



History of the internet

a timeline through the years

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From the days of dial-up to the development of fibre and 5G.



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The internet has been around for longer than you might think. The first email was sent way back in 1971, and computers first started to digitally share information with each other in 1983.

By the 1990s, it had gained widespread attention, partly in thanks to Tim Berners-Lee's invention of the World Wide Web in 1989. It introduced the ability to create websites and provided a reason for everybody — not just businesses and computer scientists — to connect to the internet. By the 21st Century, the internet had become one of the most important inventions of all time.

Nowadays, five billion people use the internet regularly. It's become our most-used source for entertainment, life admin, work and communication. Lots of us rely on it entirely for their livelihoods. It's created some of the most popular destinations to spend our social lives and our downtime.

Find out what happened to make the internet a reality for us all, and how it became one of humankind's most essential tools.

The 1980s The early years

The 1980s was the first decade where the internet resembled something like it does in the modern day. But it wasn't capable of anywhere near what it is now.

Reckon dial-up is old? In the early '80s, the internet didn't even have that. When it first started to connect computers together, it was powered by a network called USENET. This still relied on phone modems to work but didn't have a lot of the technology that dial-up eventually developed to be used by the public.

As a result, the internet in this decade wasn't widely used by the general public. At this point, it was almost only ever used at big institutions or universities that had the computing power to access it. In fact, the BBC only gained internet access in 1989, relying on a network provided by Brunel University.

However, it wouldn't be long before people could access the internet from their homes. In 1989, Tim Berners-Lee invented the World Wide Web during his research at CERN in Switzerland.

This was instrumental in making the internet a useful tool for the public. Not only did it create the space for web browsers and websites to exist, but it paved the way for people to access visual media online — something we can't imagine the internet without nowadays.

If it wasn't for the World Wide Web, the internet would certainly have been used for various functional tasks, like emails or file sharing, but it wouldn't have been the definitive source of information, content and communication that it is today.

The 1990s

Much ado about dial-up

Dial-up internet took off in the 1990s, and the first commercial internet service providers (ISPs) started offering internet connections to regular households.

AOL and other web browsers' CD-ROMs were being sold in shops, letting you install and use their web software for a 30-day free trial (before being charged by the hour). Chat rooms sprung up for people across the world to discuss shared interests, paving the way for Reddit and social media.

Websites were being created at a blistering pace to help anyone with an internet connection to learn, shop and socialise online. Some of the world's biggest websites, such as Amazon, Google, eBay, IMDb and Yahoo, first went online in the '90s. The 'dot-com bubble' of online marketplaces was growing rapidly, but it wasn't to last for long.

While the web was quickly becoming increasingly useful for everyone, we didn't get the seamless experience we're all familiar with now. At this point, the internet needed full use of home telephone lines in order to work. That meant people were unable to make phone calls and browse the internet at the same time, causing family feuds over who gets to use what, or the cost of a second line.

Dial-up connections also ran at a painfully slow 56kbps. For comparison, a 60Mbps internet connection — which is a very common speed nowadays — is equal to 60,000kbps. That's over a thousand times faster. Now gigabit (1Gbps) speeds are widely available in the UK, it's possible to achieve speeds nearly *18,000* times faster than the first connections in our homes.

These speeds made it really difficult to download anything apart from text. At full speed, a single, low-quality song (roughly 3.5MB) would take around 10 minutes to download. Internet speeds were much less consistent back then, so realistically it would likely take anything from 30 minutes to a few hours to download one track. If you wanted to download a low-quality movie (around 700MB), it would take 28 hours at full speed, or three to five days at low speed. Given these conditions it is extraordinary the bit torrent piracy phenomenon took off at all.

It's safe to say that in the '90s, dial-up internet had some fundamental issues that made it hard for us to access the full potential of the World Wide Web. But that was all due to change in the next decade, with the introduction of broadband.



The 2000s

The arrival of broadband

Broadband breathed new life into the internet in the early 2000s by allowing the signal in one line to be split between telephone and internet. This meant users could be online and make phone calls at the same time. It was branded the 'always on' internet service.

It also came with much faster connection speeds, making it a lot easier to browse the internet and download and send files.

The UK's first home broadband connection was installed in Basildon, Essex in 2000 by ISP ntl, later acquired by Telewest and ultimately Virgin Media in 2006. At this time, the 'Big Four' providers were BT, ntl, Telewest and Kingston Communications. But by 2007, ntl and Telewest had merged with Virgin to create Virgin Media and Kingston Communications (which is the exclusive broadband provider in Hull) had rebranded to KCOM Group.

Like most new technologies, broadband was extremely expensive and not available everywhere when it first launched. Initial usage was low, at just 9% of the UK by 2001. The UK was also far behind neighbouring European countries with the rollout of broadband, as countries like Germany and Sweden already had 30-40% take-up.

The advent of broadband networks meant that people were able to download and share pictures, songs, videos, TV

shows and movies at far more convenient speeds. It opened up a whole new world in online media too.

In the first few years of the 2000s, the dot-com bubble burst and the growth of online businesses stalled. The web, meanwhile wasn't going anywhere and instead, it was time for the entertainment and social side of the internet to boom and within a few years more of the world's biggest sites were born.

These include:

- Wikipedia in 2001
- LinkedIn in 2002
- Facebook in 2004
- YouTube and Reddit in 2005

In the UK, BT established a separate business division for its broadband network in 2006. Openreach was to open BT's technology up to other providers who didn't have their own network, helping to improve customers' options of broadband deals. BT would later split with Openreach in 2016 to further improve competition for the providers that used its network.

By 2008, demand for internet data was skyrocketing. Online multiplayer games were wildly popular, YouTube was rapidly growing and social media sites were exchanging tens of thousands of pictures and videos every second.

This was the perfect time for fibre-optic broadband to enter. Rather than relying entirely on copper phone lines, fibre cables





allowed users to access much faster internet speeds, thanks to its use of light pulses to transfer data. Virgin Media was one of the first to offer this, supplying 50Mbps speeds which were at least double what the competition could offer at the time.

However, fibre cables could only go as far as the green cabinet at the end of the road and still needed phone lines to connect to each home. So, while people saw a big speed jump, it was nothing like the speed full fibre broadband can offer today. Fibre-to-the-cabinet provided what is known as superfast internet speeds, between 24 - 70Mbps.

The 2000s also saw the birth of 3G and the smartphone, which allowed us to connect to the internet from anywhere with a good mobile internet connection. This removed the need for us to sit at a desk or lug a laptop around to get online, and provided the perfect environment for social media apps to explode onto the scene.

By the end of the 2000s, the internet was a staple in most people's lives. There was a computer in almost every home and hundreds in almost every office, and smartphones were rapidly growing in popularity.

The 2010s Streaming, social media and speed

The 2010s saw the internet become even more essential to everyday life.

It helped the web transition from an obscure place for entertainment into a mainstream blockbuster TV and movie platform, thanks to streaming platforms like Netflix and Amazon Prime Video. It allowed anyone to create and upload their own high-quality content and build loyal digital audiences. And coupled with the rise in computing power, it allowed us to work from anywhere we wanted, removing the need for many jobs to be based in an office.

Social media became our most-visited destination outside of work and school. 3.5 billion people began sharing their daily lives with friends, family and followers and started relying on those platforms for news, short-form entertainment and hot takes.

Huge upgrades in home broadband speed took place throughout the 2010s, thanks to the continued rollout of fibre connections and introduction of 4G mobile internet. It meant that people could do more than they ever could before online,

and it replaced countless tasks that we previously would've had to do in-person.

In 2015, broadband was first recognised as a utility by the UK, as the government issued a 'universal service obligation' to providers. It gave homeowners the legal right to an affordable internet connection and put broadband alongside water and electricity in terms of importance to home life.

The UK remained noticeably behind other European countries in terms of internet speed, however. Towards the end of the decade, many nations were already well underway with rolling out 'full fibre', where faster fibre-optic cables connect to the home, rather than the nearby street cabinet. But the UK had little-to-no presence of it, until the government stepped in to speed up the rollout in 2018 with Project Gigabit.

Providers used this as an opportunity to introduce their first ever 'ultrafast' broadband deals, which supplied speeds of 100Mbps and higher. These deals require full fibre, or 'fibre-to-the-premises' connections that plug fibre-optic cables straight to the home. By avoiding copper entirely, much more data can be transferred at any one time, so speeds can reach in excess of 1000Mbps (1Gbps).

1Gbps internet speed is incredibly fast. It's 100 times faster than what copper broadband can manage. For example, a 2GB full HD movie would take 28 minutes to download on a 10Mbps connection, versus just 17 seconds on 1Gbps.

This speed level quickly became a goal for the UK, with the government pledging to connect 85% of UK homes to gigabit internet by 2025. Very quickly, lots of smaller broadband networks joined BT and Virgin Media in the race, taking advantage of government funding and pledging to connect millions of homes to full fibre between them.

By 2019, the market of alternative networks (altnets) supplying full fibre connections had significantly grown and were giving BT's historic presence a run for its money in many areas of the country.

As for most of the world, the internet had become as normal as any other utility. It was no longer something you noticed — unless it lost connection, of course. It just became the thing that works in the background that allows us to work, play and socialise.

Few of us really anticipated how quickly we'd all come to rely on the internet for so much. It would only increase in the 2020s.

The 2020s Working from home, 5G and a full fibre future

Just when we thought we were hitting peak internet, the COVID-19 pandemic arrived, locking the planet down for the best part of two years. Millions of people had to start working and learning from home, with almost no notice. This put immediate pressure on everyone's home broadband, as suddenly we were staying in and using the internet throughout the whole workday too.

It highlighted that, while the internet had been taken for granted by so many, there was a significant number of people who didn't have proper access to it. And at a time when home internet was needed more than ever for maintaining everyone's livelihoods, the digital divide was split even wider.

In households without a proper internet connection, children fell behind at school, applying for jobs became far more difficult and millions of people couldn't keep in touch with their loved ones. It shone a harsh light on ways the internet should be made more accessible for everyone. That includes:

- Connecting rural and remote properties
- Supporting vulnerable customers
- Making broadband more affordable for those on income support
- Training people who have had little experience with the internet

It also highlighted how many existing internet connections were just not up to the standard that households need them to be. With multiple people all working and streaming at once, it became quite clear that the old copper speeds of 10Mbps just weren't fast enough to deal with the growing demand for data.

According to broadband statistics from 2022, this may explain why the number of broadband complaints across the industry peaked in Q1 2021, reaching an average of 19 complaints per 100,000 customers.

Full fibre connections continued to speed up, with more alt-nets like CityFibre, Hyperoptic, KCOM and others becoming national names in the broadband space. Tied in with BT and Virgin Media's rapidly growing networks, the UK's goal of 85% of UK properties receiving gigabit speeds by 2025 seems achievable.

In addition to full fibre, the rollout of 5G across urban areas not only helped supply ultrafast speeds for our smartphones but it allowed many to choose a backup broadband option in the form of a 5G home broadband hub.

As for the future, the rising demand for internet data shows no sign of stopping. Connections will have to handle increasingly data-heavy tasks and the internet speed needed will quickly add up.

For example, the following technologies would spell a much bigger need for data in the coming years:

- Online virtual reality experiences
- Game streaming services
- More smart home devices
- 8K picture quality streaming

Currently, the gigabit rollout is racing forth to ensure our homes can handle these high-data activities.

The good news is, gigabit speeds are by far enough to handle this. In fact, they're faster than almost any home will require right now. But the technology that supplies these speeds is what's important, because it's the best way to future-proof your home broadband connection for when devices will start to need much more.



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