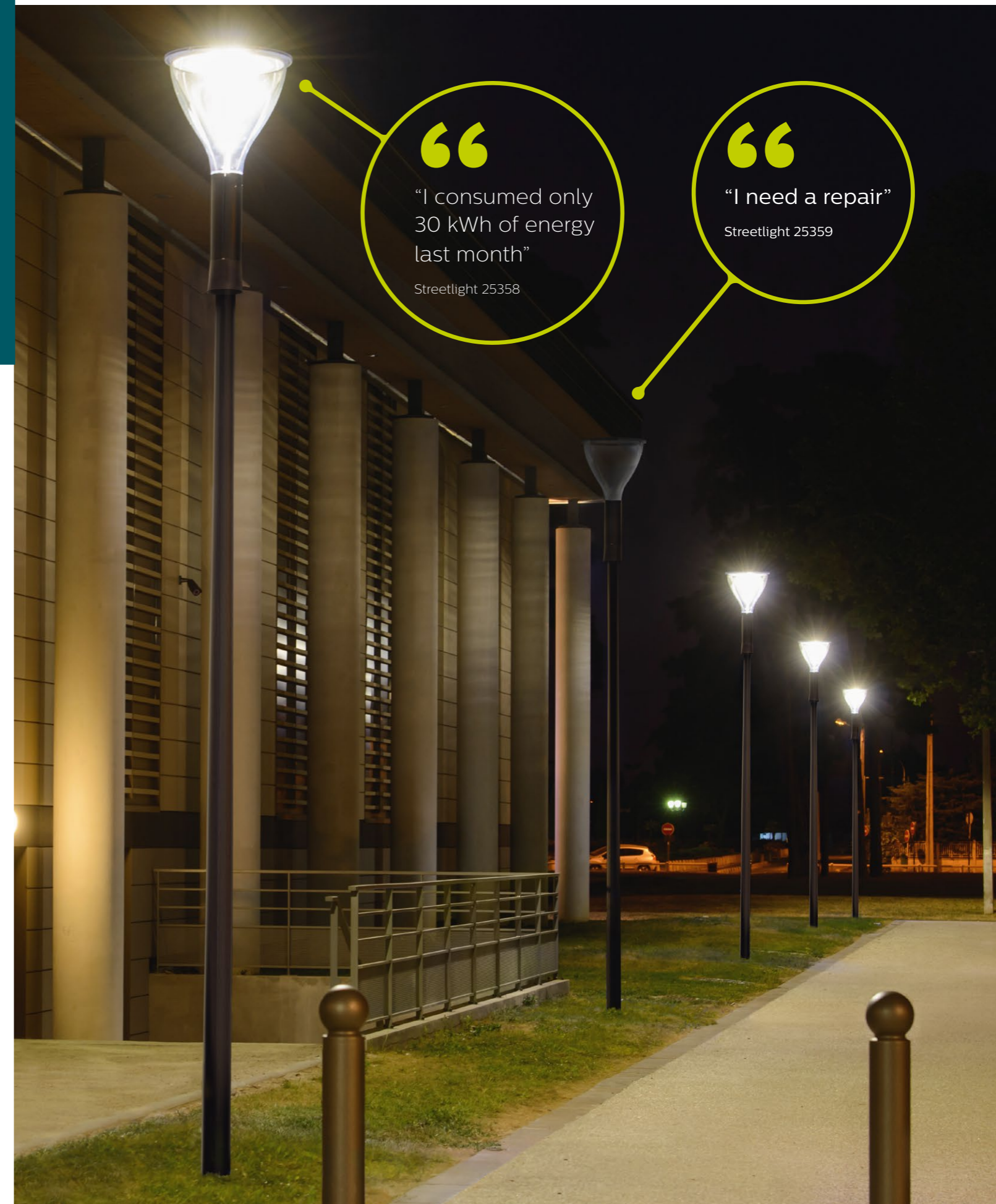
Monitor

You'll be automatically informed if an outage occurs, enabling you to immediately initiate the work process. The system offers configurable fault types with different levels of severity, so you will know exactly why the luminaire has failed.

Measure

Accurate metering of each individual light point means you know how much energy you are using and where. This helps you to evaluate running initiatives and plan for the future.

Accurate energy metering also means that you can verify your energy bills.

"I consumed only 30 kWh of energy last month"

Streetlight 25358

"I need a repair"

Streetlight 25359

CityTouch
workflow app

Operational efficiency made simple

The CityTouch workflow application offers rich data visualization capabilities and lighting-related workflow management tools.

Maintain

Based on highly detailed lighting asset data the CityTouch workflow app provides, you can predict when luminaires are approaching life end, so preventative maintenance can be scheduled cost effectively.

Plan

The CityTouch workflow app makes work plan and job order generation easy too. It allows you to manage the workflow of your city's whole operational street lighting ecosystem. Work scheduling and distribution of tasks can be managed simply and effectively, even with multiple installer companies involved.

Get insights

The workflow app gives you transparency and analysis of your city's lighting system in the most user-friendly way. An intuitive user interface, map-based visualizations with simple charts and diagrams give a fast overview of street lighting status.

The system supplies information from a high level overview down to every detail of an individual lighting point. Easily generated reports provide robust analysis and data insights to support your future decision-making.

40w
100w
60w
60w
100w
40w
100w
60w

100w

40w

60w

100w

40w

60w

> "
> **Working with CityTouch has made life much more flexible** because management processes are simplified and shown transparently."

Jörg Hartung
Executive Director of Street Lighting,
Lighting Rhein-Sieg Netz GmbH

Connect
your city, your way

Add connected lighting to future-proof your city

CityTouch offers a wide range of connectivity options. Just pick one (or combine several) options that suit your needs, and manage all your street lights through a single dashboard.
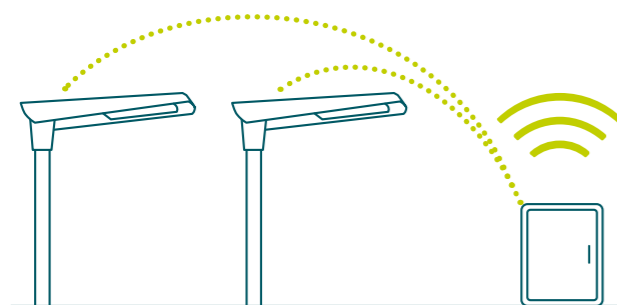
CityTouch Ready luminaires

This is the simplest option. Just install CityTouch Ready luminaires and the luminaire will connect to the Internet and start sending data.
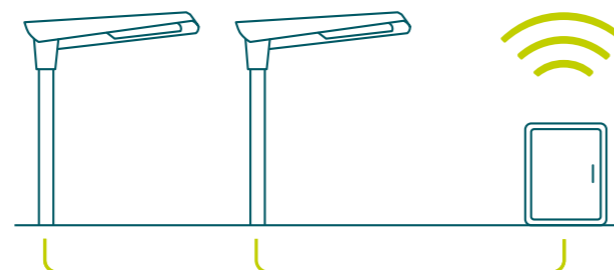
CityTouch connector kit

Existing luminaires can be easily connected to the CityTouch system via the connector kit, a compact unit which is mounted to the luminaire pole. It works with most luminaires, independent of vendor or luminaire type.

Local network connectivity

Your installed street lights connect via wireless radio frequency to a segment controller, which connects to the CityTouch software via the Internet.

Cabinet-based group connectivity

A group of your installed street lights connect via power line to a segment controller, which connects to the CityTouch software via the Internet.

CityTouch Ready
luminaires

All CityTouch Ready luminaires are true plug-and-play solutions which can be handled exactly like traditional luminaires during installation.

Once installed, the luminaires connect automatically to the CityTouch system, upload their location and technical data, and start transmitting operational information.

Integration is seamless. No additional hardware or special commissioning is needed and the user-friendly interface of the CityTouch software means you can control your city's lighting simply and intuitively from a desktop computer via the CityTouch connect application.

Philips offers a wide range of luminaire shapes and styles to suit your city. And CityTouch Ready luminaire technology is also open to other street light manufacturers.

Examples of CityTouch Ready luminaires*

Luma

Metronomis LED
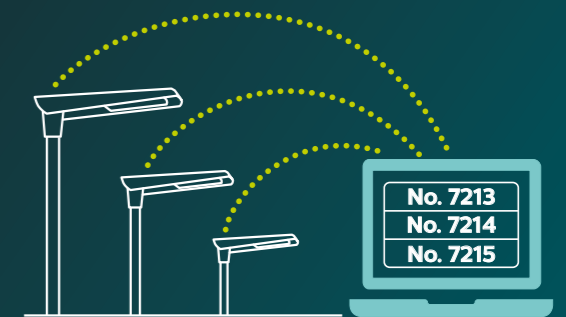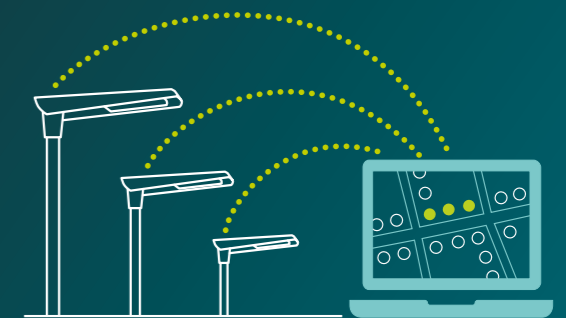
Iridium gen3 LED

GreenVision Exceed

Key **advantages:**

No. 7213
No. 7214
No. 7215

Automatic commissioning

Luminaires automatically connect to CityTouch system once installed

Automatic location

Luminaires are auto-located on the map with all asset data in place

Automatic data upload

All luminaire data automatically updates to your system

* Luminaire availability may vary per country

CityTouch
services

Our specialized system services can ensure your city's lighting has a smooth, simple transition into connected lighting.

See how simply your **city** can **shine**

Simple, open and secure

No doubt your city has expanded and evolved over time, so coordinating all your lighting assets may be a daunting prospect. The CityTouch platform allows you to gather all the information about your assets in one place, so you can see everything, clearly.

CityTouch can handle a very high level of detail about your data and is extremely flexible, so everything can be configured to your specifications.

Using open standardized network technologies, CityTouch can integrate seamlessly with many systems that your city has already adopted.

Data services

We can help you collect, input and migrate all your existing data into the CityTouch system, giving you a full and complete overview of your city's lighting. From this you can gain deep knowledge and insights about your data structure and identify potential opportunities for improvement.

Integration services

We can help you set up CityTouch to exchange information with the IT systems your city is already using. Our simple web based CityTouch APIs allow information to be shared and managed between systems, so that one report can be produced which shows every aspect you need it to.

Asset services

We can help you identify the most effective lighting solution, now and for the future. We can then plan and design the optimal system to meet all your city's specific needs. Our turnkey approach means we are with you from planning and design, to installation and the final site acceptance testing.

Flexible, open and secure

Philips CityTouch is an end-to-end, future-proof solution, able to support your city's changing requirements over time.

Flexible

CityTouch is extremely flexible, allowing you to configure the system to your specifications.

CityTouch can monitor and manage an unlimited number of lighting assets, so you can add street lights and other assets over time without taking the system offline.

Because each luminaire communicates with CityTouch independently, there are no centralized points of failure: if one street light goes out, the others around it are unaffected. You can control single light points or all light points together, or you can group and control light points however you wish.

CityTouch updates are activated wirelessly and automatically via the mobile network. This ensures that you always have the latest features and functions, with no physical intervention required.

Open

CityTouch can work with any street light from any manufacturer, whether Philips or non-Philips, whether LED or non-LED.

CityTouch uses standard web services to connect to city IT infrastructures via the mobile network, so no proprietary networks are required.

With published APIs, you can integrate CityTouch into other city management systems already in use. This allows you to bring your CityTouch system together with other connected systems to create a new digital ecology that can deliver new levels of responsiveness and resiliency.

Philips also offers integration services and technical support, so your city is always ready for the future.

Secure

Your data deserves to be protected, so CityTouch always applies the latest state-of-the-art security measures along with end-to-end encryption and two-factor authentication.

Philips uses the same level of security as online banking and brokerage houses do, ensuring that your sensitive data is transmitted privately and stored safely.

Philips CityTouch: **an open system**

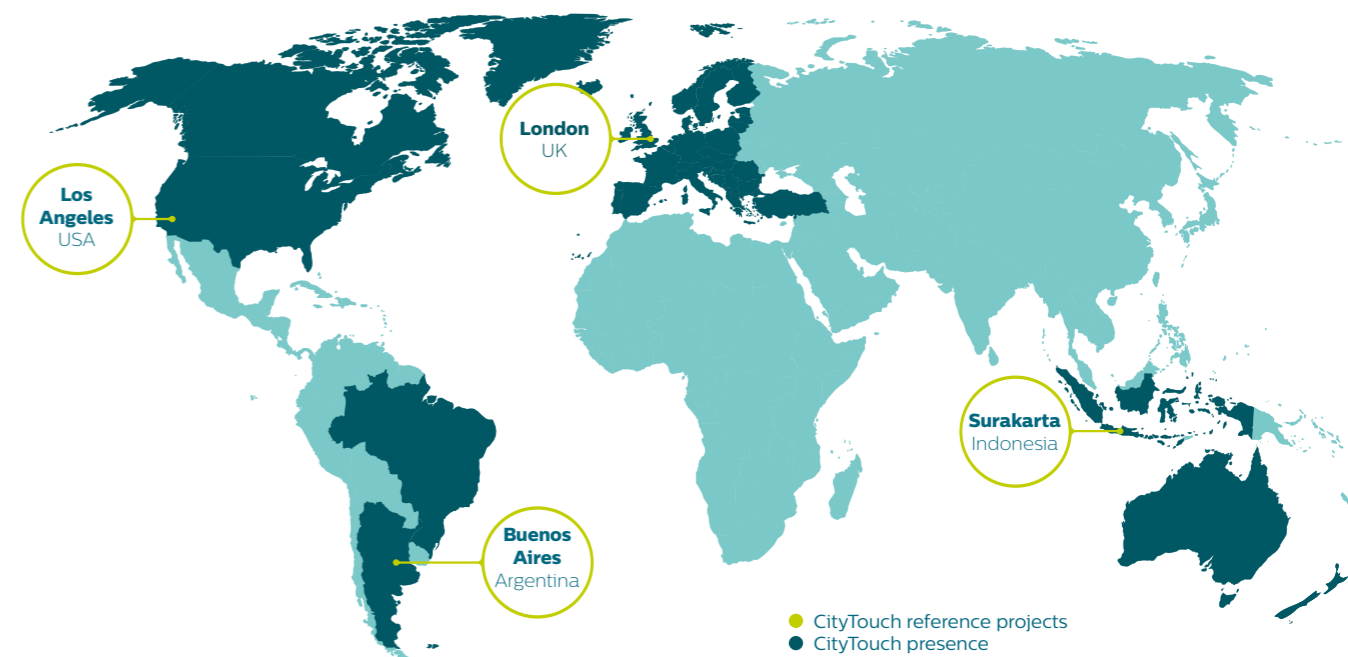CityTouch works with almost any type of street light from any manufacturer

CityTouch communicates via the mobile network: no proprietary networks

With APIs, customers can integrate CityTouch into their existing systems

Helping to meet objectives globally

Philips is the world leader in lighting, with over 120 years of experience.

London
UK

Los Angeles
USA

Surakarta
Indonesia

Buenos Aires
Argentina

- CityTouch reference projects
- CityTouch presence

The choice of world cities

CityTouch is already in use in cities worldwide, including Los Angeles, London and Buenos Aires. In fact you'll find us in over 30 countries and on five continents.

Scalable and adaptable

CityTouch is a flexible, easily scalable solution. Our local teams take the time to understand each city's specific needs, ambitions and challenges. After all, what's right for one city might not be right for another.

www.philips.com/citytouch