



Martin Cooper photographed in 2007 with his 1973 handheld mobile phone prototype

Prior to 1973, mobile telephony was limited to phones installed in cars and other vehicles.^[19] Motorola was the first company to produce a handheld mobile phone.

On April 3, 1973, [Martin Cooper](#), a [Motorola](#) researcher and executive, made the first mobile telephone call from handheld subscriber equipment, placing a call to Dr. [Joel S. Engel](#) of [Bell Labs](#), his rival.^{[25][26]}

The prototype handheld phone used by Dr. Cooper weighed 1.1 kg (2.42 lb) and measured 23 cm long, 13 cm deep and 4.45 cm wide. The prototype offered a talk time of just 30 minutes and took 10 hours to re-charge.^[27]

Definition of a Phone

POTS

Telephone comes from the Greek word tele, meaning from afar, and phone, meaning voice or voiced sound.

Generally, a telephone is any device which conveys sound over a distance.

A string telephone, a megaphone, or a speaking tube might be considered telephonic instruments but for our purposes they are not telephones.

These transmit sound mechanically and not electrically

A standard dictionary defines the telephone as

"an apparatus for reproducing sound, especially that of the voice, at a great distance, by means of electricity

; consisting of transmitting and receiving instruments connected by a line or wire which conveys the electric current." Electrical current 1) operates the telephone and 2) your voice varies that current to communicate.

With those two important points established, let's look at telephone history.

The telephone is an electrical instrument. Speaking into the handset's transmitter or microphone makes its diaphragm vibrate. This varies the electric current, causing the receiver's diaphragm to vibrate. This duplicates the original sound.

MOBILE

An electronic telecommunications device, often referred to as a cellular phone or cellphone.

Mobile phones connect to a wireless communications network through radio wave or satellite transmissions. Portable telephone device that does not require the use of landlines

Most mobile phones provide voice communications, Short Message Service (SMS), Multimedia Message Service (MMS),

Newer phones may also provide Internet services such as Web browsing and e-mail.

Rankings	Country or regions	Number of mobile phones	Population	Connections/100 citizens
	World	7,000,000,000+	7,324,782,000	96
29	 Saudi Arabia	46,000,000	27,137,000	169.5
5	 Russia	256,116,000	142,905,200	155.5
16	 Italy	88,580,000	60,790,400	147.4
34	 Malaysia	30,379,000	28,250,000	143.8
25	 Argentina	56,725,200	40,134,425	141.34
4	 Brazil	284,200,000	201,032,714	141.3
30	 Morocco	44,450,000	33,818,662	131
11	 Germany	107,000,000	81,882,342	130.1
14	 Iran	96,165,000	73,973,650	130
17	 United Kingdom	83,100,000	64,100,000	129.6
23	 Ukraine	57,505,555	45,579,904	126
28	 Poland	47,153,200	38,186,860	123.48
39	 Romania	26,000,000	21,438,000	123.45
36	 Taiwan	28,610,000	23,197,947	123.33
41	 Chile	21,000,000	17,094,270	122.9
43	 Netherlands	20,000,000	16,515,057	121.1
24	 Colombia	57,327,472	48,202,617	118.9
27	 Spain	55,740,000	47,265,321	118
22	 South Africa	59,474,500	50,586,757	117.6
8	 Japan	146,649,600	127,300,000	115.2
20	 France	72,180,000	63,573,842	114.2
12	 Philippines	106,987,098	94,013,200	113.8
26	 South Korea	56,004,887	50,219,669	111.5

31	 Peru	34,235,000	31,179,417	109.8
35	 Nepal	29,051,673	26,620,020	109.65
15	 Egypt	93,670,000	87,120,000	107.17
40	 Sri Lanka	22,123,000	20,771,000	107
33	 Venezuela	32,019,086	30,163,157	106.15
21	 Thailand	69,000,000	67,480,000	105
3	 United States	327,577,529	317,874,628	103.1
6	 Indonesia	236,800,000	237,556,363	99.68
1	 China	1,321,930,000	1,371,220,000	96.4
7	 Nigeria	167,371,945	177,155,754	94.5
32	 Algeria	33,000,000	35,000,000	94.2
19	 Turkey	72,200,000	79,463,663	92.5
2	 India	1,170,178,305	1,311,050,530	91.08
13	 Mexico	101,339,000	112,322,757	90.2
42	 Australia	20,570,000	23,490,700	87.6
10	 Bangladesh	131,376,000	157,497,000	84.95
37	 Canada	28,250,000	35,675,834	79.1
18	 Vietnam	72,300,000	90,549,390	79
9	 Pakistan	133,283,043	180,854,781	77
38	 Kenya	28,080,000	42,000,000	71.3
44	 Ethiopia	18,000,000	85,000,020	21.8

Country with the most users per population

Country	Internet Users	Rank	%	Rank
 Iceland	323,495	155	98.20%	1
 Luxembourg	551,968	141	97.33%	2
 Andorra	68,295	178	96.91%	3
 Norway	5,044,737	72	96.81%	4
 Liechtenstein	36,270	198	96.64%	5
 Denmark	5,461,026	69	96.33%	6
 Bahrain	1,287,441	124	93.48%	7
 Monaco	35,226	199	93.36%	8
 Japan	118,131,030	5	93.33%	9
 Netherlands	15,757,109	37	93.10%	10
 Qatar	2,076,198	106	92.88%	11
 Finland	5,098,953	71	92.65%	12
 United Kingdom	59,538,545	10	92.00%	13
 United Arab Emirates	8,354,813	50	91.24%	14
 Sweden	8,861,138	48	90.61%	15
 South Korea	45,213,802	14	89.90%	16
 Canada	31,796,053	22	88.47%	17
 Bulgaria	1,160,432	129	88.41%	18

 Estonia				
 New Zealand	3,995,066	83	88.22%	19
 Switzerland	7,300,334	55	87.97%	20
 Germany	70,675,097	9	87.59%	21
 Belgium	9,609,963	47	85.05%	22
 Slovakia	4,613,404	77	85.02%	23
 Hong Kong	6,191,142	64	84.95%	24
 France	54,536,418	12	84.69%	25
 Australia	20,268,164	33	84.56%	26
 Austria	7,171,471	57	83.93%	27
 Singapore	4,600,670	78	82.10%	28

Applications Definitions (Apps)

The term "app" is a shortening of the term "application software". It has become very popular, and in 2010 was listed as "Word of the Year" by the American Dialect Society.^[1] In 2009, technology columnist David Pogue said that newer smartphones could be nicknamed "app phones" to distinguish them from earlier less-sophisticated smartphones.[†]

Most such devices are sold with several apps bundled as pre-installed software, such as a web browser, email client, calendar, mapping program, and an app for buying music or other media or more apps. Some pre-installed apps can be removed by an ordinary uninstall process, thus leaving more storage space for desired ones. Where the software does not allow this, some devices can be rooted to eliminate the undesired apps.

Apps that are not preinstalled are usually available through distribution platforms called app stores. They began appearing in 2008 and are typically operated by the owner of the mobile operating system, such as the Apple App Store, Google Play, Windows Phone Store, and BlackBerry App World. However, there are independent app stores, such as Cydia, GetJar and F-Droid. Some apps are free, while others must be bought. Usually, they are downloaded from the platform to a target device, but sometimes they can be downloaded to laptops or desktop computers. For apps with a price, generally a percentage, 20-30%, goes to the distribution provider (such as iTunes), and the rest goes to the producer of the app.^[3] The same app can therefore cost a different price depending on the mobile platform.

Google Play[edit]

Main article: Google Play

Google Play (formerly known as the Android Market) is an international online software store developed by Google for Android devices. It opened in October 2008.^[16] In July 2013, the number of apps downloaded via the Google Play Store surpassed 50 billion, of the over 1 million apps available.^[17] As of September 2016, according to Statista the number of apps available exceeded 2.4 million. The store generated a revenue of 6 billion U.S. dollars in 2015.

App Store[edit]

Main article: App Store (iOS)

Apple's App Store for iOS was not the first app distribution service, but it ignited the mobile revolution and was opened on July 10, 2008, and as of January 2011, reported over 10 billion downloads. The original AppStore was first demonstrated to Steve Jobs in 1993 by Jesse Tayler at NeXTWorld Expo^[18] As of June 6, 2011, there were 425,000 apps available, which had been downloaded by 200 million iOS users.^{[19][20]} During Apple's 2012 Worldwide Developers Conference, Apple CEO Tim Cook announced that the App Store has 650,000 available apps to download as well as 30 billion apps downloaded from the app store until that date.^[21] From an alternative perspective, figures seen in July 2013 by the BBC from tracking service Adeven indicate over two-thirds of apps in the store are "zombies", barely ever installed by consumers.^[22]

Others[edit]

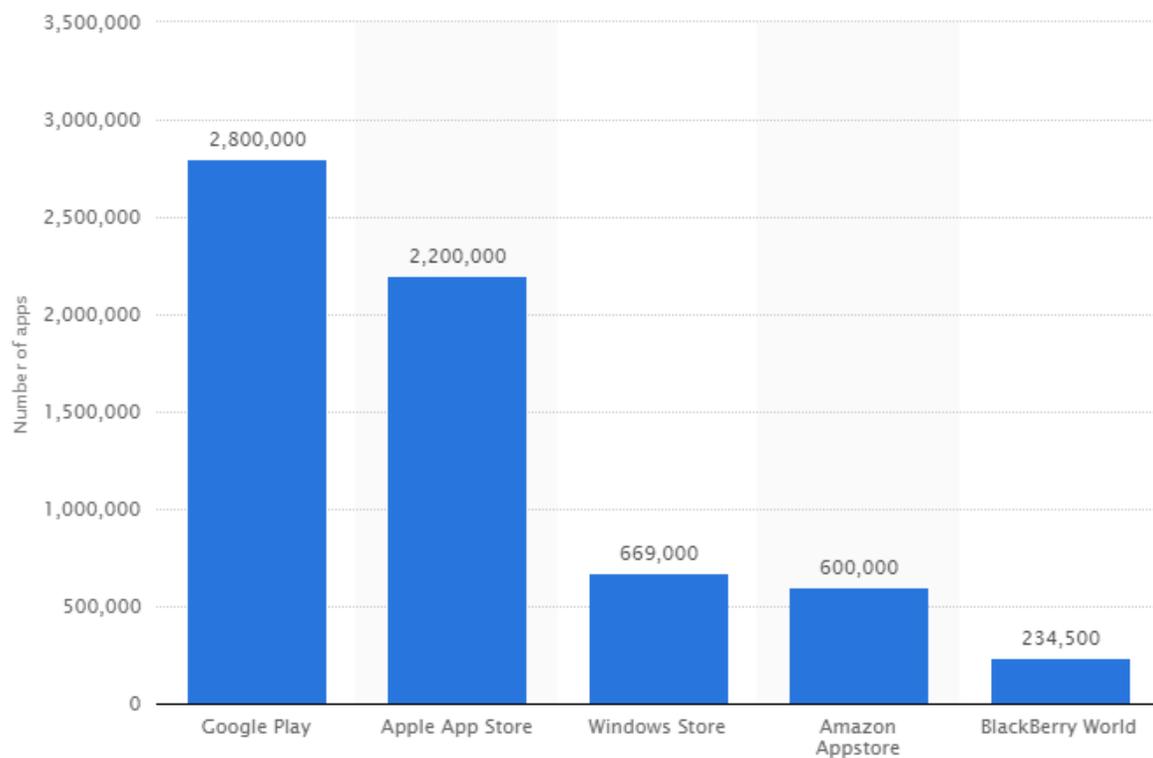
- Amazon Appstore is an alternative application store for the Android operating system. It was opened in March 2011 and as of June 2015, the app store has nearly 334,000 apps.^[23] The Amazon Appstore's Android Apps can also be installed and run on BlackBerry 10 devices.
 - BlackBerry World is the application store for BlackBerry 10 and BlackBerry OS devices. It opened in April 2009 as BlackBerry App World.
- Ovi (Nokia) for Nokia phones was launched internationally in May 2009. In May 2011, Nokia announced plans to rebrand its Ovi product line under the Nokia brand^[24] and Ovi Store was

renamed Nokia Store in October 2011.^[25] Nokia Store will no longer allow developers to publish new apps or app updates for its legacy Symbian and MeeGo operating systems from January 2014.^[26]

- Windows Phone Store was introduced by Microsoft for its Windows Phone platform, which was launched in October 2010. As of October 2012, it has over 120,000 apps available.^[27]
- Windows Store was introduced by Microsoft for its Windows 8 and Windows RT platforms. While it can also carry listings for traditional desktop programs certified for compatibility with Windows 8, it is primarily used to distribute "Windows Store apps"—which are primarily built for use on tablets and other touch-based devices (but can still be used with a keyboard and mouse, and on desktop computers and laptops).^{[28][29]}
- Samsung Apps was introduced in September 2009.^[30] As of October 2011, Samsung Apps reached 10 million downloads. The store is available in 125 countries and it offers apps for Windows Mobile, Android and Bada platforms.
- The Electronic AppWrapper was the first electronic distribution service to collectively provide encryption and purchasing electronically^[31]
- F-Droid — Free and open Source Android app repository.
- There are numerous other independent app stores for Android devices.^[32]

Number of apps available in leading app stores as of March 2017

PREMIUM +



ABOUT THIS STATISTIC

This statistic contains data on the number of apps available for download in leading app stores as of March 2017. As of that month, Android users were able to choose between 2.8 million apps. [Apple's App Store](#) remained the second-largest app store with 2.2 million available apps.

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Mobile Phone stats

Five billion mobile phone users in 2017: study

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The number of mobile phone users globally will surpass five billion by the middle of this year, according to a study released Monday by GSMA, the association of mobile operators.

With populations in Asia, and notably India, on the rise, the number, which stood at 4.8 billion a year ago, should mushroom to 5.7 billion, or three quarters of the world's population, by 2020.

Asia will account for around half total growth, according to GSMA's 'Mobile Economy' report with India alone adding some 310 million new subscribers in the coming three years.

The study also showed a trend towards mobile broadband networks and smartphones, said the study, which highlighted the mobile industry's growing contribution to economic activity and social development.

"Mobile is a global platform that today supports two-thirds of the world's population, delivering the connectivity and infrastructure that is powering new digital economies and addressing socio-economic challenges," said Mats Granryd, GSMA director general

That investment had seen the telecoms sector account for a 4.4 percent share of world GDP worth \$3.3 trillion dollars last year, rising to a 4.9 percent share by 2020, for economic value equivalent to \$4.2 trillion.

The report said the mobile ecosystem last year employed 28.5 million people directly or indirectly, a figure it said would rise to 30.9 million by 2020.

It added the sector would contribute \$500 billion in tax receipts by 2020, up from \$450 billion last year, not including revenue from spectrum auctions, worth almost \$19 billion in 2016.

Operators are forecast to invest a further \$700 billion by 2020 when 5G connectivity is set to bring ever faster data connection.

Ahead of 5G -- forecast to enable subscribers to download a full HD film in less than one second -- 4G has been steadily becoming the norm, rising from current market penetration of 21 percent to 41 percent by 2020.

GSMA said 2016 saw 580 4G networks launched in 188 countries covering 60 percent of the world population.

How many times have you looked at your phone today?

Chances are you're looking at it right now.

Before you try and deny you're addicted, here are some stats to consider:

Australian men unlock their phones more than anyone in the world - on average 45 to 46 times a day, while for Australian women it is around 42 times.

Those figures have been calculated by AntiSocial, an app developed by Melbourne software company Bugbean, to monitor people's use of social media.

It is a free app with no ads that is only available on Android because the creators say Apple does not allow such monitoring, but the idea is to encourage users to put down their devices.

Australians spend around two hours a day on apps

According to AntiSocial's developer Chris Eade, Australian men and women spend about two hours a day on their phones, and that is not including use for music streaming, video streaming, or making calls - that is pure Facebook, web surfing, WhatsApp, Instagram, and Snapchat.

Adam Alter, from the Stern School of Business, has written a book called *Irresistible* - why we can't stop checking, scrolling, clicking and watching.

He told Lateline around 50 per cent of the adult population has some form of behavioural addiction.

"I think you can ask yourself if you have a problem and you'll know," he said.

"[People] feel that their lives are being encroached upon by devices, their social lives, maybe their relationships with their loved ones and friends. They're not experiencing nature. They're not exercising."

Our boredom threshold at rock bottom

Mr Alter said smartphones have changed human behaviour so much that we no longer allow ourselves to experience being bored.

"Our boredom threshold has declined to the point where you'll get in an elevator for five seconds, take out your phone," he said.

Hooked on social media

All in the Mind zooms in on the relationship between social media use and our mental health.

"Boredom is very important for productivity, for creativity and new ideas, and if you never allow yourself to be bored, you will never have those ideas."

Mr Alter has written about a private school near Silicon Valley that uses no technology, yet surprisingly 75 per cent of the students' parents work in the tech sector.

"You'd think their children would be the biggest users of tech. But what you actually find, it's the reverse that a lot of these tech titans refuse to let their kids near technology," he said.

"Steve Jobs in 2010 in an interview said things like, 'you should use this device, but we do not allow it in our home and we won't let our kids near it'. He was talking about the iPad."

How to break up with your device

Katina Michael, from the University of Wollongong's School of Computing and IT, specialises in online addiction, and she told Lateline that tech companies have a lot to answer for.

"I think it's extremely hypocritical," she said.

"The laptop's not made you smarter and more intelligent. I think the companies that Adam was talking about need to recheck their ethics and I think our children need to stop being sold the wrong story about what is going to make their future brighter. We have a lot to answer for as academics."

Professor Michael had this advice for tech addicts looking to wean themselves off their devices:

"Think about replacing the activities that you have done online with offline activities, whether it's going for physical exercise, joining a community group or just getting a job, or just speaking with your family and making real food instead of playing a game about making food," she said.

If you're still questioning whether or not you're addicted, compare how you stack up to AntiSocial's biggest user.

"Our biggest user we have at the moment is a woman in America who uses her phone for 7.5 hours a day, every day on average," Mr Eade said.

More People Have Cell Phones Than Toilets, U.N. Study Shows

Out of the world's estimated 7 billion people, 6 billion have access to mobile phones. Only 4.5 billion have access to working toilets

On the eve of [World Water Day](#) last week, the U.N. offered a sobering statistic: according to its recent [study](#), more people on earth have access to cell phones than toilets.

Out of the world's estimated 7 billion people, 6 billion have access to mobile phones. Far fewer — only 4.5 billion people — have access to working toilets. Of the 2.5 billion who don't have proper sanitation, 1.1 billion defecate in the open, according to the study.

U.N. Deputy Secretary-General Jan Eliasson said in a statement that this is a global crisis that people "don't like to talk about." He said the U.N. is trying to cut in half the number of people without access to clean toilets by 2015 and eliminate by 2025 the practice of open defecation, which is linked to many diseases.

According to [Yahoo](#), India alone is responsible for 60% of the global population lacking access to basic sanitation. About half of its 1.2 billion residents are mobile subscribers, but only 366 million people (about one-third of its population) have access to toilets, noted a 2010 U.N. [report](#).

Last August, Bill Gates launched the "Reinvent the Toilet" campaign to reduce the number of children who die as a result of sanitation problems. According to the [Los Angeles Times](#), in 2011 the Bill & Melinda Gates Foundation offered \$42 million to researchers, asking them to build the toilet of tomorrow — one that is safe, hygienic, uses little water and is easy to install.