

Market Snapshot: Voice as a Lifeline and the Transformation of Home Telephony

A Parks Associates Snapshot Developed for DECT Forum

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Voice as a Lifeline and the Transformation of Home Telephony

Calling Makes A Comeback

"It's good to hear your voice" expresses gratitude for human connection when it's needed most. During the COVID-19 pandemic, people across the globe are reaching out via voice calls from home in unprecedented numbers. The combination of shelter-in-place, work-from-home, school-from-home, and other new hyphenated-from-home lifestyles has driven dramatic upticks in voice calling in all its forms, according to the world's leading telecommunications providers.

Recognizing some trends are temporary while others may signal lasting change, this market snapshot explores how home telephony is transforming in ways that provide renewed validation of legacy technologies even while new technologies accelerate adoption. Deprived of direct physical presence, households find voice calls address the universal need for communication and social connection, providing a lifeline for everyday life, work, and relationships.

Telecommunications Providers Report Home Telephony Surge Since COVID Lockdowns, March 2020



Germany: All three major telecommunications network operators—Telefónica, Vodafone and Deutsche Telekom—report a significant increase and a longer average duration of calls during the COVID pandemic. More calls are being made to landlines today for the first time in 13 years.



UK: The UK regulatory body for telecommunications, OFCOM, issued advice to use landlines or Wi-Fi calls where possible and lower the demands on mobile networks. In March, Virgin Media reported the number and duration of landline calls increased sharply due to many people having to work from home.



France: Orange Group saw mobile voice traffic double in France since a national lockdown was imposed in mid-March. The company also reports increases in mobile data traffic across Europe similar to those regularly seen at peak times such as Christmas and New Year.



Austria: An 81% increase in mobile calls during the pandemic stressed the limitations of mobile networks, driving a shift to use of landlines retained by 46% of Austrian households.



Switzerland: Swisscom reported such serious strain on its mobile (volume up 300%) and fixed broadband networks that it made a public appeal to its customers to "use the telecommunications networks sensibly and responsibly." It also threatened to restrict or block non-supply related services such as Netflix.



Portugal: Altice reports mobile voice traffic up 35% and fixed telephony up 60%.



US: Comcast indicates voice and video calls have more than tripled during the COVID-19 pandemic. AT&T reports its weekday traffic increased approximately 30% in March, and Verizon experienced a 22% increase in traffic on its wireless and fiber broadband services while Wi-Fi calls doubled their normal volume.



Canada: Bell experienced a 200% increase in voice calls and a 250% rise in conference calls. Rogers reported an average of more than 50 million mobile calls per day. Telus indicates an increase of 45% in the number of calls on its network since mid-March.

Drivers and Use Cases

A convergence of drivers and use cases that make general calling attractive and specific modes of calling preferable is driving the current calling spike.

Social isolation – Households have turned to voice calling to maintain relationships with family and friends, check on the elderly and children away at school, or with those in hotspots. Any organization without a robust digital presence, from religious communities to schools, has relied on voice calls to serve its constituencies.

Work from home (WFH) – The recent necessity of remote workers, either mandated by local ordinances or voluntarily adopted by companies, has accelerated a movement that was well underway.

WFH has shifted the burden of telecommunications from the office to the home, competing now with every other personal use of home networks. Video conferencing apps — Zoom, Microsoft Teams, GoToMeeting, RingCentral, and Google Meet — are enabling WFH employees by enhancing traditional voice calling with video conferencing, screen sharing, IM/chat, and other collaboration tools. Businesses are commissioning enterprise telephony hardware, from headsets to desktop office phones, for home use.

As of May 2020, 30% of US broadband households reported one remote worker, and 22% reported another adult was working remotely in the household.

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41% of US broadband households reporting using a telehealth service in the past 12 months, up from 15% in the year prior.

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Healthcare Needs – With closure of physicians offices, use of telehealth services nearly tripled in the US between April 2019 and May 2020.

Almost half of telehealth contacts were with local physicians. US telehealth services specifically by phone increased 170% YOY as phone calls remain the dominant telehealth modality.

Elder care and the vulnerable – Elders and the vulnerable at high risk to both COVID-19 and social isolation turn to voice calls for safety and access to critical services.

- A UK call center for personal emergency alert (PERS) systems serving the elderly has seen a 14% increase in emergency calls since the COVID-19 crisis began.
- In the US, 911 emergency calls are most reliable and specific when landlines associated with an established physical location are used.
- When the pandemic began in Germany, calls directly to a hospital emergency room had to be made from a landline or otherwise be routed through a nationwide mobile call center.

Today's Residential Calling Technologies

While fixed copper wire lines enabled landline voice calling for a century and a half, today's residential voice calls take primarily five forms:

Type	Mode	Hardware	Network
Fixed-line (traditional landline)	Voice	Cordless DECT (Digital Enhanced Communications Technology) phones with base stations plugged into a fixed-line or a telephone plugged directly into a fixed-line	Dedicated analog copper wire telephone lines comprising the traditional Public Switched Telephone Network (PSTN) or Plain Old Telephone Service (POTS)
Voice Over Internet Protocol (VoIP)	Voice, video, unified communication	Any internet-connected communications device, including digital telephones, digital telephone bridges to analog phones, computers, tablets, smartphones; peripheral wired or wireless headsets, earphones, buds, pods connected to these devices	Any type of IP network used by the internet service provider
Fixed-line IP (a form of Voice Over Internet Protocol or VoIP)	Voice	Cordless DECT phones with base stations plugged into an Internet service provider line; cordless DECT phone connected to ISP line via modem or gateway with wireless transceiver; telephone hardware with Ethernet connection to ISP service	Fiber optic lines; coaxial cable lines; broadband over power lines; satellite provider; utilizes packet-switched VoIP rather than traditional telephone carriers
Wi-Fi Calling (a form of VoIP calling)	Voice, video, unified communication	Mobile phone with connectivity to residential Wi-Fi network enabled by an ISP service; peripheral devices	Any type of IP network used by the internet service provider
Mobile	Voice, video, unified communication	Any mobile device with a cellular LTE connection, including laptops, tablets, smartphones, and calling bridges; peripheral devices	Any type of cellular mobile network (3G, 4G, 5G)



Traditional Fixed-Line

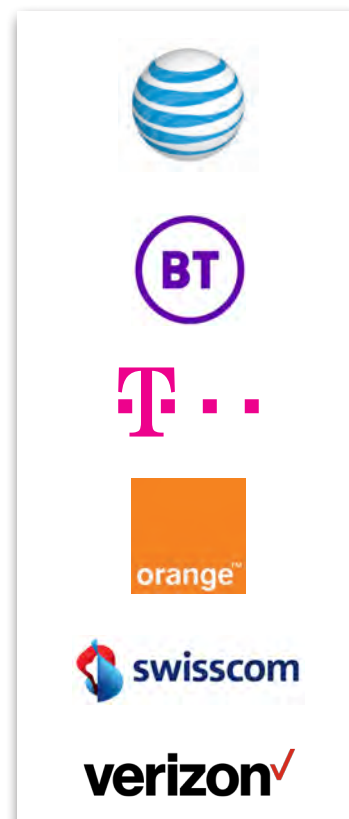
As service providers and government officials expressed public concern over network capacity and resilience, German handset manufacturer Gigaset reports many consumers in certain European regions upgraded their fixed-line telephones to ensure a reliable backup system was in place. Households that had a working fixed-line in place due to bundling with broadband service, even though unused, purchased updated fixed-line phones. Gigaset reports sales of its DECT fixed-line phones and VoIP headsets from its online shop grew by 400% during the first few weeks of lockdowns.

VoIP

Telephony hardware manufacturers for enterprise devices report sales experienced a huge rush during the first two months of the pandemic as work-from-home requirements drove enterprises to provide VoIP-enabled devices. Telephony manufacturer Snom experienced a ten-fold increase in sales of headsets and supporting modems that can plug into a laptop or desktop IP office phone. Sales of Wi-Fi and DECT USB sticks increased by 20-70% depending on model. Snom also reports a new phenomenon of workers taking their office desktop IP phones home with them for the benefits of audio quality, speaker phone features, integrated contact lists, and line-switching capabilities. Similarly, Jabra reports a major uptick in sales of headsets and headphones that created backorders for many models.

In recent years, most traditional fixed-line networks have been migrating to IP networking infrastructure first for businesses and secondly for consumers.

- Swisscom and Deutsche Telekom report they have completed their massive migration projects in all the regions they serve. Orange is well underway.
- BT has plans to complete migrations by 2025.
- In the US, AT&T and Verizon have been replacing copper lines with fiber optic cable but remain several years away from full migration.



As VoIP technology has gained traction since its introduction in 1995, unified communication platforms have emerged that integrate multimodal forms of communication, including voice, video, chat, screen sharing, and collaborative features. During the COVID-19 pandemic, popular and new B2B video conferencing services have introduced droves of residential households to their capabilities. Several of these also offer unified communications solutions for the enterprise.

Mobile-Only Households

In the US today there are also almost 16 million mobile-only households, whose only broadband access to the Internet is through a mobile data plan. Mobile-only homes are most popular among young adults and renters. Italy has almost six million mobile-only households, accounting for almost 1 in 4 homes.



The Landline Remains a Critical Lifeline

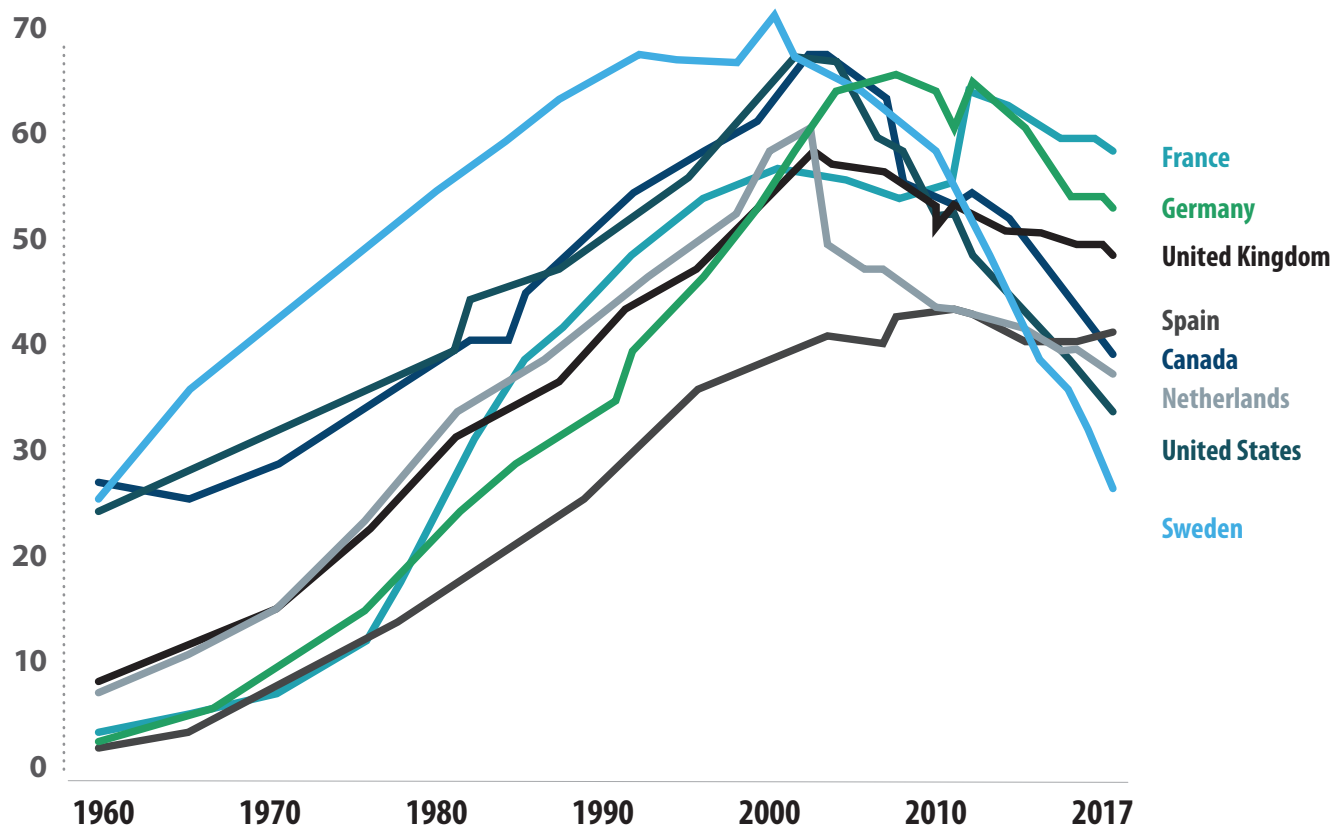
In North America, the UK, and throughout the European Union, the number of fixed-line connections has been decreasing for a number of years due to shifts to mobile and VoIP calling.

While France, Germany, and the UK still have penetration of more than 50% per 100 people, fixed telephone subscriptions in the Netherlands, US, and Sweden have declined to less than 40%.

Still, for segments of consumers such as the elderly, rural residents, and lower income households, the fixed-line is often their lifeline for social connection and access to a wide range of services, including healthcare and emergency responders.

Fixed Telephone Subscriptions, 1960 to 2017

The number of fixed (landline) telephone subscriptions, measured per 100 people



Source: International Telecommunication Union

OurWorldInData.org/technology-adoption/ CC BY

Continuing Benefits of Landlines

Mobile and VoIP calling continue their surge in residential adoption, but the COVID-19 crisis has underscored the critical value of traditional landlines even as alternative modes of calling have thrived. For these reasons, many people still turn to a landline call when the call matters most to them.

- **Installed base:** Continue to serve ~40 – 60% of North American and EU households.
- **Familiarity:** Familiar and easy-to-use for elders and underserved populations.
- **Affordable:** Most affordable form of voice calling. Cost of mobile and broadband contracts and their related data limits can make landlines more attractive.
- **Unlimited by building structures:** Mobile phones can struggle for connectivity inside certain home designs and building materials while fixed-lines provide reliable service. Spotty Wi-Fi coverage can challenge VoIP calls.
- **Voice quality:** Fixed-line calling consistently delivers clear sound quality without distortion or disturbance.
- **Reliability:** Fixed-line calling rarely suffers from service disruptions or dropped calls more common with some mobile or VoIP services.
- **Shifts burden from mobile and broadband networks:** Landlines have provided relief to overburdened mobile and broadband networks. At the household level, competition on the home broadband and Wi-Fi networks can disrupt the quality of VoIP calls. Landlines have provided a valuable “backup” communication system for even the most technologically advanced households.
- **Life critical services:** Many life-critical services such as emergency services, healthcare, remote patient monitoring, and home security currently are designed for fixed-line telecommunications.
- **User experience:** Taken altogether, these benefits enable fixed-line calls to deliver reliable user experiences in terms of sound quality and freedom from buffering and interruptions of service.



The Future of Home Telephony

Whether the COVID-19 crisis alone has lasting effects on home telephony, it has accelerated trends already in play and underscored the invaluable place for voice calling in all its forms.

Landlines will continue migration to support all manner of VoIP calls. For some households, this experience may reinforce a commitment to retain landlines as a reliable backup when networks are overburdened, just as people now purchase generators and other self-sustaining equipment.

The future of fixed-line telephony enabled by IP technology will include features such as:

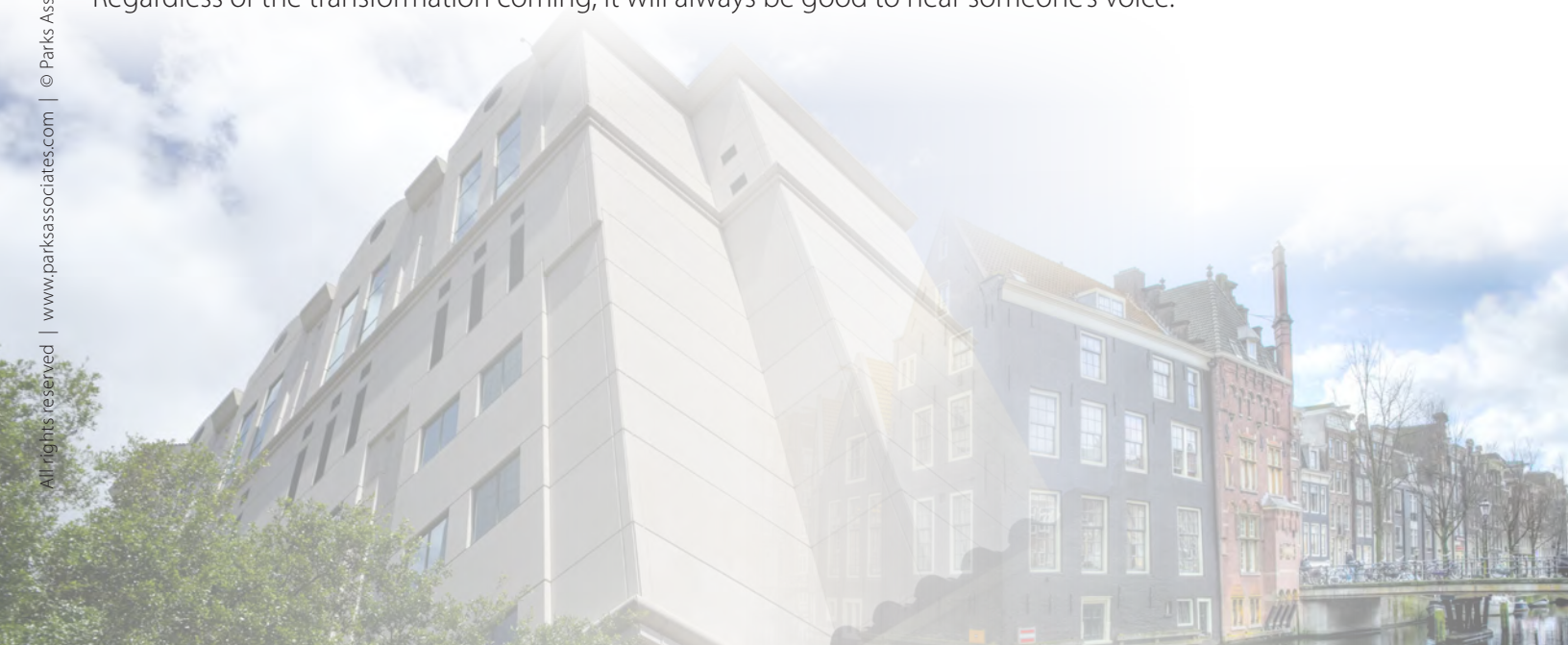
- Simultaneous ringing on mobile and landline phones
- Simpler call diversion from fixed office lines to mobile or residential landlines
- Landline number used for mobile calling
- Enhanced call filters to block unwanted advertising and anonymous calls
- Ability to run multiple phone lines across a single broadband link

Many companies already forecast a reduction in office footprints as they plan to permanently shift to models with a larger share of work-from-home employees. As the enterprise and home converge, solutions that deliver high-quality, reliable voice calling will be increasingly in demand. Consumer electronics trends also suggest wireless peripherals will see wider adoption for calling.

A renewed concern for the elderly, vulnerable, and socially isolated will drive appreciation of technologies that keep loved ones connected, cared for, and safe. Telemedicine, remote patient monitoring, and independent living solutions will all require telephony support.

Service providers and regulators will be wise to consider how fixed-line calling (traditional and VoIP) continues to figure significantly in long-term network strategy and how new service bundles might serve the emerging work-from-home and eldercare markets.

Regardless of the transformation coming, it will always be good to hear someone's voice.



DECT: A Wireless Voice Technology at the Heart of Residential Calling


DECT—Digital Enhanced Communications Technology—provides a collection of technologies that along with many other diverse applications, enables traditional fixed-line PSTN telephony as well as IP telephony. The wireless audio standard used to enable cordless home phones for two and a half decades has evolved to support IP calling via DECT CAT-iq, which supports interoperability across IP-DECT base stations, handsets, and CPE equipment. With CAT-iq, internet service providers who have long included DECT microchips in their modems and gateways can support Multi-line HD Voice IP calling for fixed-line telephony. The historic hallmarks of DECT have been voice clarity, range, low latency, security, and extremely reliable quality of service.

With its longevity, DECT is now installed in over a billion systems and three billion telephony devices. DECT is found in around 100 million European home gateways, and almost 50 million new residential systems are sold each year.

DECT also is often used in wireless headsets used by call center workers and others for workplace fixed-line and VoIP calls. In the workplace, DECT has provided a valuable technology for interfacing with both analogue and IP telephony phone systems while freeing workers to roam a greater range (up to 250 meters), and handoff calls to conference room lines, mobile lines, or home lines. With the enterprise now merging with the home for work-from-home workers, DECT will be an important technology for delivering a high-quality voice experience for VoIP calls.

During the pandemic, BT (British Telecom) shifted over 8,000 of its customer service agents from contact centers to work from home using work-owned laptops, Wi-Fi connections, secure VPNs, and VoIP headsets. The company reports 70% of its workers prefer to work from home. In the UK alone, there are over 6,000 different contact centers, employing over 225,000 people – around 4% of the UK's working population. DECT technologies used in the workplace will enable a substantial share of contact center work from home in the future.

Twenty million DECT-enabled enterprise systems are sold each year.



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About The Author



Brad Russell, Research Director, Connected Home, Parks Associates

Brad leads Parks Associates' connected home team, exploring leading-edge issues converging in the connected home—smart home devices and services, residential security, home networking, IoT data privacy and security, data-driven applications, and platform services. Brad's custom research work includes market sizing and forecasts, ecosystem and competitive landscapes, channel analyses, and go-to-market strategies.

Brad balances the art and science of market research to generate insights that lead to more astute business strategy and value-generating practices. He has a background in marketing communications, technology startups, and online media.

Brad received his Bachelor of Science degree in advertising and marketing from the University of Texas at Austin. He also earned a M.Div. and a D.Min. with concentrations in ethics and cross-cultural collaboration.

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The company's expertise includes the Internet of Things (IoT), digital media and platforms, entertainment and gaming, home networks, Internet and television services, digital health, mobile applications and services, support services, consumer apps, advanced advertising, consumer electronics, energy management, and home control systems and security.

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