

northeast group, llc

Global Smart Street Lighting & Smart Cities:
Market Forecast (2020 – 2029)

Excerpt of Study for Wellness TechGroup

Volume VI
November 2020 | www.northeast-group.com

Global Smart Street Lighting & Smart Cities: Market Forecast (2020 – 2029)

Excerpt of Study for Wellness TechGroup

Northeast Group, LLC
1316 9th St NW, Suite 6
Washington, DC 20001

www.northeast-group.com

This report is an original work produced by Northeast Group, LLC and may not be reproduced, copied or cited without express written permission. The enterprise license allows all employees within a single organization to view the report. Any forwarding or sharing of the report to others who have not paid for it is strictly forbidden.

Executive summary

Key findings:

- The 6th edition of Northeast Group's study finds 2020's global street lighting market continuing to make steady gains with minimal apparent delays related to the Covid-19 pandemic and associated economic challenges;
- Investment over the next decade will reach \$28.1 billion, not including installation value. Global investment in public LED street lighting hardware will be \$16.2 billion. A further \$9.7 billion will be invested in "smart" (connected) streetlights with \$1.1 billion of this coming from CMS SaaS revenue. Lastly, \$2.1 billion will be invested in additional smart city sensor hardware located on streetlights from 2020 to 2029:
 - Across 125 countries, 185 million LED streetlights will be added over the next ten years (including replacement LEDs later on in the 2020s), reaching a penetration rate of 73% by 2029;
 - Cities and utilities will network 71 million streetlights over the next ten years, reaching a 23% penetration rate;
 - Additional smart city sensors will be attached to 2.8m streetlights; and
- Wellness TechGroup has 4% of the global market share for deployed and announced controls, as well as 8% of the market share in the Americas region. The most notable aspect of the vendor landscape remains the extreme fragmentation, with over 25 vendors claiming at least a 2% share of one of the regional markets.

The term "smart cities" has created plenty of buzz, but perhaps even more questions. Cities are looking at smart infrastructure to reduce costs, improve sustainability, and provide better services to residents. Cities recognize the possibility for smart city investments to open up new opportunities beyond the simple business case and for early investments to reap long-term knock-on benefits. But for the smart cities market to grow, the initial communications and software backbone must be put in place. This is now happening on a large scale through the deployment of smart streetlights, which will enable cities to phase-in additional smart city investments. This study analyzes this foundational market and forecasts the market for energy efficient street lighting, streetlight networking, and additional smart city applications attached to streetlights through 2029.

Globally, there are 326 million streetlights – growing to over 361 million by 2029 – 73% of which will have LED luminaires by the end of the decade. Costs for LEDs have now mostly bottomed out, and the business case is clear. LEDs will be the dominant technology for street lighting going forward, and savings from LEDs will help drive additional applications. LEDs are further supplemented by streetlight controls, or “smart streetlights.” These networked streetlights accentuate all of the savings benefits of LEDs, while also improving public safety and putting in place the communications and software infrastructure that can be utilized for further smart city applications. Smart street lighting has grown at a robust CAGR of 52% since 2012 and will maintain steady growth through the 2020s.

Cities and utilities with smart streetlights are now exploring ways to both improve urban efficiency (through smart parking, environmental sensors, waste management, and other applications) and increase revenue (through licensing agreements with telecommunications operators, monetizing urban data collection, and other initiatives). Smart city platforms based on smart street lighting are viewed as the most economical way to transition to this market.

As the foundational layer of smart cities, there are vendors from diverse market segments engaging in smart street lighting, ranging from telecommunications operators and smart grid vendors to lighting manufacturers and smart city-focused vendors. Increasingly, infrastructure investment funds, ESCOs, and urban management companies are playing a growing role in financing and carrying out smart street lighting projects. This trend will only be exacerbated by municipal budget shortages caused by Covid-related economic challenges. There are dozens of vendors with a sizable role in the market and an increase in mergers and acquisitions is expected soon.

But for now, these vendors are rapidly developing projects in all regions of the world, headlined by large-scale tenders in Latin America, the Middle East, and South Asia, in addition to the developed markets of North America, Europe, and Oceania. Overall, LED and smart streetlights are projected to reach 73% and 23% of the total streetlight market, respectively, by 2029. This will total a \$28.1 billion market opportunity over the next decade.

GLOBAL SMART STREET LIGHTING & SMART CITIES: KEY TAKEAWAYS

LED street lighting is now the norm and large-scale smart streetlight projects are underway in all regions

With large-scale projects tendering in Latin America, the Middle East, and South Asia, in addition to developed markets, smart street lighting is following the path of LED luminaires to increasingly become the norm in new street lighting projects.

Covid-19 has had minimal near-term effects on the market and could have long-term benefits

There have been some small delays due to Covid-19 and deployments are down slightly from 2019, but most projects are now moving forward. In the long term, increased need for automation and resiliency will increase demand for smart cities projects.

Economic challenges will increase the importance of ESCOs and management companies

One potential negative effect of Covid-19 is the hit to municipal budgets. This actually reinforces the need for cost-saving projects such as smart street lighting, but will make financing a more critical issue, with ESCOs set to play a key role. Potential infrastructure-targeted stimulus could also aid smart cities projects.

Cities and utilities are increasingly looking to take a “phased-in approach” to smart cities

The smart cities market is showing increasing signs of development, with marked interest in smart parking and small cells for 5G. But street lighting is still the only smart cities market that is scaling, and cities are increasingly looking to use lighting as a gateway to additional smart city infrastructure.

With node prices lower, but bottoming out, focus is shifting to recurring revenue from CMS

After an earlier decline in prices, smart street lighting hardware and communications costs have now steadied. Increasingly, vendors are now focusing on gaining more revenue from recurring software-as-a-service (SaaS) that can link with other smart city sensors. Recent TALQ2 standardization is also enabling vendors to focus on CMS with assurances of interoperability with different hardware providers.

The vendor landscape remains ripe for consolidation

There are dozens of vendors active in the smart street lighting market, many of which are focused on niche geographic markets. This fragmentation is likely unsustainable and some vendors have already discussed potential acquisitions, which are likely to increase in the near-to-medium term.

SMART STREET LIGHTING VENDOR LANDSCAPE*



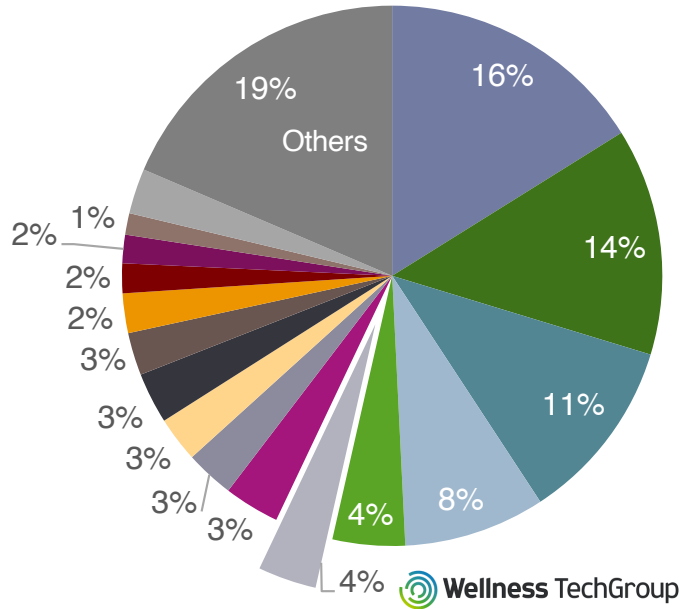
*Only includes smart (connected) street lighting solutions providers, not LED; excludes telecoms

Source: Northeast Group

GLOBAL* CONTROLS MARKET SHARE (deployed and announced)

Source: Northeast Group

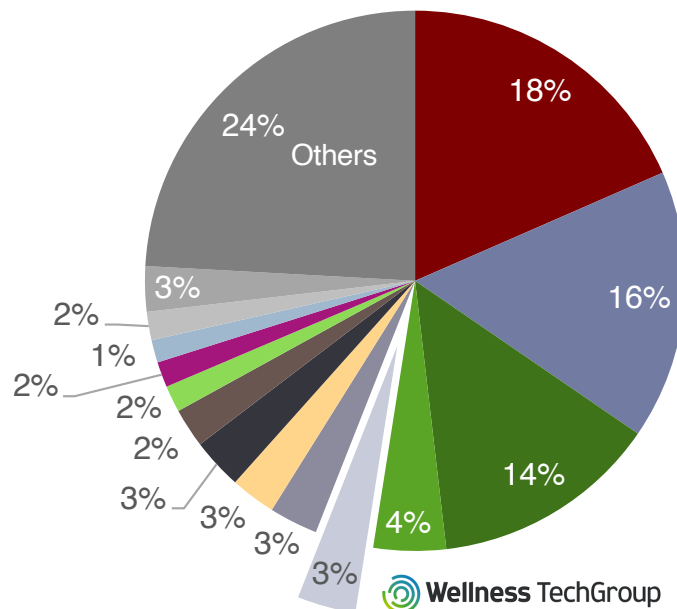
*Ex-China and India



GLOBAL* NETWORKING MARKET SHARE (deployed and announced)

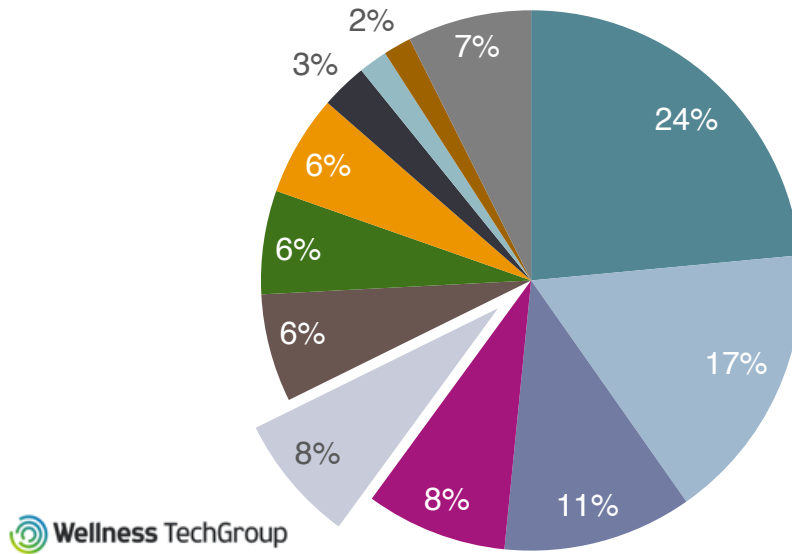
Source: Northeast Group

*Ex-China and India



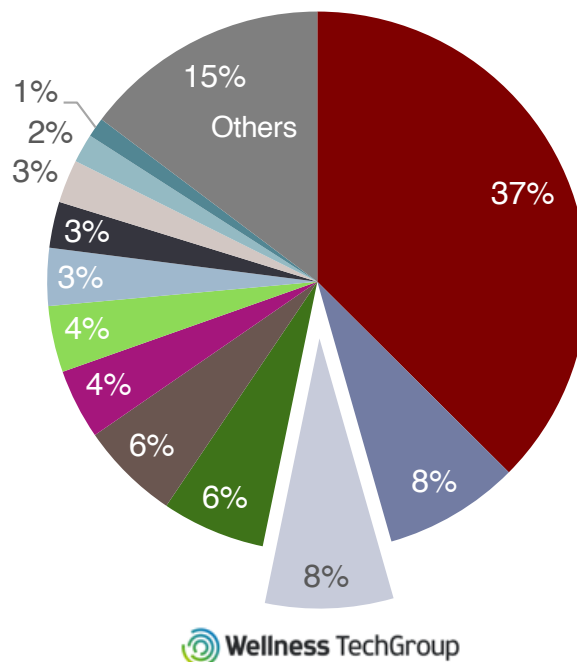
AMERICAS CONTROLS MARKET SHARE (deployed and announced)

Source: Northeast Group



AMERICAS NETWORKING MARKET SHARE (deployed and announced)

Source: Northeast Group



STREETLIGHT CONTROL FOCUSED VENDORS

VENDOR

DETAILS

**WELLNESS
TECHGROUP
(Spain)**

Wellness TechGroup (formerly Wellness Telecom) is one of the leading Spanish vendors of smart street lighting solutions, with an established history of cabinet-based street lighting solutions. Recently, the vendor has begun to focus more on individual controls, and it has deployed nearly 100,000 individual controls – with a pipeline of over 400,000 more – using RF mesh, Star, and LoRa communications. Including cabinet controls, Wellness has connected nearly 1 million streetlights. About 90% of the company’s projects are developed through ESCOs, including European leaders such as Sice and Endesa (Enel X). In addition to Spain, the vendor is active in Bulgaria, Colombia, and Mexico, among other countries, and expects the majority of its upcoming projects to be in Latin America.

Wellness TechGroup has a well-developed smart city solution that it has deployed in Spain, one of the leading countries for additional smart city segments – in part due to a €300 million fund for smart cities established by the Spanish government. For example, in its Valencia project, Wellness has successfully integrated 15 verticals. The primary verticals so far have been lighting and waste management, but it is also expanding in EV charging and smart parking, partnering with vendors such as Spain-based Urbiotica.