



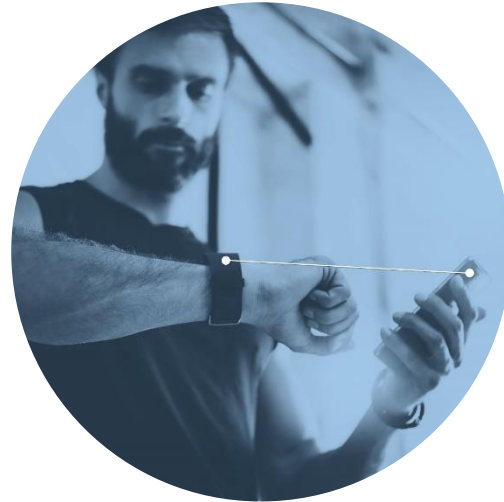
# The Expanding Role of Bluetooth in Smart Buildings

**Chuck Sabin**

Senior Director, Business Strategy





# Bluetooth driving waves of innovation

solution







use

# Bluetooth driving waves of innovation





	audio streaming			
solution				
	wireless headsets wireless speakers in-car infotainment			

# Bluetooth driving waves of innovation




	audio streaming	data transfer		
solution				
use	wireless headsets wireless speakers in-car infotainment	sports & fitness devices health & wellness devices peripherals & accessories		




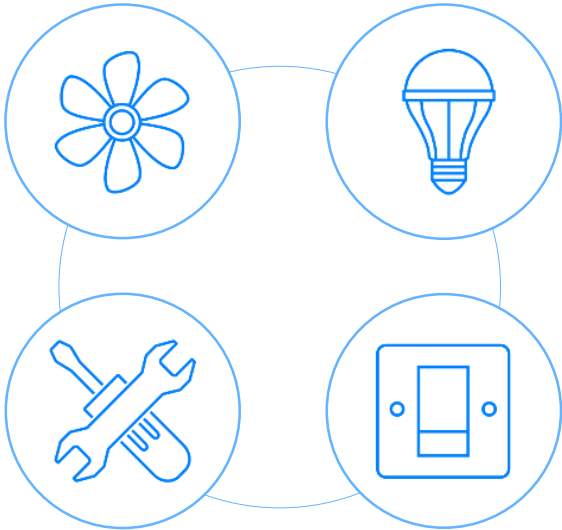
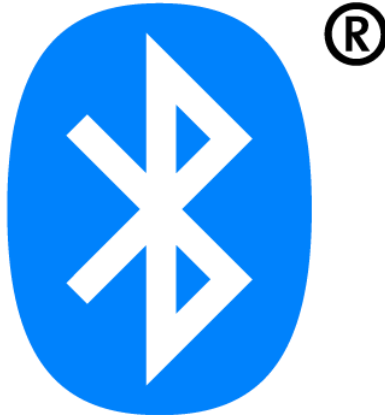
# Bluetooth driving waves of innovation

	audio streaming	data transfer	location services	
solution				
use	<p>wireless headsets wireless speakers in-car infotainment</p>	<p>sports &amp; fitness devices health &amp; wellness devices peripherals &amp; accessories</p>	<p>point of interest information navigation &amp; way finding item &amp; asset tracking</p>	





# Bluetooth 5: flexibility for the future

	longer range	higher speed	Advertising data capacity
feature	 A blue square containing the text "4x" in large white font, with "range" in smaller white font below it.	 A blue square containing the text "2x" in large white font, with "speed" in smaller white font below it.	 A blue square containing the text "8x" in large white font, with "data" in smaller white font below it.
use	whole-home and whole-building overage	better performing devices	richer connectionless use cases

# Bluetooth mesh networking

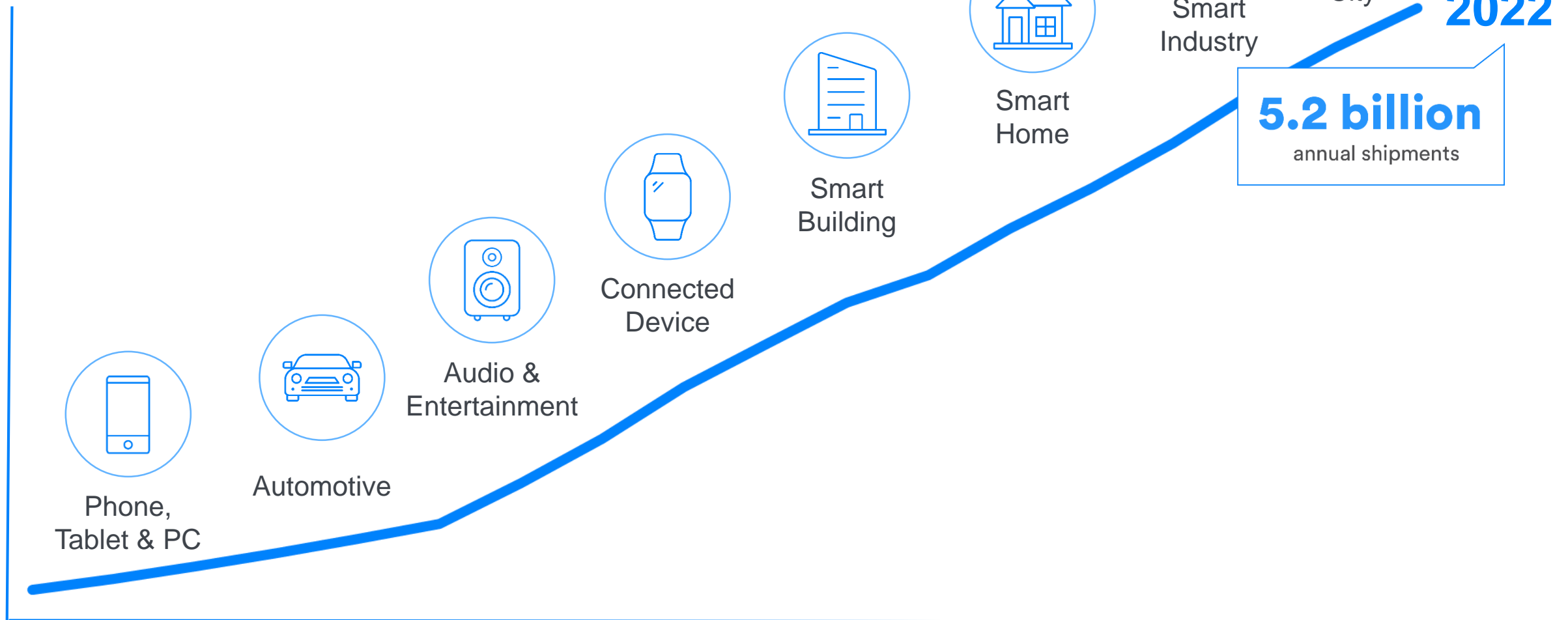
	industrial-grade solution	proven, global interoperability	mature, trusted technology
feature			
use	reliability scalability security	full-stack solution interop-centric specification time-tested tools & process	value-added services mature ecosystem global brand awareness

# Bluetooth driving waves of innovation

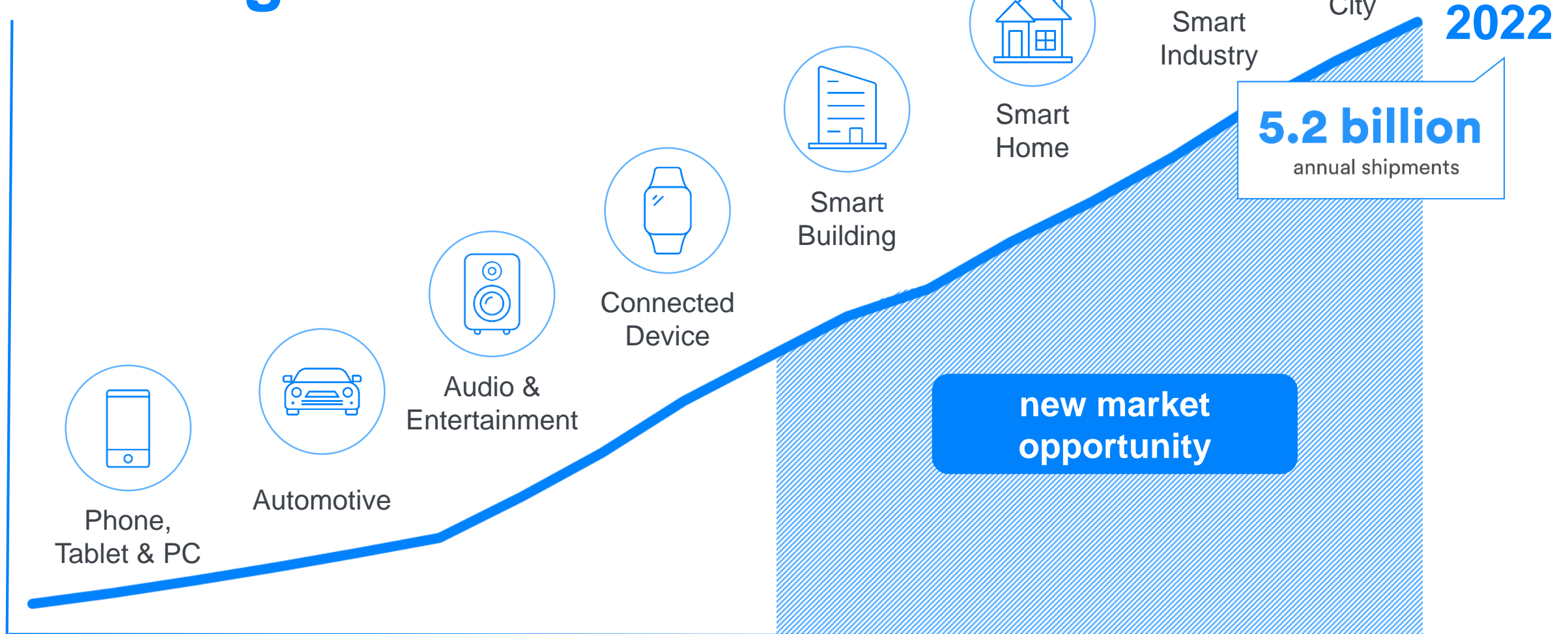
	audio streaming	data transfer	location services	device networks
solution				
use	<p>wireless headsets wireless speakers in-car infotainment</p>	<p>sports &amp; fitness devices health &amp; wellness devices peripherals &amp; accessories</p>	<p>point of interest information navigation &amp; way finding item &amp; asset tracking</p>	<p>control systems monitoring systems automation systems</p>







# driving unprecedented market growth



# driving unprecedented market growth

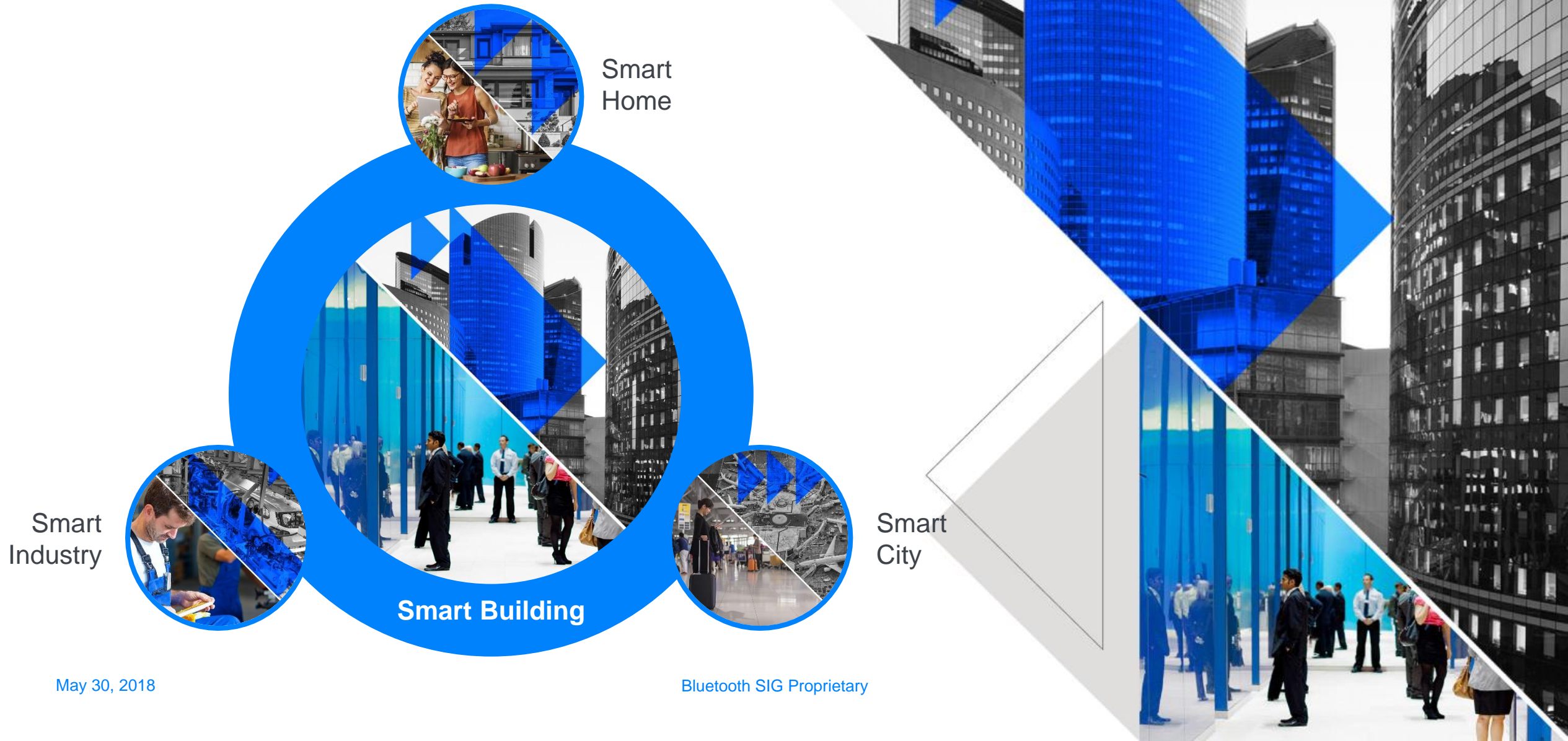


# driving new market opportunity

	Smart Building	Smart Home	Smart Industry	Smart City
market				
use	automation & control condition monitoring positioning and location	connected home home automation	condition monitoring positioning & location automation & control	resource management automation & control positioning & location



# smart building at the center





# Bluetooth in smart building



**automation  
control**



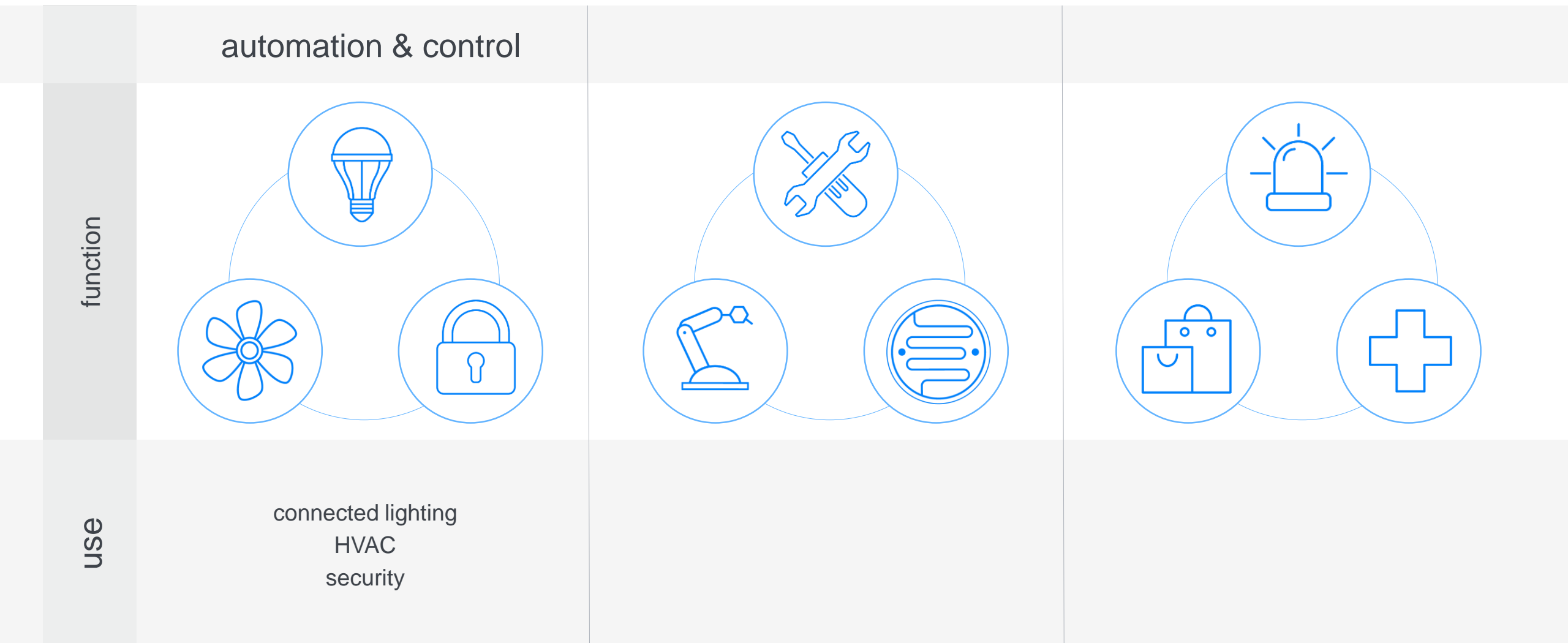
**condition  
monitoring**



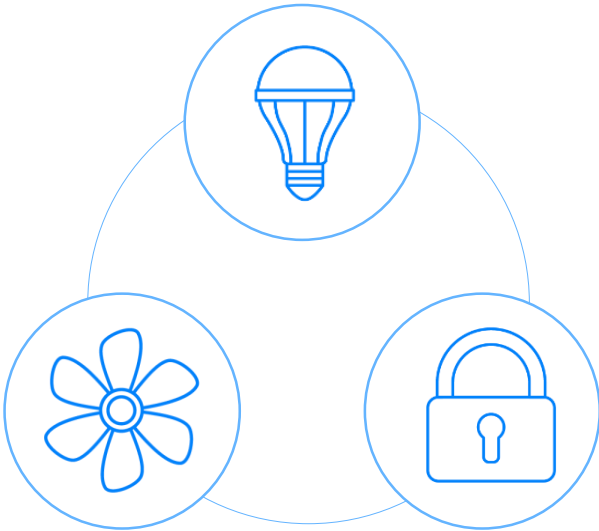
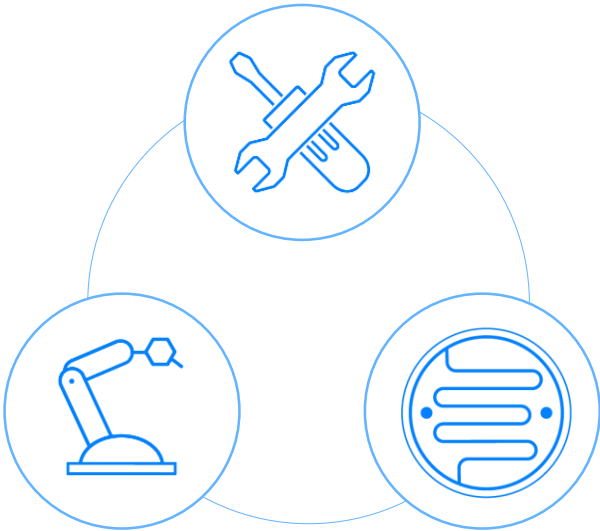
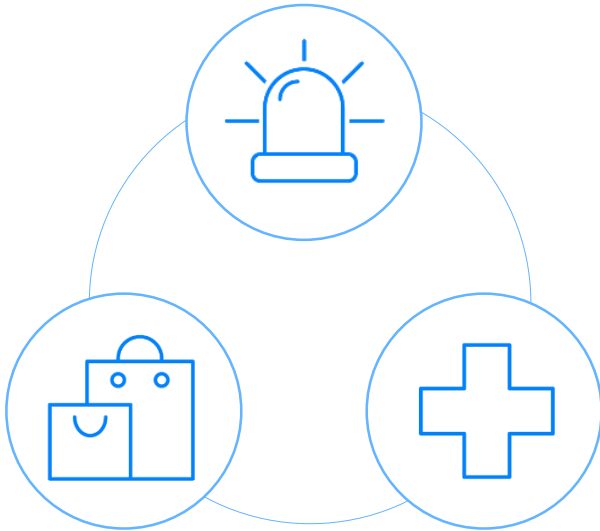
**positioning  
& location**



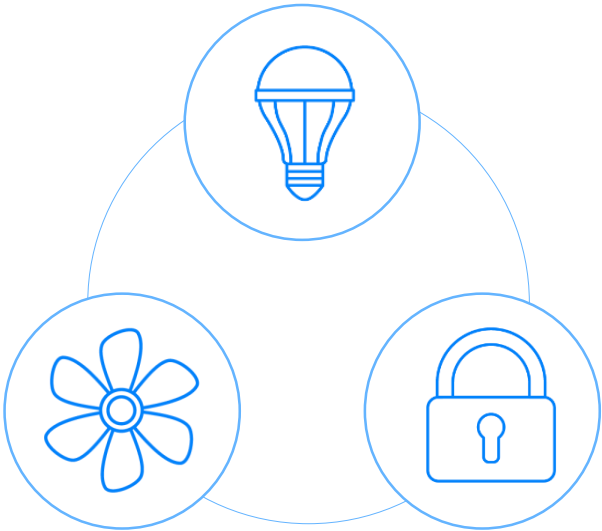
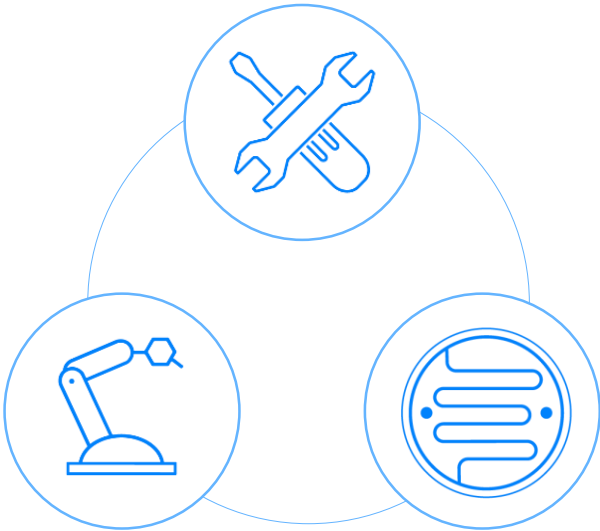
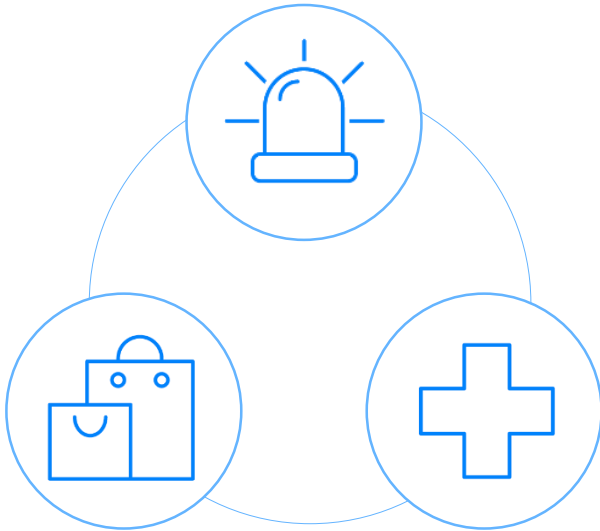
# Bluetooth smart building solutions



# Bluetooth smart building solutions

	automation & control	condition monitoring	
function			
use	connected lighting HVAC security	data decision making preventative maintenance sensor networks	

# Bluetooth smart building solutions

	automation & control	condition monitoring	positioning & location
function			
use	<p>connected lighting HVAC security</p>	<p>data decision making preventative maintenance sensor networks</p>	<p>wayfinding asset tracking smart spaces &amp; e911</p>



# smart building market support\*



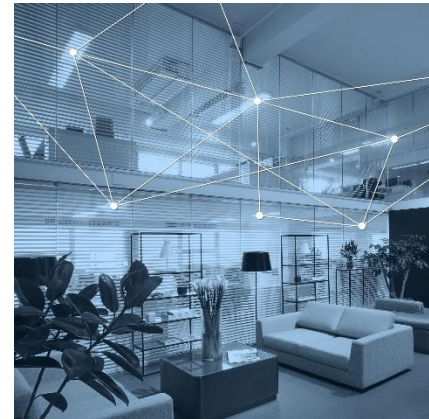
# lighting as a platform in smart building

## comprehensive smart lighting specification

- support for thousands of nodes
- true multi-vendor interoperability

## simply leverage and deploy additional services

- automate sensor and data networks
- introduce location and other services



# example: lighting as a platform

Van  
Gogh  
Museum  
Amsterdam



Van Gogh Museum implements Bluetooth enabled dimmable LED modules

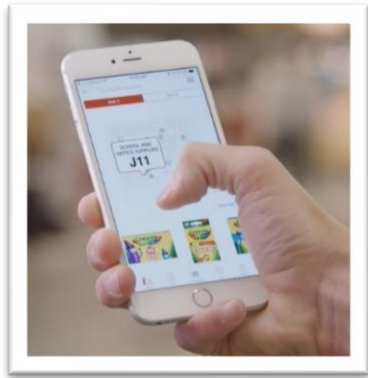
Bluetooth switches using EnOcean energy harvesting

Xicato sensors broadcast occupancy, lux levels, temperature, humidity

Lighting control, room environmental monitoring and lux-hour tracking helps preserve irreplaceable art

Bluetooth beacons enable wayfinding services and point-of-interest information for visitors

# example: wayfinding and point of interest



Bluetooth beacons built in to new LED-lighting fixtures

Beacon network helps customers navigate the store and find specific products via the Target app

Will be one of the world's largest known deployments of lighting-based indoor positioning





# smart building emergency services

## in-building emergency location

- expanded role of Bluetooth in smart building
- map in-building location to e911 emergency dispatch

## National Emergency Address Database (NEAD)

- voluntary location registration for beacons
- supported by all wireless carriers in US

# Bluetooth in smart building

# 360 million

annual shipments by 2022



automation &  
control



condition  
monitoring



positioning &  
location

# market data for everyone



- new 2018 Bluetooth market update
- comprehensive view of bluetooth technology solutions
- shipment forecast to 2022 for key vertical markets

**Now available at**  
**[Bluetooth.com/markets](https://www.bluetooth.com/markets)**





# 谢谢

Thank you!

