

A large, dynamic graphic element consisting of several overlapping blue triangles and rectangles. One large triangle is oriented diagonally from the top-left to the bottom-right. A smaller rectangle is positioned below and to the right of it. Another triangle is located at the bottom left. A diagonal line extends from the bottom-left triangle towards the center of the slide.

# Market Update

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2020

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# A Letter From the CEO



Every year, the Bluetooth SIG member community works hard to deliver innovations that help shape new market trends. From wireless audio and wearable devices to location services and device networking solutions, Bluetooth SIG member companies continue to meet the needs of consumer, commercial, and industrial use cases.

Thanks to their ongoing efforts, *Bluetooth®* technology is securing its place in today's smart buildings and smart homes. Market leaders are making the strategic choice to integrate Bluetooth mesh networking into their commercial and home automation solutions. The Bluetooth SIG member community is also continuing to expand the way audio is experienced around the world. Recent advancements in Bluetooth audio and entertainment solutions, including the launch of LE Audio, are further testament to the ability of Bluetooth technology to significantly influence market trends.

It's an honor to be part of such an incredible community.



**Mark Powell** | CEO | *Bluetooth SIG, Inc.*

# What is Bluetooth SIG, Inc.?

Formed in 1998, the Bluetooth Special Interest Group (SIG) is the not-for-profit trade association that oversees Bluetooth® technology, serving industry-leading member companies across the globe.

Based in Kirkland, Washington, USA, we work with our member companies to perfect and advance a simple, flexible, and secure wireless communication solution that helps create a connected world, free from wires.

## The Bluetooth SIG manages three charter programs:



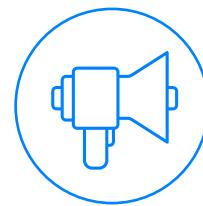
### Specification

**We expand the capabilities of Bluetooth® technology** by facilitating the collaboration of our member companies to create new and enhanced Bluetooth specifications.



### Qualification

**We drive interoperability of Bluetooth® enabled devices** through a world-class qualification product program that gives members access to the Bluetooth technology and trademark license agreements.



### Promotion

**We grow the Bluetooth® brand** by increasing the awareness, understanding, and adoption of Bluetooth technology.



# What is the Bluetooth® Market Update?



*The Bluetooth SIG member community continually expands the technology to solve new connectivity challenges and address new market opportunities.*

Supported by updated forecasts from ABI Research and insights from several other analyst firms, the Bluetooth® Market Update examines:

- The growth and health of the Bluetooth SIG member **community**
- Trends and forecasts for each of the key Bluetooth® wireless **solution** areas
- New trends, forecasts, and opportunities in Bluetooth vertical **markets**

The Bluetooth® Market Update is intended to help global Internet of Things (IoT) decision makers stay up to date on the role Bluetooth technology can play in their technical roadmaps and markets.

The trends in the Bluetooth® Market Update highlight the direction of the Bluetooth SIG member community as Bluetooth technology continues its expansion from a personal communications solution to a commercial and industrial-grade connectivity engine.

The background features abstract blue geometric shapes. A large, solid blue arrow points diagonally upwards from the bottom left. Behind it is a lighter blue rectangle with a thin white outline. To the right of the rectangle is a series of thin, light blue diagonal lines forming a zigzag pattern.

**Bluetooth® technology  
is more than wireless connectivity.  
It's also a community.**

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# Community

# Membership

Growing

Collaborating

Delivering

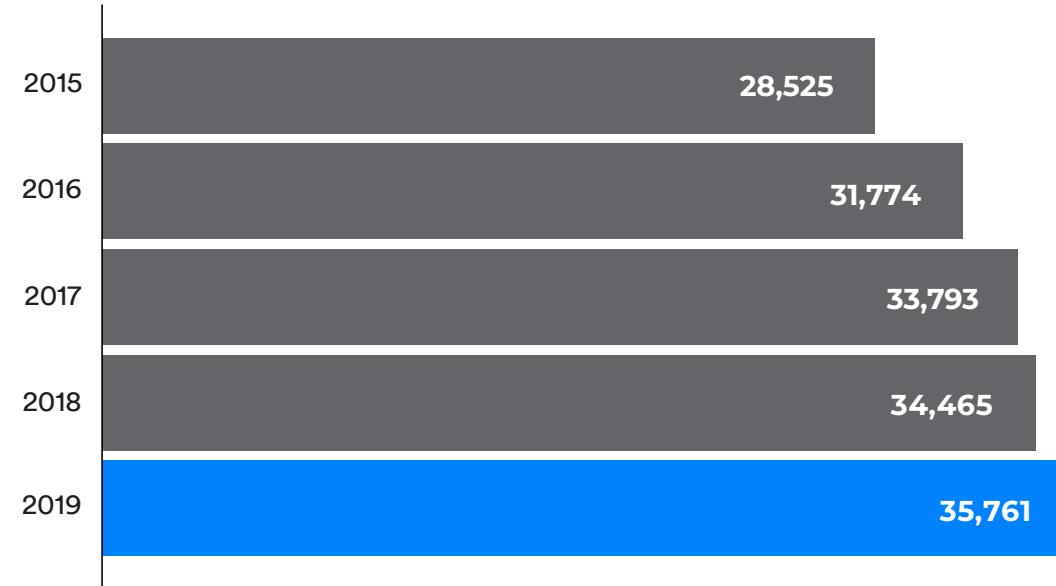
Embracing

Innovating

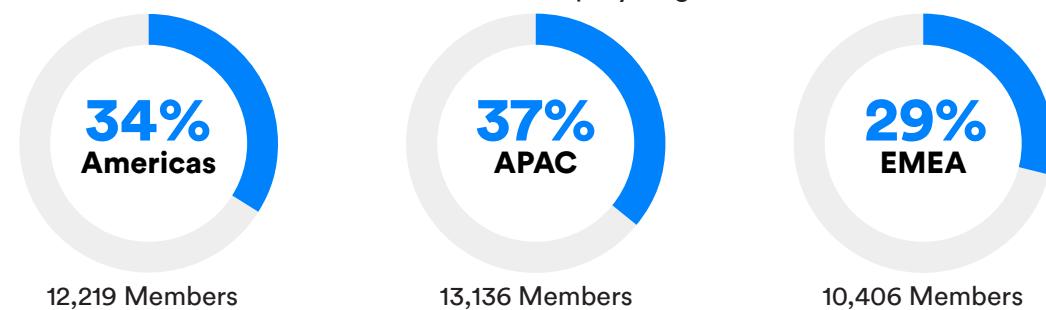
The Bluetooth SIG member community continues to experience strong growth and now has nearly 36,000 companies spread evenly across all regions of the world, highlighting the true global footprint of Bluetooth® technology.

[Learn more about membership](#)

## Total Bluetooth SIG Member Companies



## Bluetooth SIG Membership by Region in 2019



Source: Bluetooth SIG, as of 31 Dec 2019

# Specifications

Growing

Collaborating

Delivering

Embracing

Innovating

The Bluetooth SIG working groups and committees are the reason Bluetooth® technology is the global wireless standard powering the IoT. The hard work and collaboration between our member companies are what drives the continuous innovation of the technology.

**Working groups are the backbone of the Bluetooth SIG, bringing specifications to life.**

**14**

Working Groups

**80**

Active, In-Development Specification Projects

**2,089**

New Group and Committee Members in 2019

Learn more about working groups

# Shipments



Growing

Collaborating

Delivering

Embracing

Innovating

With the support of a committed member community, Bluetooth® technology has met the growing demands for wireless innovation for more than 20 years.

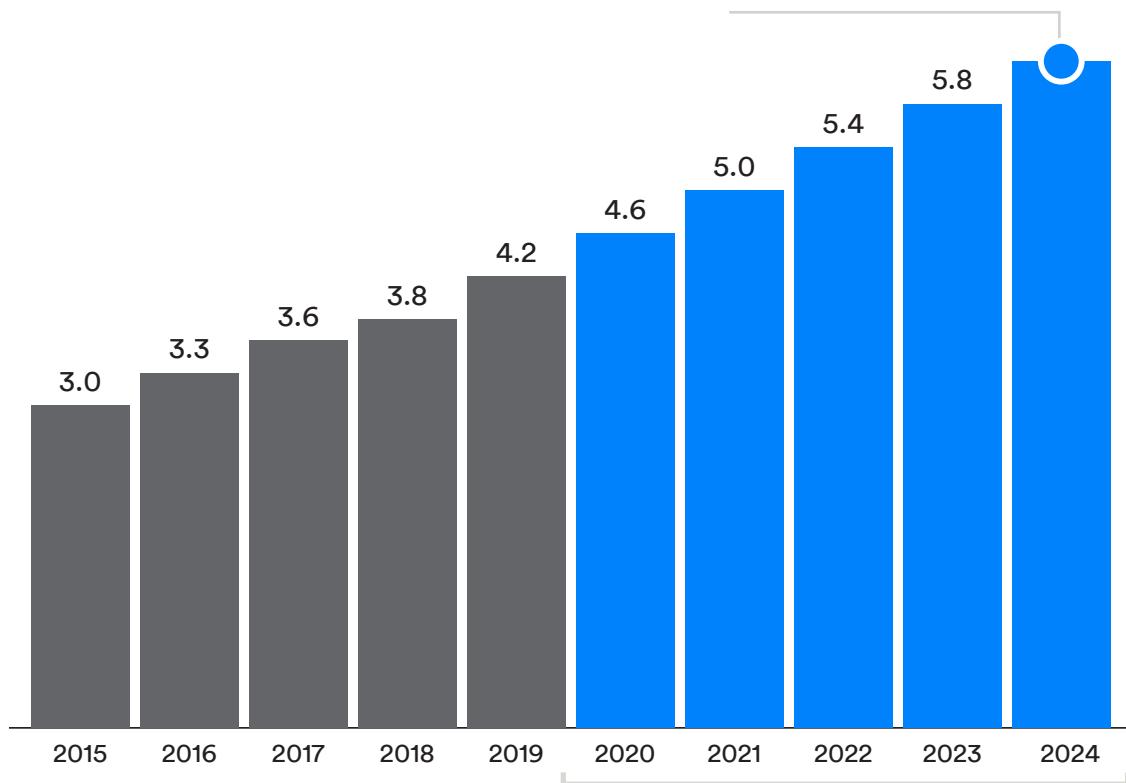
Since its introduction in 1998, Bluetooth enabled device shipments continue to increase with no sign of slowing down. By 2024, annual Bluetooth enabled device shipments will exceed six billion.

## Total Annual Bluetooth® Device Shipments

*numbers in billions*

**6.2 billion**

annual shipments



**8% CAGR**  
2019 - 2024

Source: ABI Research, 2020

# Shipments by Radio Version

Growing

Collaborating

Delivering

Embracing

Innovating

# 7.5

**BILLION**  
cumulative Bluetooth® LE  
single-mode devices will ship  
from 2020-2024

## Bluetooth® LE is the new market standard

Bluetooth Low Energy (LE) technology continues to expand at a tremendous rate and remains the fastest growing Bluetooth radio with a 26% CAGR.

# 100%

of all new platform devices will support Bluetooth® Classic + LE by 2024

## Dual-mode is the standard for platform devices

In order to connect to the universe of Bluetooth enabled devices, 100% of all platform devices (phones, tablets, and laptops) shipped in 2024 are forecasted to support both Bluetooth radio versions.

# 3X

**GROWTH**

in annual shipments of Bluetooth® LE single-mode devices by 2024

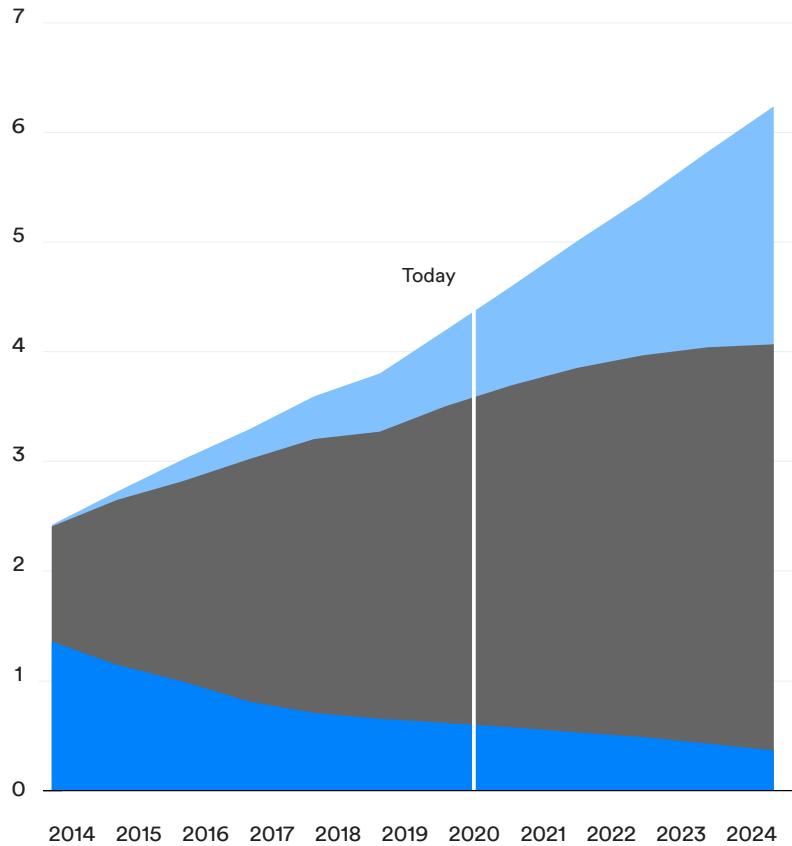
## 35% of annual shipments by 2024 will be LE single-mode devices

Thanks to the recent release of LE Audio, forecasts indicate that Bluetooth LE single-mode device shipments are set to triple over the next five years.

## Annual Bluetooth® Device Shipments by Radio Version

*numbers in billions*

Classic    Classic + LE    LE



Source: ABI Research, 2020

# Embracing Mesh Networking

Growing

Collaborating

Delivering

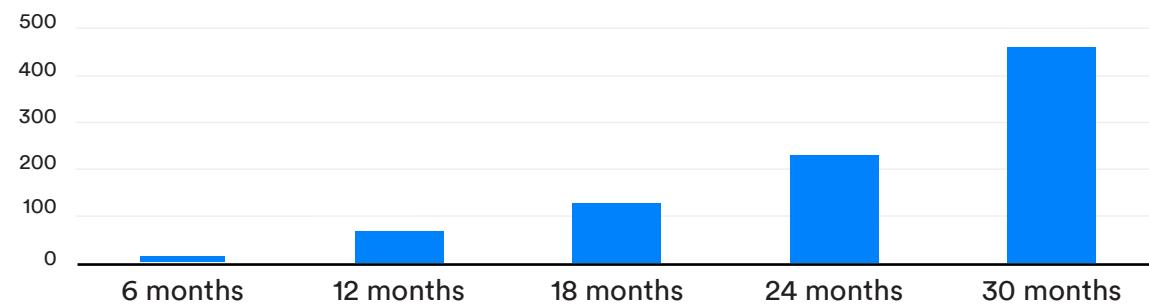
Embracing

Innovating

Since its release, Bluetooth® mesh networking has become the clear choice for large-scale device networks and is playing a pivotal role in the development of emerging markets, from smart building and smart industry to the smart home and smart city.

Learn more about  
Bluetooth  
mesh networking

## Bluetooth® Mesh Qualified Products Double Every Six Months



### Home Automation

Bluetooth mesh networking is playing a key role in automating the smart home of tomorrow. Embraced by major home automation platforms, such as Alibaba and Xiaomi, Bluetooth mesh networking continues to support a growing demand for device networks in the home.

### Commercial Lighting

Commercial lighting control systems — supported by innovators like Osram, Murata, Zumtobel, McWong, Delta Electronics, Hytronik, Leedarson Lighting, Fulham, and more — are relying on Bluetooth mesh networking to create large-scale device networks that can act as the building's central nervous system. Used across retail, tourism, and enterprise to provide advanced lighting control, these systems also establish a platform that enables advanced building services, including wayfinding and asset tracking.

# Innovating LE Audio

Growing

Collaborating

Delivering

Embracing

Innovating

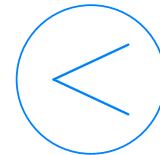
Building on a tradition of audio innovation, the Bluetooth SIG member community introduced LE Audio, the next generation of Bluetooth® audio. LE Audio will enhance the performance of Bluetooth audio, add support for hearing aids, and introduce Audio Sharing, an innovative use case for Bluetooth technology with the potential to once again change the way we experience audio and connect with the world around us.

[Learn more about LE Audio](#)



## LC3

Providing higher quality at lower data rates, a new audio codec called LC3\* will bring tremendous flexibility to developers, allowing them to make better design tradeoffs between key product attributes.



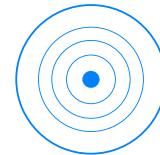
## Multi Stream

LE Audio will enable the transmission of multiple, independent, synchronized audio streams, providing a standardized approach for developers to build high-quality, truly wireless earbuds.



## Hearing Aids

Building on its low power, high quality, and multi-stream capabilities, LE Audio will facilitate the development of Bluetooth hearing aids to support the growing number of people with hearing loss.



## Broadcast

Broadcast Audio enables a source device to broadcast an audio stream to an unlimited number of audio sink devices, opening new opportunities for innovation, including the enablement of a new Bluetooth technology use case, Audio Sharing.

\*LC3 - Low Complexity Communication Codec

The background features abstract blue geometric shapes. A large, solid blue arrow points diagonally upwards from the bottom left. Behind it is a smaller, semi-transparent blue arrow pointing diagonally upwards. To the right of the arrows is a white line that forms a triangle with the arrows. Above the line is a series of thin, light blue chevron-like lines.

**Bluetooth® technology  
proves the power of connection.  
It expands to meet market needs.**

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# Solutions

# Solutions to Meet Market Needs

Audio Streaming

Data Transfer

Location Services

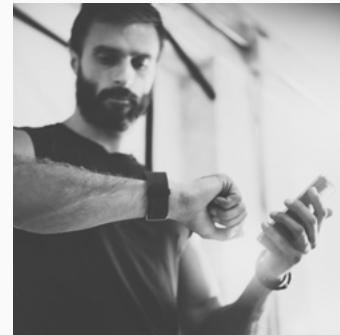
Device Networks

Bluetooth® technology provides full stack, fit-for-purpose solutions to meet the ever-expanding needs of wireless connectivity. After first addressing audio streaming, Bluetooth technology expanded into low-power data transfer. Now, Bluetooth technology is meeting the needs of location service and large-scale device network solutions.



## Audio Streaming

Stripping away the hassle of wires, Bluetooth technology revolutionized audio and has forever changed the way we consume media. With the introduction of LE Audio, Bluetooth technology is poised once again to transform the way we experience audio and connect with the world around us.



## Data Transfer

From household appliances and fitness trackers to health sensors and medical innovations, Bluetooth technology connects billions of everyday devices and enables the invention of countless more.



## Location Services

Bluetooth technology is the developer tool of choice for creating proximity solutions used for point of interest information and item finding as well as positioning systems for asset tracking and wayfinding.



## Device Networks

Bluetooth mesh networking is ideally suited for creating control, monitoring, and automation systems where tens, hundreds, or thousands of devices need to reliably and securely communicate with one another.

# Audio Streaming

Audio Streaming

Data Transfer

Location Services

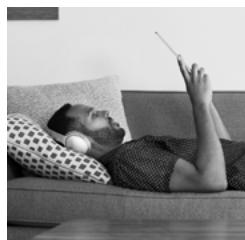
Device Networks



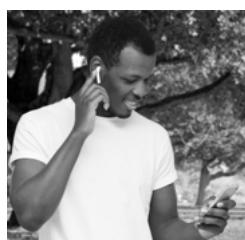
**Calling** — Thanks to Bluetooth technology, everything from earbuds to cars to enterprise headsets enable safer, more-convenient conversations without the distraction and limitations of wires.



**Listening** — Whether using a headset on the go, a high-fidelity speaker at home, or a portable speaker at the beach, Bluetooth technology has forever changed the role music plays in our lives.



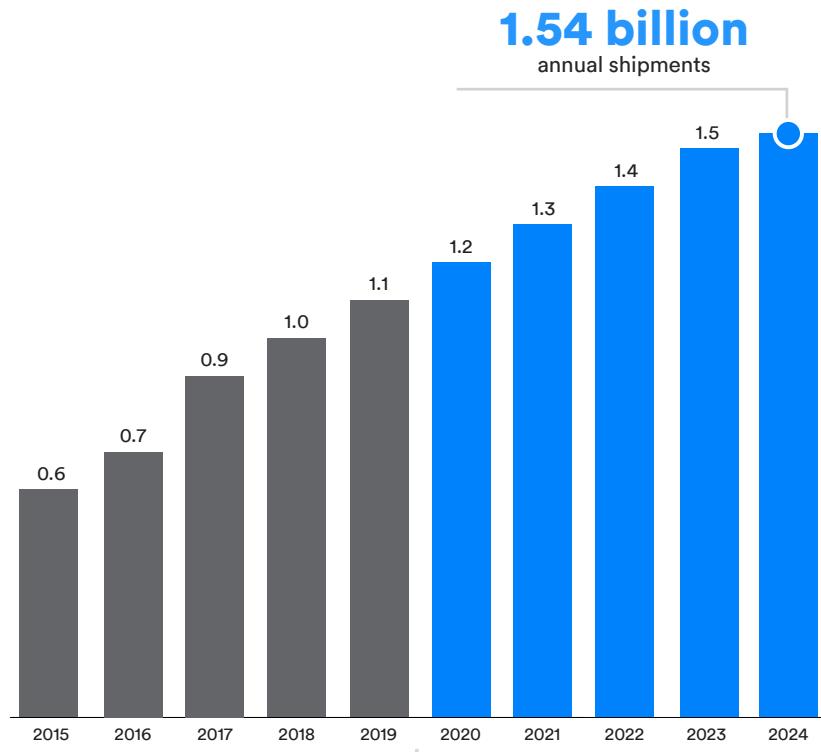
**Watching** — Bluetooth headphones, earbuds, speakers, soundbars, and more provide the perfect audio complement to our on-demand viewing experience, whether on the go or in our homes.



**Controlling** — Alexa, Siri, Cortana, and DuerOS. The assistant names may change, but the user interface (UI) stays the same. Voice UIs have been added to smart speakers, automobiles, home appliances, and more.

## Annual Bluetooth® Audio Streaming Device Shipments

*numbers in billions*



**7% CAGR**  
2019 - 2024

Source: ABI Research, 2020

# Data Transfer

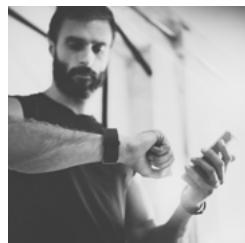


Audio Streaming

Data Transfer

Location Services

Device Networks



**Sports & Fitness** — Bluetooth technology powers wearable devices like fitness trackers and smartwatches to monitor steps, exercise, activity, and sleep.



**Health & Wellness** — From blood pressure monitors to continuous glucose monitoring, Bluetooth technology provides easier ways to track health metrics and improve quality of care.



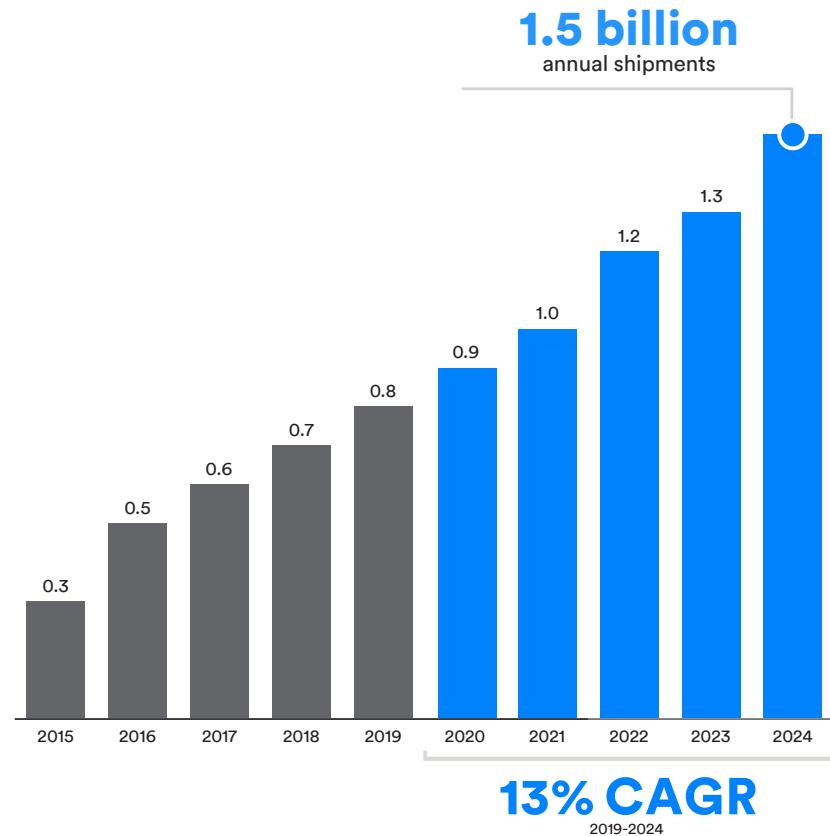
**Input & Control** — A driving force behind Bluetooth technology is freedom from wires. Whether it is a keyboard, trackpad, or mouse, computers no longer need wires to stay connected.



**Internet of Everything** — Whether it is a tool, toy, or toothbrush, the ability to collect data and turn it into actionable information can provide benefit to any device.

## Bluetooth® Data Transfer Device Shipments

*numbers in billions*



Source: ABI Research, 2020

# Location Services

Audio Streaming

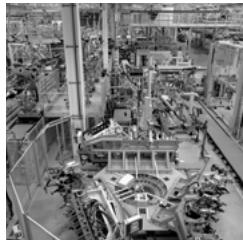
Data Transfer

Location Services

Device Networks



**Item Finding** — A growing number of consumers are attaching Bluetooth tags to keys, wallets, purses, and other personal property to help them locate lost items.



**Asset Tracking** — Bluetooth technology is powering rapid growth in real-time location system (RTLS) solutions used for tracking assets and inventory to increase productivity and reduce costs.



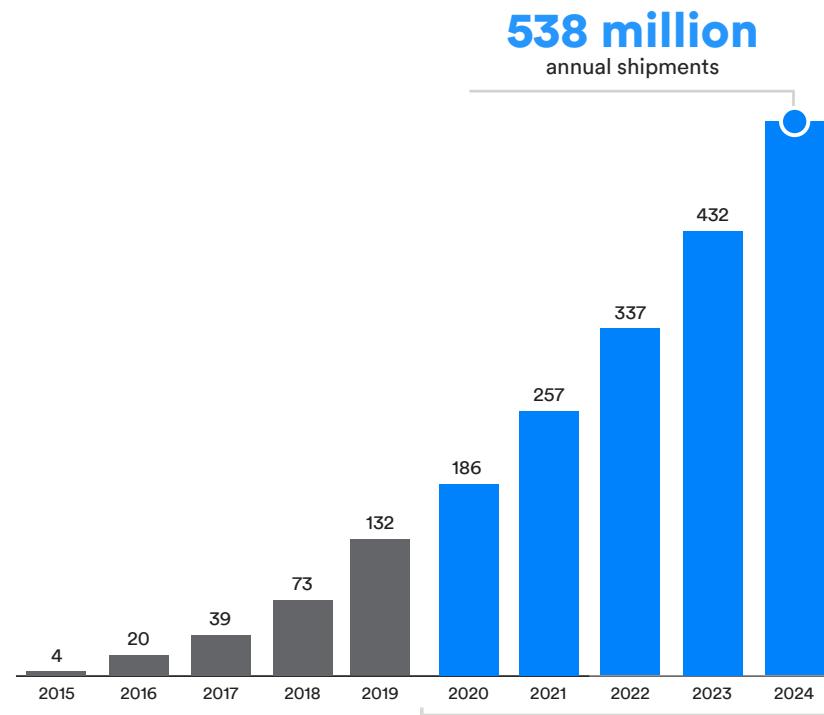
**Wayfinding** — Bluetooth indoor positioning systems (IPS) have quickly become the solution for indoor GPS, helping visitors navigate their way through complex facilities.



**Access Control** — Whether used to unlock cars or enhance workplace safety by controlling access to hazardous and critical industrial spaces, Bluetooth technology is replacing key fobs and key cards.

## Bluetooth® Location Services Device Shipments

*numbers in millions*



Source: ABI Research, 2020

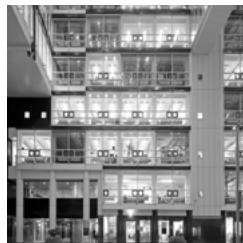
# Device Networks

Audio Streaming

Data Transfer

Location Services

Device Networks



**Automation Systems** — Bluetooth technology enables the automation of a building's essential systems, including HVAC (heating, ventilation, and air conditioning), lighting, and security to harness energy savings, lower operating costs, and improve the life span of a building's core systems.



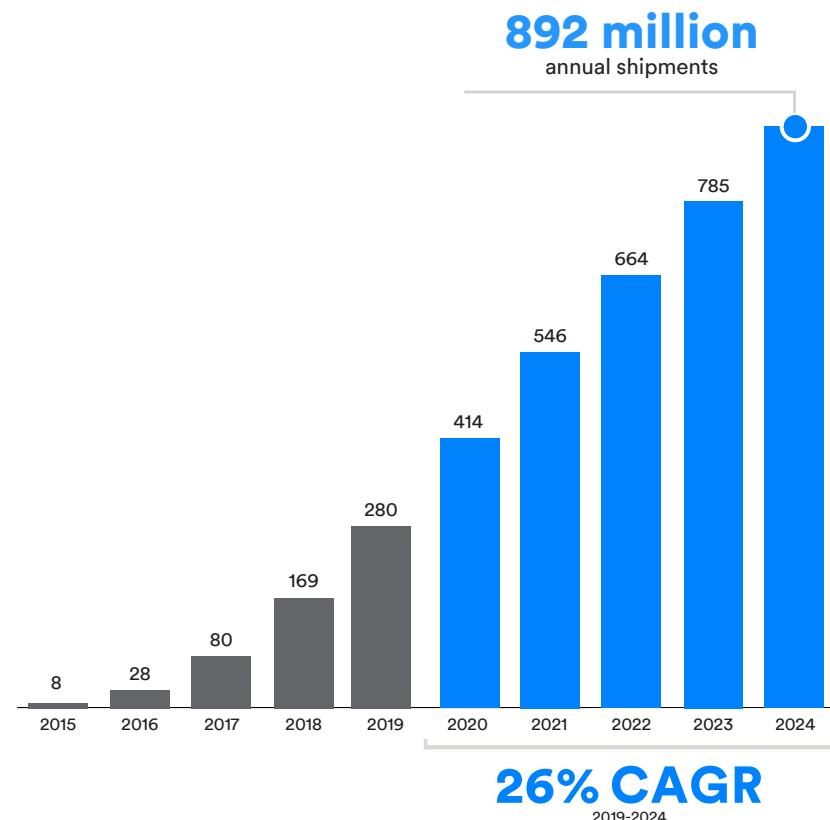
**Control Systems** — Bluetooth mesh networking is quickly being adopted as the wireless communications platform of choice in a number of control systems, including advanced lighting solutions for smart building and smart industry markets.



**Monitoring Systems** — Bluetooth wireless sensor networks (WSN) monitor environmental factors to improve employee productivity, lower operating costs, or reduce unplanned downtime of production equipment.

## Bluetooth® Device Networks Device Shipments

*numbers in millions*



Source: ABI Research, 2020

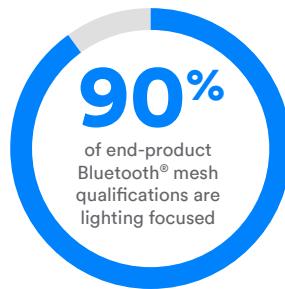
# Shipments by Solution Area

Audio Streaming

Data Transfer

Location Services

Device Networks



## Bluetooth® mesh networking powers smart building development

Bluetooth mesh is powering everything from connected lighting to complex building automation systems, and product qualifications have doubled every six months for the last two years with no signs of slowing down.

**4X**  
GROWTH

in annual shipments of Bluetooth® location services devices by 2024

**1.5**  
BILLION

annual shipments of Bluetooth® audio streaming devices by 2024

## Location services is still the fastest growing solution area

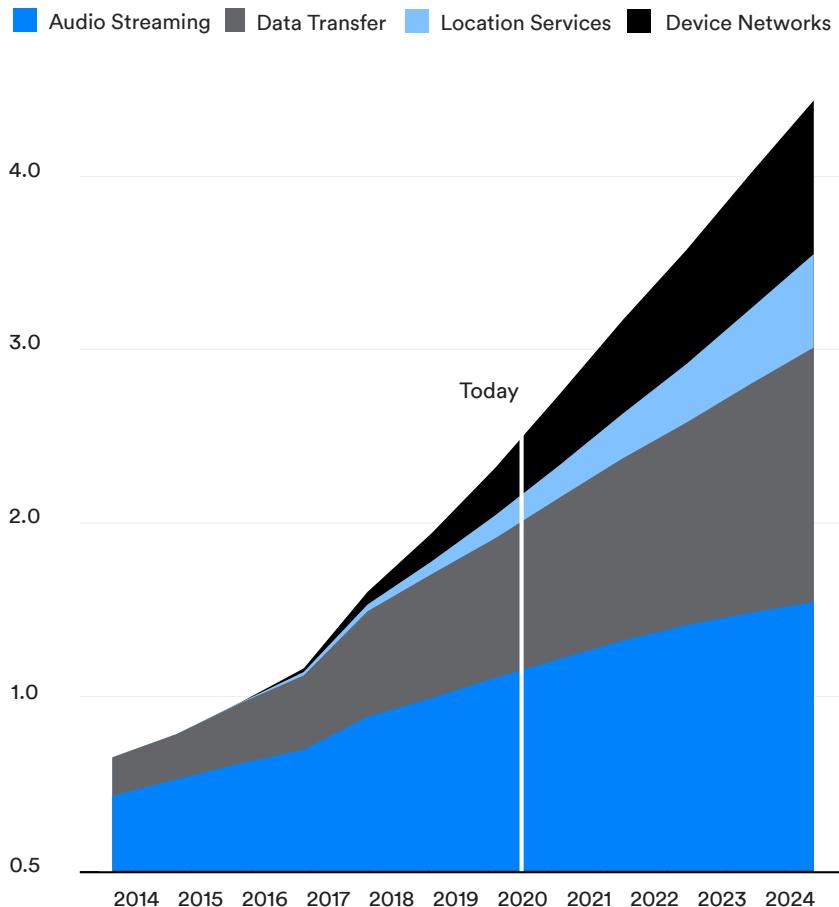
Continued demand for location services is powering a surge in wayfinding, asset tracking, item finding, and access control solutions that incorporate Bluetooth technology.

## Audio streaming will continue to drive market growth

With the recent launch of LE Audio, and the introduction of Bluetooth® Audio Sharing, audio streaming will continue to lead the growth in Bluetooth enabled devices over the next five years.

## Annual Bluetooth® Device Shipments by Solution Area\*

numbers in billions



\*Phone, tablet, and PC devices not included. Source: ABI Research, 2020

The background features abstract blue geometric shapes. A large, solid blue arrow points diagonally upwards from the bottom left. Behind it is a smaller, semi-transparent blue arrow pointing diagonally upwards. In the bottom left corner, there are two blue triangles pointing right. A thin white line connects the text 'Connection drives innovation.' to the top edge of the bottom triangle.

**Connection drives innovation.  
Innovation creates markets.**

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# Markets

# Phone, Tablet & PC

## MARKET FORECAST

Phone

Audio

Automotive

Device

Building

Industry

Home

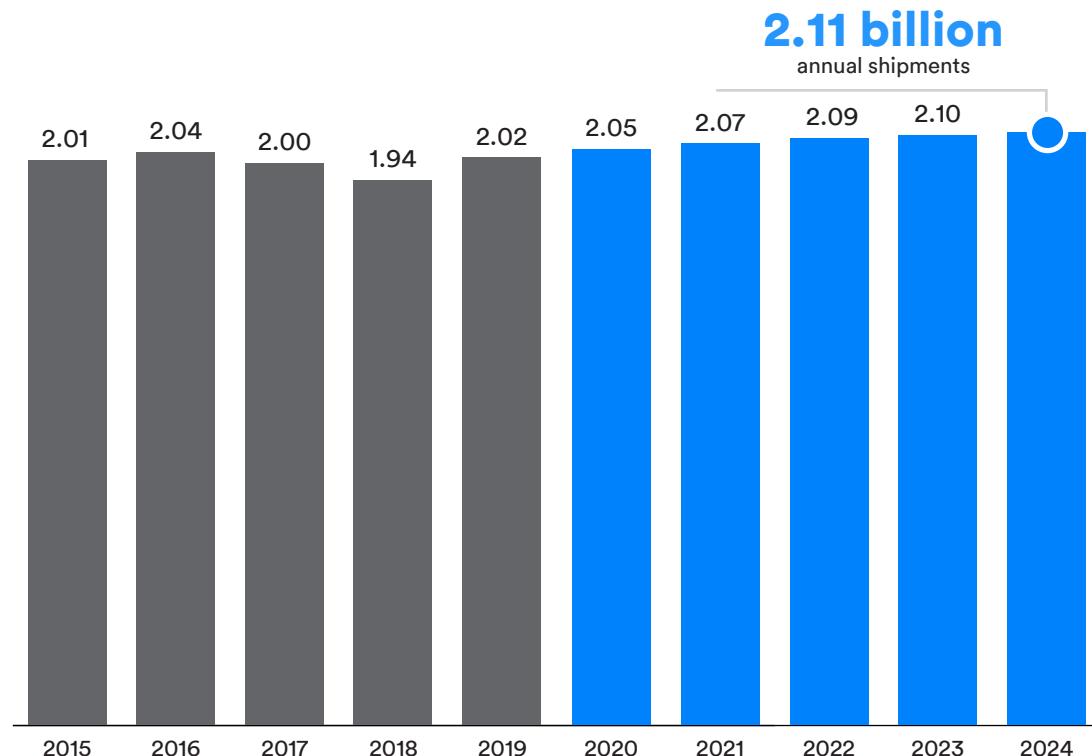
City

Bluetooth® technology is the standard for personal wireless connections. Included in 100% of new smartphones, tablets, and PCs, Bluetooth technology continues to keep pace with the market for new use cases and embrace the latest market trends — from navigation to automation to control.

Learn more about the Phone, Tablet & PC market

### Bluetooth® Phone, Tablet & PC Device Shipments

*numbers in billions*



Source: ABI Research, 2020



# Phone, Tablet & PC

## MARKET INSIGHT

Phone

Audio

Automotive

Device

Building

Industry

Home

City

**Platform ubiquity  
maximizes developer  
opportunities**

**100%**  
**OF ALL NEW**

platform devices will support  
Bluetooth® Classic + LE by 2024

With Bluetooth technology included in 100% of new smartphones, tablets, and PCs, developers can be assured the technology will be available for the applications and solutions they create.

**Bluetooth technology  
in smartphones drives  
location services**

**1.8**  
**BILLION**

Bluetooth® enabled handsets will be actively engaged in location services by 2024

From indoor navigation and item finding to point of interest information solutions, more than 1.8 billion actively engaged handsets by 2024 will continue to make Bluetooth location services an integral part of the smartphone experience.

**Accessories are  
standardizing on  
Bluetooth connectivity**

**70%**  
**OF ACCESSORIES**

will include Bluetooth® technology by 2024

Whether it's keyboards, mice, speakers, headphones, or other connected peripherals, developers rely on Bluetooth technology to eliminate wires and create a reliable, clutter-free user experience.

**Smartphones for  
provisioning help drive  
mesh growth**

**3.2x**  
**GROWTH**

in annual Bluetooth® device networks device shipments by 2024

Commercial and industrial environments are turning to Bluetooth technology to support large-scale device network provisioning and control, adopting smartphones and tablets as mobile displays for managing and monitoring critical equipment in day-to-day operations.

# Audio & Entertainment

## MARKET FORECAST

Phone

Audio

Automotive

Device

Building

Industry

Home

City

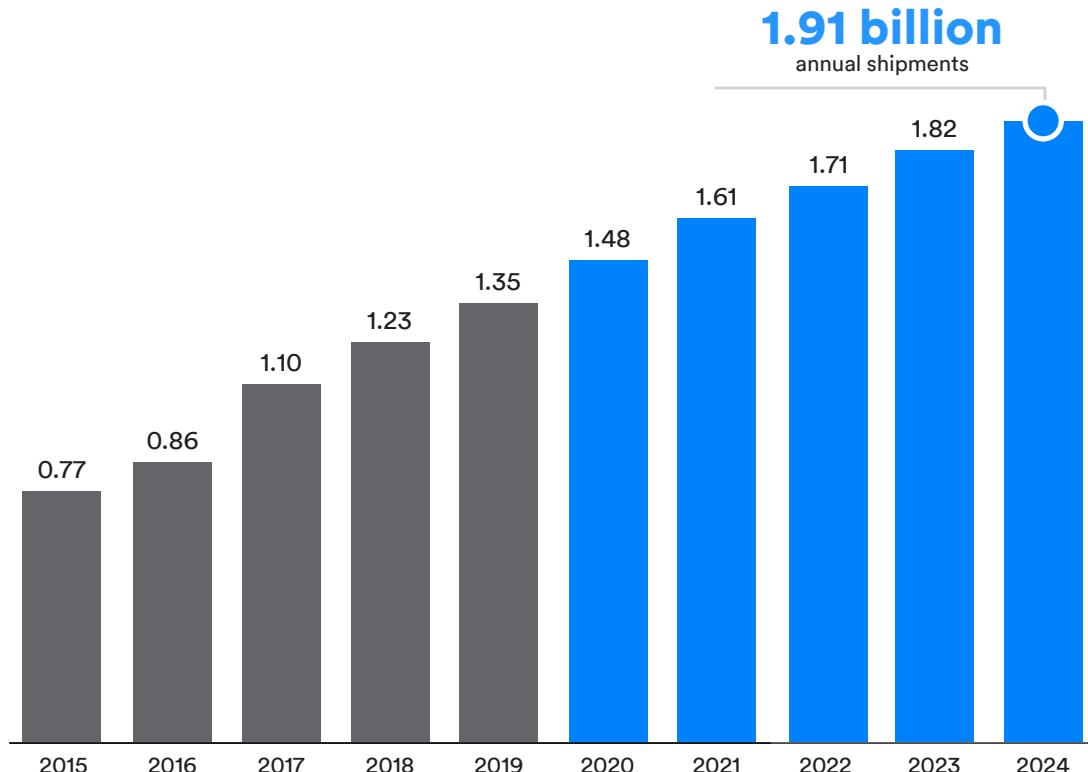
Bluetooth® technology enables consumers to experience music and entertainment free from wires. The introduction of LE Audio in 2020 will help accelerate market growth with nearly 2 billion audio and entertainment devices forecasted to be shipped annually by 2024.

In addition to enhancing performance and adding support for hearing aids, LE Audio will introduce Audio Sharing, an innovative use case for Bluetooth technology with the potential to once again change the way we experience audio and connect with the world around us.

Learn more about the  
Audio & Entertainment market

### Bluetooth® Audio & Entertainment Device Shipments

*numbers in billions*



Source: ABI Research, 2020



# Audio & Entertainment

## MARKET INSIGHT

Phone

Audio

Automotive

Device

Building

Industry

Home

City

**Bluetooth audio annual shipments reach one billion**

**one  
BILLION**

Bluetooth® audio devices will ship in 2020

Like a ball rolling down a hill, the market conversion to wireless Bluetooth audio continues to pick up speed. From more design options to the introduction of LE Audio, the adoption of Bluetooth audio continues to grow.

**Earbuds are becoming the form factor of choice for consumers**

**38%**  
**OF WIRELESS**

headphones shipped annually will be truly wireless earbuds by 2024

With the introduction of new product lines and a greater choice in features, earbuds and Bluetooth technology have become the go-to combination for consumers, providing a truly wireless audio experience.

**Market transition to wireless speakers is nearly complete**

**9 OUT OF 10**  
**SPEAKERS**

include Bluetooth® technology

Rapid growth in portable wireless speakers and soundbars demonstrate consumer preference and confidence in Bluetooth wireless audio devices. Nearly 97% of all speakers are forecasted to include Bluetooth technology by 2024.

**Audio & Entertainment is embracing Bluetooth Low Energy technology**

**1/2**  
**OF DEVICES**

shipped annually for Audio & Entertainment will include Bluetooth® LE technology by 2024

The advantages and flexibility of the Bluetooth Low Energy (LE) radio support multiple uses like device discovery, data transfer, and now LE Audio. It is anticipated that half of all audio and entertainment device shipments will include Bluetooth LE technology by 2024.

# Automotive

## MARKET FORECAST

Phone

Audio

Automotive

Device

Building

Industry

Home

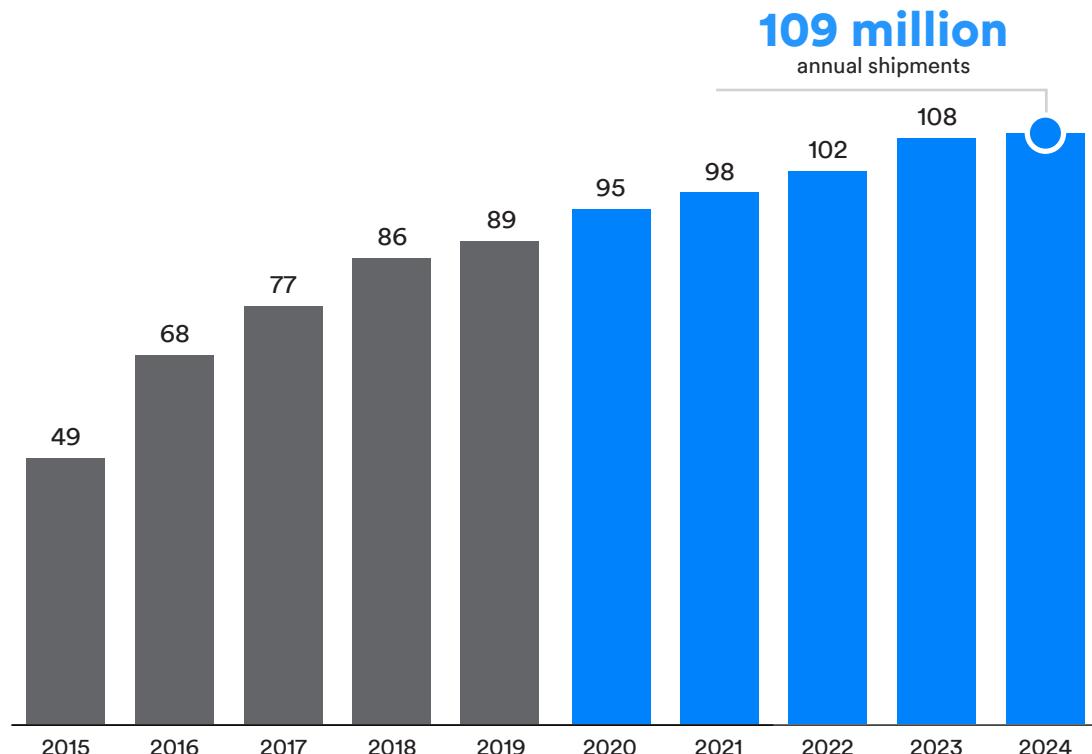
City

Bluetooth® technology creates connections between the car and driver that support new levels of safety, security, and access while enhancing the in-car experience. Thanks to lower power consumption, enhanced performance, and improved reliability, Bluetooth technology is the automotive standard for both in and out of the car – including keyless entry systems and in-car infotainment.

Learn more about the  
Automotive market

### Bluetooth® Automotive Device Shipments

*numbers in millions*



Source: ABI Research, 2020

Phone

Audio

Automotive

Device

Building

Industry

Home

City

**Bluetooth technology  
is factory installed in most  
new vehicles**

**87%**  
**OF NEW CARS**

come standard with  
Bluetooth® technology

Bluetooth technology continues to gain traction with factory and after-market solutions and is now included in nearly all new cars, trucks, and SUVs. By 2024, two thirds of all cars on the road will include Bluetooth technology.

**Bluetooth technology is  
becoming the standard for  
automotive keyless entry**

**13**  
**MILLION**

annual shipments of Bluetooth®  
enabled key fobs and  
accessories by 2024

Thanks to Bluetooth technology,  
using the smartphone as a key fob  
is becoming an increasingly popular  
trend. Annual shipments of Bluetooth  
key fobs and accessories will increase  
60% over the next five years.

**In-car sensor networks  
drive new automotive  
use cases**

**2/3**

**OF ALL CARS**

on the road by 2024 will use  
Bluetooth® technology

Use cases — such as infotainment,  
passive keyless entry, tire pressure  
monitoring, and condition alerts  
— are creating a demand for more  
wireless sensors, leading to an  
anticipated four to six Bluetooth  
enabled sensors in every future car.

# Connected Device

## MARKET FORECAST

Phone

Audio

Automotive

Device

Building

Industry

Home

City

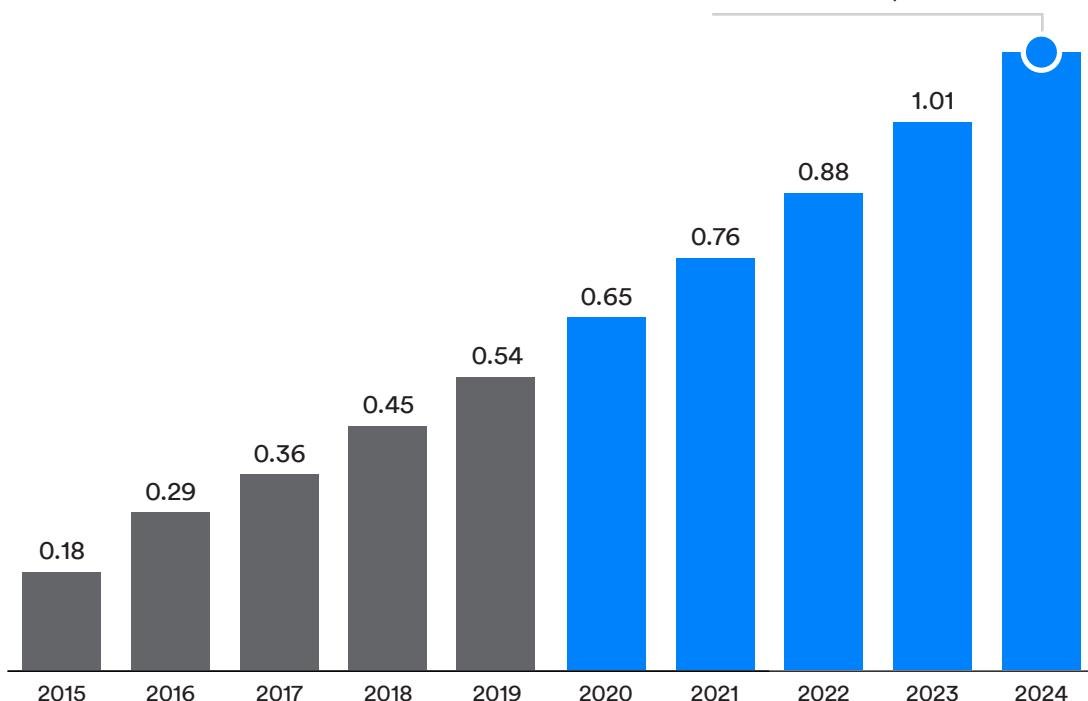
From tools to toys to toothbrushes, Bluetooth® technology connects billions of devices every day – turning data into information and enabling the modern-day IoT so everything can be a connected device. The demand to connect every device continues to grow with no signs of slowing down.

Learn more about the  
Connected Device market

### Bluetooth® Connected Device Device Shipments

*numbers in billions*

**1.14 billion**  
annual shipments



Source: ABI Research, 2020



# Connected Device

MARKET INSIGHT

Phone

Audio

Automotive

Device

Building

Industry

Home

City

**2x growth in annual shipments of smart watches by 2024**

**1/3**  
**OF DEVICES**

in the 2020 Bluetooth® Connected Device market are wearables

As more and more devices become connected devices, advances in Bluetooth technology will continue to drive growth in the wearables segment. In the next five years, annual shipments of smartwatches will grow to 119 million.

**Tags and trackers gain sizeable market share**

**130**  
**MILLION**

annual shipments of Bluetooth® enabled personal tags and inventory trackers by 2024

As location services continues to make a bigger impact on everyday life, the use of tags for item finding, personnel, and pet tracking is increasing in popularity. Tags used for positioning and location services will see a 3.4x growth in annual shipments by 2024.

**Any device can be a connected device with Bluetooth technology**

**83**  
**MILLION**

Bluetooth® connected endpoints that fall outside traditional device category definitions will ship annually in 2024

The popularity of Bluetooth Low Energy (LE) technology for IoT applications and services is unquestioned. While well-defined connected device categories, such as wearables, tags, and trackers, continue to expand, more than 83 million connected endpoints will fall outside traditional device category definitions by 2024, up from 27 million in 2019.

# Smart Building

## MARKET FORECAST

Phone

Audio

Automotive

Device

Building

Industry

Home

City

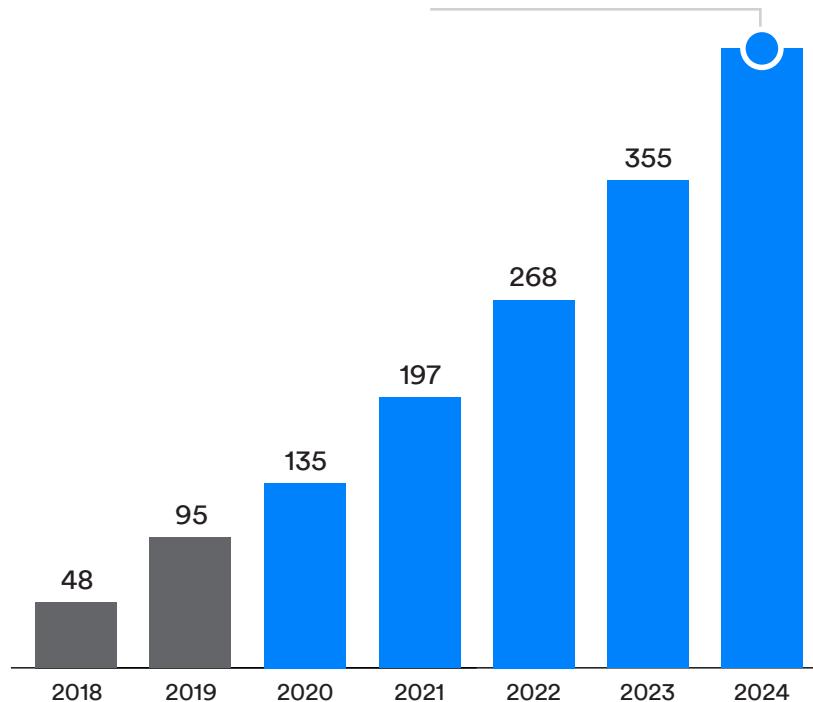
The growing demand for large-scale, connected lighting networks and precise, indoor location services has positioned Bluetooth® wireless connectivity as a mainstay smart building technology. With the number of Bluetooth mesh product qualifications doubling every six months, more and more Bluetooth enabled products are addressing the diverse use cases of the smart building market.

Learn more about the  
Smart Building market

### Bluetooth® Smart Building Device Shipments

*numbers in millions*

**451 million**  
annual shipments



Source: ABI Research, 2020



# Smart Building

## MARKET INSIGHT

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**Location services  
dominates smart  
building forecasts**

**4.6x**  
**GROWTH**

in Bluetooth® smart building location  
services devices by 2024

Bluetooth technology is becoming  
the default solution for enabling  
in-building wayfinding, asset  
management, and space utilization.  
Powering new location services in a  
variety of smart buildings, Bluetooth  
technology helps create operational  
efficiencies and improve the  
occupant experience.

**Bluetooth mesh  
networking is powering  
connected lighting**

**90%**  
**OF END PRODUCT**

qualifications for Bluetooth® mesh  
networking are lighting focused

It is forecasted that the growing  
demand for large-scale, wireless  
lighting solutions will result in 1.8  
billion connected lighting devices  
by 2028. And with Bluetooth mesh  
product qualifications doubling every  
six months, the connected lighting  
market shows no signs of  
slowing down.

**Manufacturing leads  
demand for asset  
tracking tags**

**217**  
**MILLION**

annual shipments of Bluetooth®  
asset tags used in manufacturing  
by 2024

Manufacturing plants use Bluetooth  
technology to increase the health and  
safety of employees and equipment.  
With 66 million Bluetooth asset  
tracking tags shipping in 2020,  
facilities are geofencing harsh  
environments and critical assets to  
help ensure equipment and personnel  
are out of harm's way during day-to-  
day operation.

# Smart Industry

MARKET FORECAST



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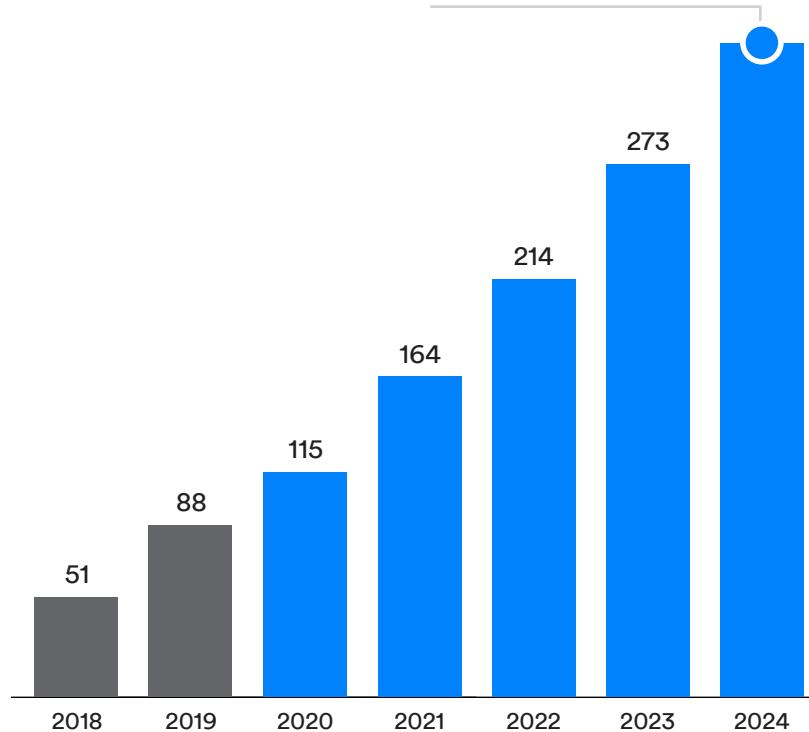
An integral part of the industrial IoT revolution, Bluetooth® technology helps manufacturers achieve new levels of productivity and safety. The improved location accuracy and robustness of the technology supports commercial and industrial solutions that strive to increase workplace safety and security in environments like chemical plants, help drive down implementation and support costs, and enhance operational efficiency.

Learn more about the  
Smart Industry market

## Bluetooth® Smart Industry Device Shipments

*numbers in millions*

**335 million**  
annual shipments



Source: ABI Research, 2020



# Smart Industry

## MARKET INSIGHT

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### Condition monitoring drives demand for sensor networks

**4x**  
**RANGE**

improvement helps drive reliable connections in harsh environments

The latest Bluetooth innovations in range, speed, and data advertising can provide data for more informed decision making and support predictive maintenance across a variety of complex industrial and commercial environments.

### Asset tracking gains significant traction

**4.2x**  
**GROWTH**

in annual shipment of Bluetooth® asset tracking tags by 2024

Growing at a CAGR of 34%, Bluetooth asset tracking tags help improve the operational efficiency of smart industry use cases through real-time location system (RTLS) solutions by tracking and managing critical assets in commercial and industrial environments.

### Bluetooth technology plays a key role in workplace safety and security

**60%**  
**SURVEYED**

are currently testing or deploying workplace management solutions

The Occupational Safety and Health Administration's (OSHA) goal is to increase worker safety by focusing attention and resources on the most prevalent types of workplace injuries and illnesses and the most hazardous industries and workplaces. Whether it is via access control, geofencing, or personnel tracking, Bluetooth technology helps ensure the safety and security of facility occupants, monitoring staff positions and keeping employees away from hazardous areas.



# Smart Home

## MARKET FORECAST

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Whether connecting TVs to soundbars or PCs to keyboards, Bluetooth® technology has been at the heart of the connected home for years.

The dependability, security, and interoperability of Bluetooth solutions are helping the market realize the full potential of home automation. Thanks to rapid regional adoption of voice-control platforms, home automation through voice-controlled services is driving the future of smart home market growth.

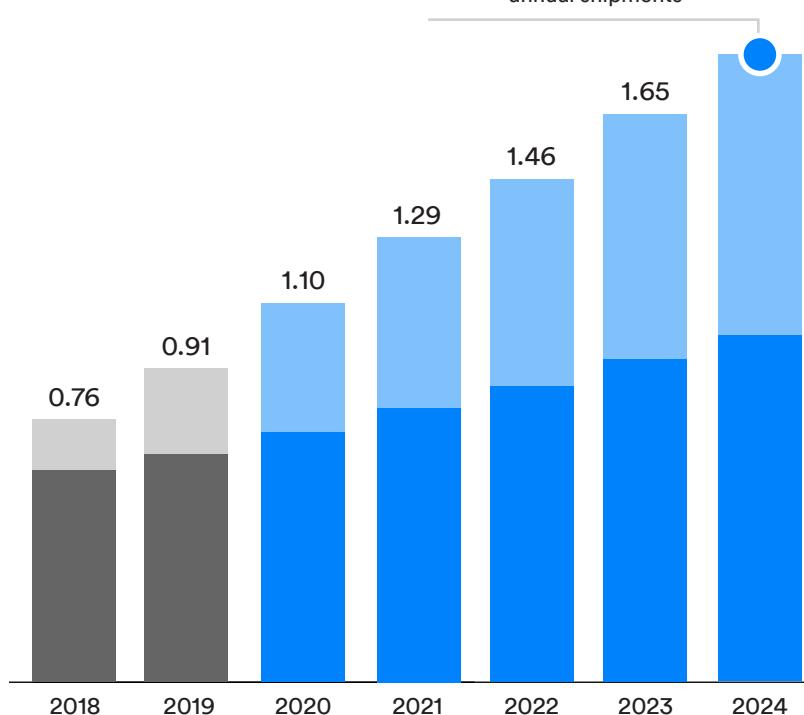
Learn more about the Smart Home market

### Bluetooth® Smart Home Device Shipments

*numbers in billions*

■ Home Automation  
■ Connected Home

**1.82 billion**  
annual shipments



Source: ABI Research, 2020



# Smart Home

## MARKET INSIGHT

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**Smart home forecasts  
set to take a giant  
leap forward**

**2x**  
**GROWTH**

in annual shipments of  
Bluetooth® smart home  
devices by 2024

Five-year forecasts for smart home automation and control take a giant leap forward. Accounting for 45% of device shipments, a substantial increase in lighting control and home automation solutions will drive significant growth over the five-year forecast period.

**Voice control  
front-end devices  
become mainstream**

**77%**  
**INCREASE**

in Bluetooth® voice control  
front-end devices shipped annually  
by 2024

Reaching 250 million annual shipments in 2024, anticipated growth in voice control front-end devices is playing a central role in advancing the smart home market. With more control and automation, and with Bluetooth technology being used in 100% of those devices, an advanced smart home environment is becoming a reality.

**Connected home  
continues to lead the  
smart home forecast**

**one**  
**BILLION**

annual shipments of  
Bluetooth® connected home  
devices by 2024

While home automation and control will see significant growth over the next five years, connected home devices like OEM remote controls, speakers, TVs, and other home audio and entertainment devices will continue to drive the majority of smart home device shipments.

*The growing presence of Bluetooth technology in voice control front-end devices from the likes of Amazon, Alibaba, Google, Baidu, and Xiaomi makes up a significant portion of this growth, alongside increased traction within smart lighting, smart appliances, door locks, sensors, and many other device types.*

- Andrew Zignani, ABI Research



# Smart City

## MARKET FORECAST

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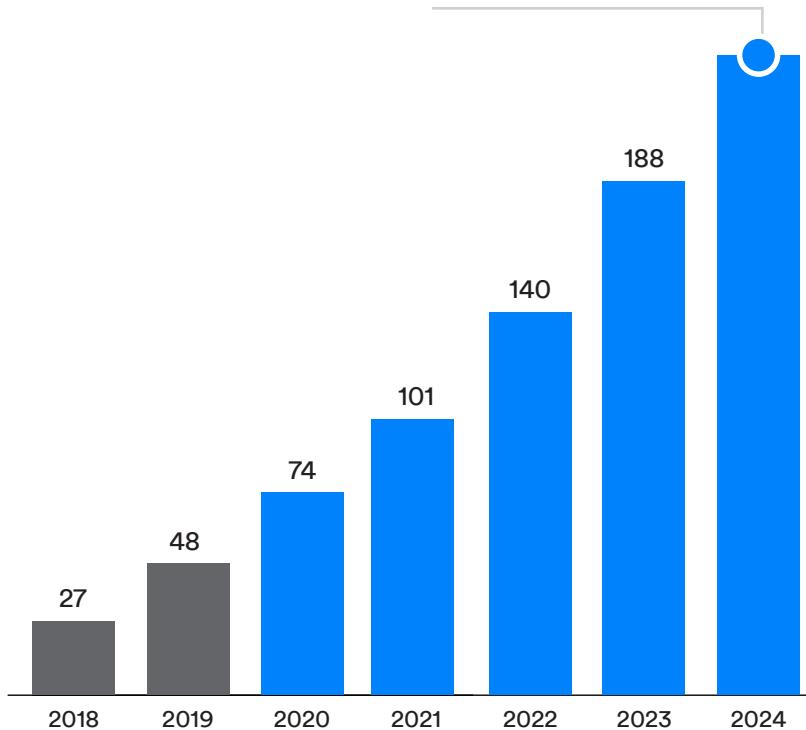
Bluetooth® technology is connecting tomorrow's smart cities to enhance the visitor experience, improve the quality of life for citizens, and create a more business-friendly environment.

Learn more about the Smart City market

### Bluetooth® Smart City Device Shipments

*numbers in millions*

**234 million**  
annual shipments



Source: ABI Research, 2020



# Smart City

## MARKET INSIGHT

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**Bluetooth technology  
will connect tomorrow's  
smart cities**

**5X**  
**GROWTH**

in annual shipments of  
Bluetooth® smart city  
devices by 2024

Whether it is urban modeling, circular cities, Micromobility, or smart spaces, Bluetooth location services and large-scale device networks are well positioned to support a wide range of smart city use cases.

**Location services  
deployments lead  
the forecast**

**\$10.2**  
**BILLION**

market for global beacon  
technology by 2024

Bluetooth location services in airports, stadiums, hospitals, retail malls, tourism centers, and museums transform how visitors interact with a smart city. At the same time, asset management solutions increase utilization of smart city resources to help lower operational costs.

**Bluetooth geofencing  
improves Micromobility  
deployments**

**45**  
**MILLION**

Micromobility vehicles in  
service by 2024

Micromobility, including bikes and scooters, provides on-demand, last-mile transport solutions in urban and semi-urban areas. Using beacons or ground-based sensors, cities can geofence specific return areas that can be deployed anywhere, eliminating the need for fixed docking stations.

*Citizens across the globe are now massively adopting dockless electric bike and scooter sharing, and, to a lesser extent, electric motorbike sharing, offering a much higher level of convenience due to their ubiquitous availability and powered operation.*

A large, dynamic graphic element consisting of several overlapping blue triangles and rectangles. One large triangle is oriented vertically on the left, while others are positioned diagonally across the center and top right. A thin white line connects the bottom vertex of the central triangle to the text below.

For the most recent updates and news, visit

[bluetooth.com](https://bluetooth.com)