

An aerial night view of a city with a network overlay. The city lights are visible, and a network of white lines connects various points across the city, suggesting a connected lighting system. The text is overlaid on the left side of the image.

Light beyond Illumination through Connected Lighting

Bogdan Balaci, Commercial Leader Philips Lighting SEE
October 13th 2016

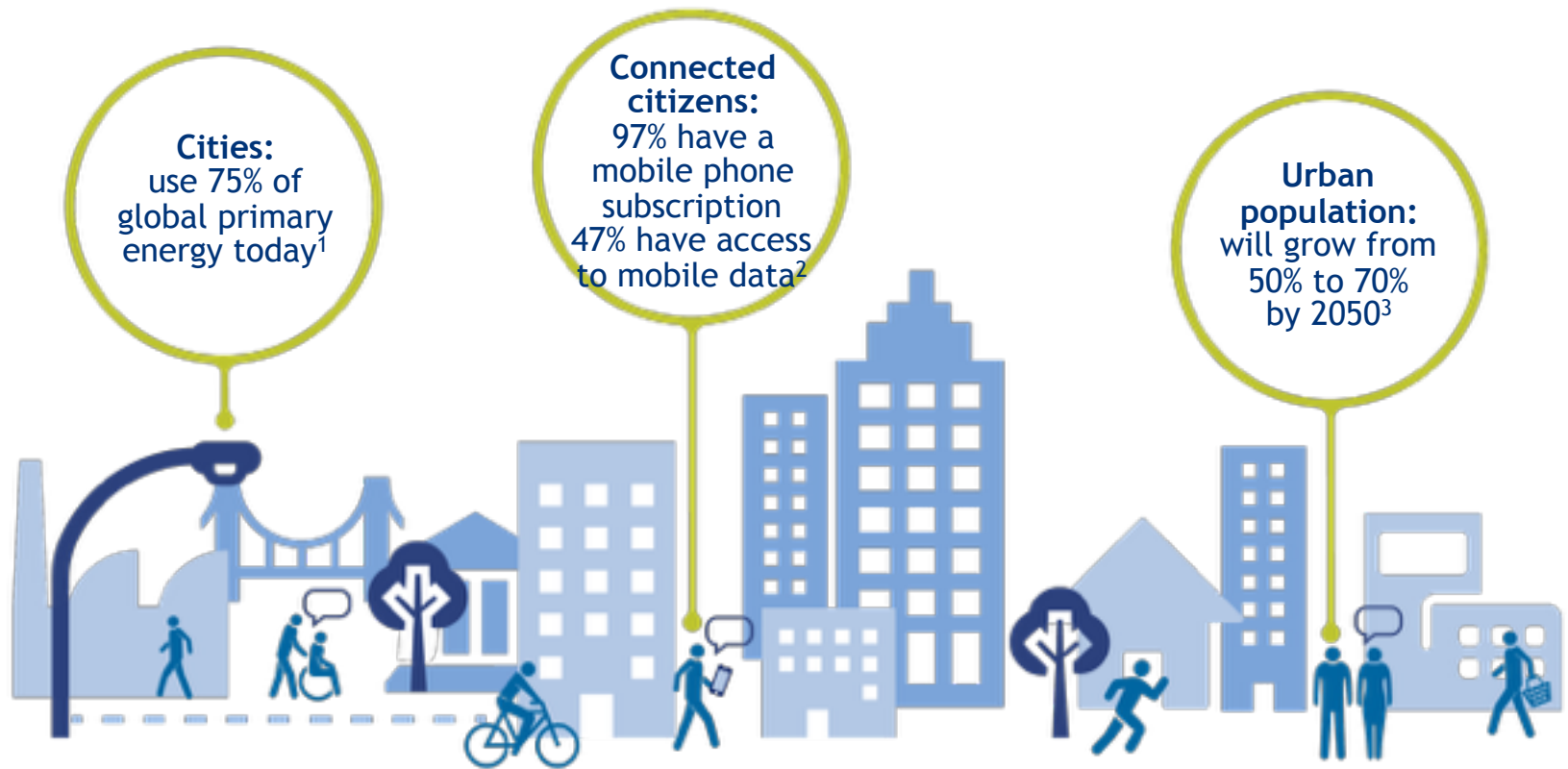
78% of the world's energy consumed by
cities

lighting means **19%** of the total energy
consumption

224 million smart homes by 2019

Cities are on the rise

many dimensions to urbanization



¹ UN Habitat

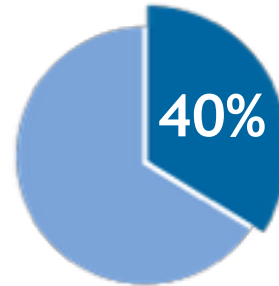
² World Bank and ITU, World Telecommunication/ICT Development Report and Database, 2015

³ United Nations - Department of Economic and Social Affairs, 'World Urbanization Prospects', 2014

Public lighting is everywhere but connectivity is not



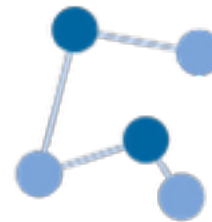
~ 300
million street lights
worldwide¹



Lighting can account for up to 40% of a city's total energy consumption²



On average, public lighting is more than 20 years old³



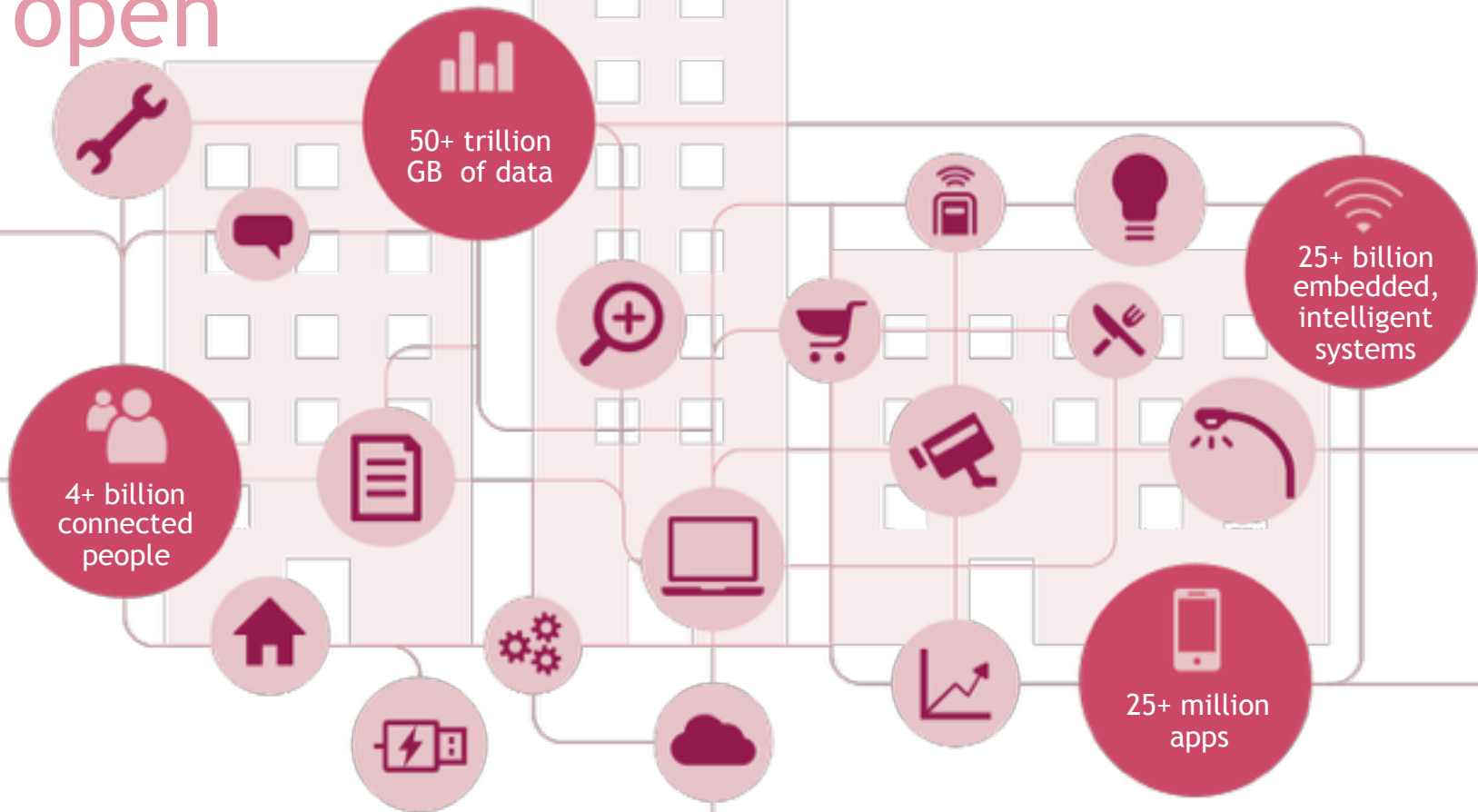
~1% of installed systems are connected, expected to reach 35% by 2025³

¹ Northeast Group, *Global LED and Smart Street Lighting Forecast 2015-2025*

² European PPP Expertise Centre (EPEC), European Commission, *Energy Efficient Street Lighting*, 2013

³ Philips market analysis

New systems need to be connected, scalable, and open

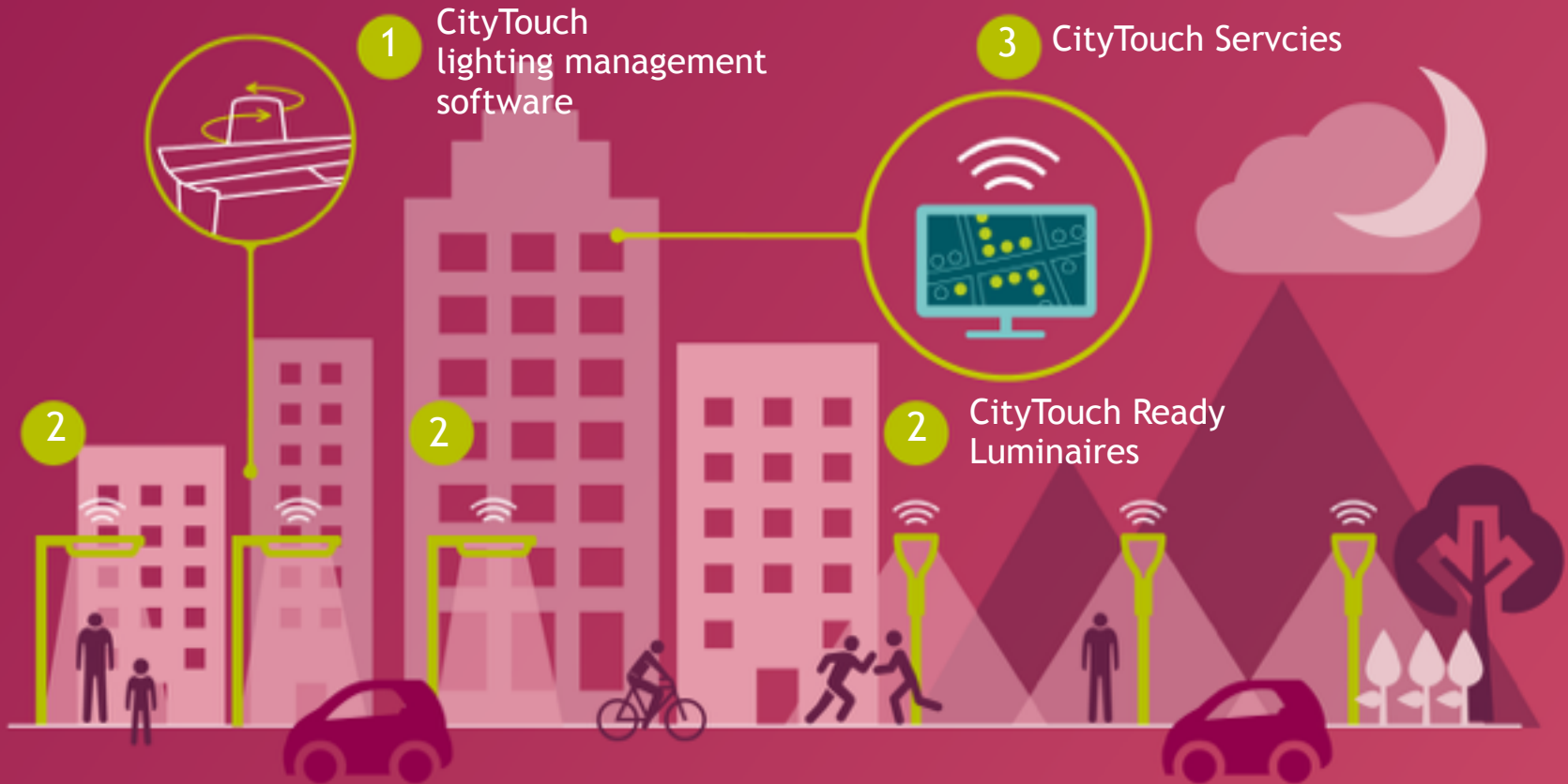


Source: Mario Morales, International Data Corporation (IDC). Forecast for 2020



Philips CityTouch

A simple concept





THE EVOLUTION OF OFFICE LIGHTING





Market context

In the Internet of Things (IoT), it's all about the data.

Connected devices are connected expressly for the purpose of gathering and sharing information about themselves, about the environment in which they're used, and about the people who use them. **In a connected lighting system, luminaires and other lighting system devices merge with IT networks to allow for the collection, distribution, and storage of large amounts of data.**

The New Office Experience

The Edge Building, Amsterdam

The most innovative and sustainable building in the world

Connected Lighting:

- Over 6,000 LED luminaires, integrated within the IT network of the building
- The LEDs save energy, because they offer 300 Lux, instead of the standard 500 Lux. As a result 3.9 Watts/m² is used instead of the usual 8 Watts/m²
- Every second luminaire is equipped with a multi-sensor measuring movement, light, temperature & infrared
- Dashboard of real time and historical data & analytics about the building usage
- Employees act as owners & operators of their working space

The highest ever awarded BREEAM* score of 98.36%

*world's leading design and assessment method for sustainable buildings

