COVID-19: RESTARTING THE UK THROUGH TECHNOLOGY

INTRODUCTION

The Gregorian year 2020 started dramatically. Australia was on fire, the US was sizing up against Iran, and a new communicable disease was raising concerns in China.

As fires were extinguished and tensions de-escalated, the coronavirus was gaining ground. By the end of February, confirmed cases had risen to 85,968 globally. In Europe, Italy went into lockdown on 9 March. Germany and France followed suit the next week. After a period of blustering messages, the UK went into full scale lockdown on 23 March.

The effect on our lifestyle has been considerable. Online activity shot up, traffic levels plummeted, and Kashmiri goats reclaimed Llandudno.

The world of work was also transformed. As the BBC points out, an estimated 200 million people will lose their jobs due to the coronavirus. The financial burden falls most heavily on the most vulnerable in society. Digitisation and pandemics

have accelerated changes to jobs available to humans. How to mitigate the impact on the larger workforce and the most vulnerable is the issue across all industries and countries that deserves not only attention but also a timely and human-centred solution.

RingCentral UK has analysed these changes to user behaviour during the outbreak and to telecom network traffic in major regions throughout Europe and the UK. Based on various RingCentral customer case studies, and an amalgamation of data from the UK and European network and cloud providers, this report aims to provide UK businesses with rational suggestions for a communications strategy as the country gradually emerges from its isolation.

Number of new coronavirus (COVID-19) cases in the United Kingdom (UK) since March 2020 (as of 31 May 2020), by date of report
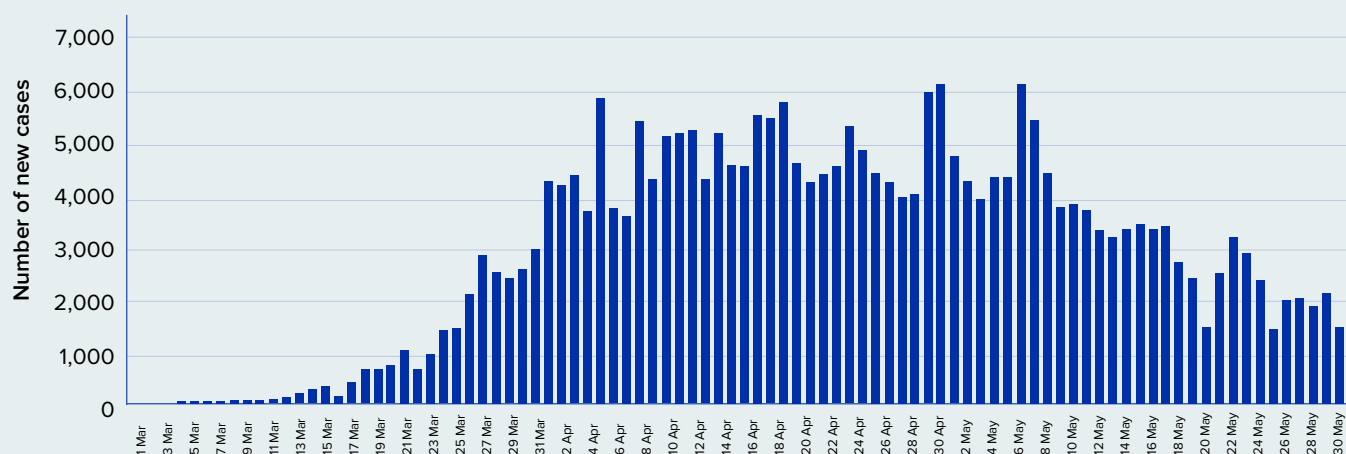

Source: worldometers.info

LIFE AT HOME

Isolation measures have in large part kept people restricted to their homes. The restriction of physical proximity and contact has all but removed the daily face-to-face interactions most humans have been taking for granted all their lives. As an adaptive species, we've found ways to make this more bearable, stay social despite distancing, and remain productive without "going to" work.

Wireless networks have played a critical role in achieving and maintaining connection and facilitating communication between and among people. Early on, Virgin Media and Vodafone were already reporting a doubling of the UK's internet usage during the day. Consumption of live TV increased by almost a half, and people spent more time streaming and interacting on social media. Delivery services (for food, shopping, and essentials) saw a surge, and UK residents were even asked to consider saving at-home grocery delivery services for elderly citizens only.

TAKING WORK HOME

The physical distancing measures put in place raised challenges and opportunities for businesses and affected the way virtually everybody worked. Even those key workers who continued operating from the same location did so under abnormal conditions—operating from behind Perspex screens, wearing protective equipment, and adapting to new workplace hygiene protocols.

The majority of office workers stayed at home, relying more on virtual conferencing and collaboration tools. British Telecom (BT) reported that they have seen weekday daytime network traffic increase by 35–60% (7.5Tb/s) compared with similar days prior to the pandemic. This is still only around half the average evening peak (17.5Tb/s), which is generally driven by video game updates and streaming football.
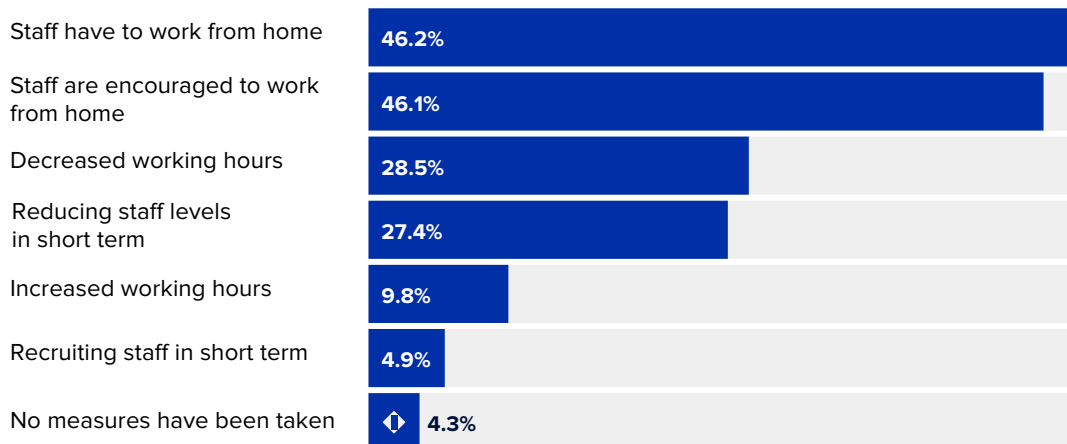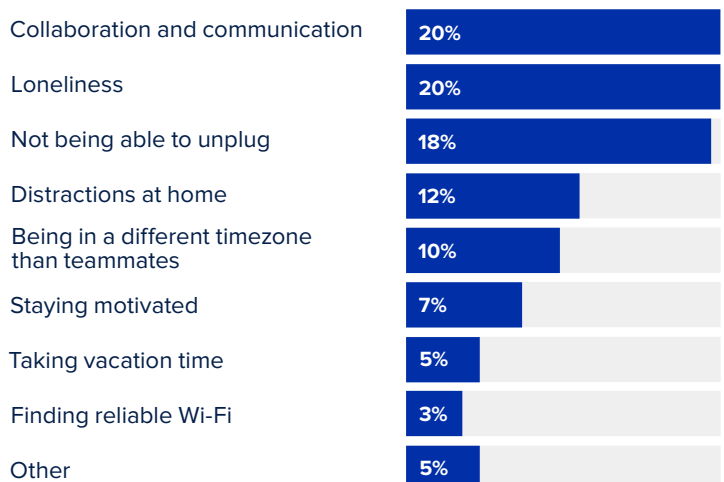
Measures taken by businesses to manage workforces as a result of coronavirus (COVID-19) in the United Kingdom in March 2020

Measure	Percentage
Staff have to work from home	46.2%
Staff are encouraged to work from home	46.1%
Decreased working hours	28.5%
Reducing staff levels in short term	27.4%
Increased working hours	9.8%
Recruiting staff in short term	4.9%
No measures have been taken	4.3%

Source: statista.com

More interestingly, only 30% of UK employees ever worked from home during 2019, according to research by the Office of National Statistics (ONS). The most popular home-working sector in 2019 was IT, with 14% of the industry working from home consistently, and more than half (53%) having ever worked from home. This was closely followed by the scientific activity and professional services sector, with 12% of respondents home-working regularly in 2019, and 46% having ever worked from home.

Those in roles such as manager, director, and senior officer were most likely to work from home (10%), followed by those in associate professional and technical occupations (8%) and administrative roles (6%). Working from home was more popular in the South-East, with 6% mainly working from home and 34% having done so at some point. This is followed by London, at 5.5% and 32% respectively.

What's your biggest struggle with working remotely?

Struggle	Percentage
Collaboration and communication	20%
Loneliness	20%
Not being able to unplug	18%
Distractions at home	12%
Being in a different timezone than teammates	10%
Staying motivated	7%
Taking vacation time	5%
Finding reliable Wi-Fi	3%
Other	5%

Source: buffer.com

HOW WE LEARN: FROM IN-CLASSROOM TO DISTANCE LEARNING

UNESCO, the United Nations education agency, estimates that 91% of the world's students have now been affected by school closures. Many educational institutions started offering courses online to ensure education was not disrupted by quarantine measures. In the UK, the Ministry of Education introduced a series of measures to continue education while school was suspended due to the coronavirus from 23 March, resuming virtually in April, but postponed in-person schooling until September 2020. The home became the new classroom,

and online education exploded. The UK saw a 150% growth in education app downloads during the coronavirus pandemic, compared to a global figure of 90% growth.

Who are the biggest players in education technology in the UK so far? Duolingo, Kahoot!, and Quizlet are among the most popularly downloaded apps in the UK, according to data from App Annie.
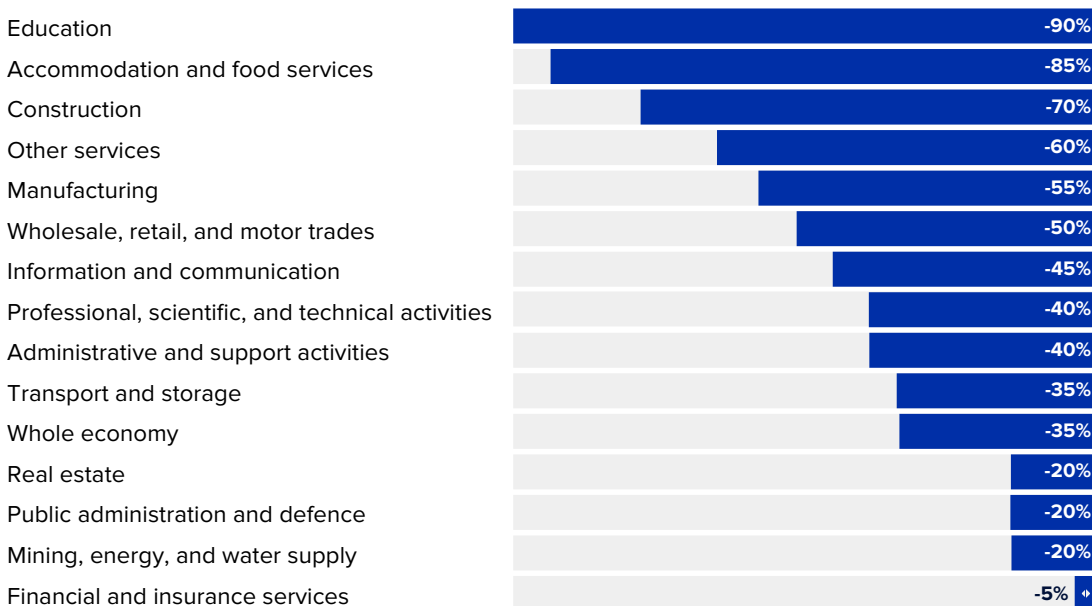
Top education apps in the United Kingdom

Rank	16–29 February, 2020	1–14 March 2019
1	Duolingo: Learn Languages	Duolingo: Learn Languages
2	Quizlet	Google Classroom
3	Simply Piano by JoyTunes!	Kahoot!
4	Kahoot!	Quizlet
5	Elevate Brain Training	Simply Piano by JoyTunes!

Note: iOS and Google Play combined.

Source: sifted.eu

Many British parents who thought their children might spend lockdown engaged in face-to-face video conferences with teachers have ended up disappointed. In the UK, virtual classrooms have been much less common than other parts of the world—unless you go to private school. Only 4% of students

at state secondary schools have experienced virtual teaching during lockdown, compared with 34% of students at private secondary schools, according to Teacher Tapp, the UK app that surveys aspects of teachers' lives.

Sector	Output loss
Education	-90%
Accommodation and food services	-85%
Construction	-70%
Other services	-60%
Manufacturing	-55%
Wholesale, retail, and motor trades	-50%
Information and communication	-45%
Professional, scientific, and technical activities	-40%
Administrative and support activities	-40%
Transport and storage	-35%
Whole economy	-35%
Real estate	-20%
Public administration and defence	-20%
Mining, energy, and water supply	-20%
Financial and insurance services	-5%

Output losses relative to the baseline due to the coronavirus (COVID-19) pandemic in the United Kingdom in second quarter 2020, by sector

Source: statista.com

PUBLIC SERVICE CHANGES: TELEMEDICINE SURGES, AND CONTACTLESS IS THE NEW NORM

Digital communications software played a major role in the UK's fight against the coronavirus. The UK government rolled out new governance protocols allowing governmental bodies to quickly render services (such as remote working software) outside normal RFP processes to supplement traditional outdated systems. This increased efficiency and reduced virus transmission risks. Community-level organisers served as the frontline of coronavirus control measures. With unified digital platforms, non-contact technologies were used to support strict social distancing measures.

Virtual health apps became a lifeline for the NHS, which was balancing the rising needs of coronavirus patients with the regular cadences of people who needed check-ups, prescription refills, and ongoing treatment. The NHS used Babylon Health to offer its "GP in Hand" mobile consultation services, giving patients real-time appointments bookable at a time of their choosing from the comfort of their home or place of work. The GP in Hand service replaces a traditional in-person relationship with an NHS doctor, which has proved popular with young city-dwellers.

Founded by British entrepreneur Ali Parsa, Babylon Health became a highlighted digital platform the NHS relied on to keep non-coronavirus patients treated virtually. The software uses a form of AI that is "designed to mirror a doctor's brain" providing "accessible healthcare for millions in the palm of their hands." The app has surged in popularity since the WHO labelled COVID-19 a pandemic on 8 March 2020, with the number of new UK registrations rising by 140,000. According to the UK Royal College of General Practitioners, in the four weeks leading up to 12 April, about 71% of routine consultations were remote, compared to 25% in the same period last year.

"Having the technological capability to offer remote consultations, where appropriate, will be beneficial for general practice, the wider NHS and most importantly our patients, long after this pandemic has ended," said Dr Martin Marshall, chair of the RCGP.

Pando, which allows healthcare workers to share sensitive medical messages and photos, claims to have seen an increase of 700% in its daily download rate since the start of the outbreak, with new users coming from across the NHS.

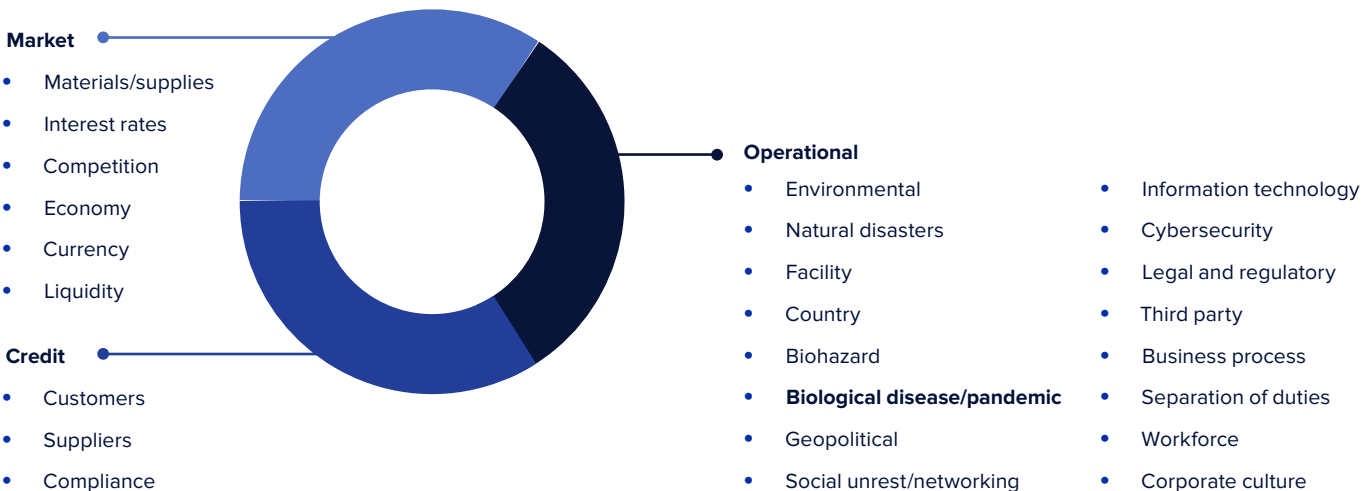## PANDEMIC AS AN OPERATIONAL RISK TO BUSINESS

The pandemic has affected business and commerce all over the world and across all aspects of business, from customer service to supply chains. A variety of measures have been adopted in an attempt to mitigate the effects of the pandemic. Some staff have agreed to receive temporary wage cuts to relieve the financial burden on employers, and the UK government implemented a "furlough" scheme to further support businesses in danger of being swallowed up by financial pressures. The government is now paying for more than a quarter of UK jobs; about 8.9 million workers have been furloughed since March.

Certain sectors took a bigger hit than others; travel and hospitality in particular came under threat as hotels and restaurants closed, airlines cut flights, and customers sought cancellation reimbursements. Insurance market Lloyd's of London expects coronavirus-related claims to cost up to £3.5B.

Even those businesses that weren't forced to cease operations faced a challenge—companies relying on access to an on-premises hardware stack for their operational, communications, and productivity tools were left rueing not being more thorough in considering a pandemic more prominently in their operational risk assessments.

A pandemic is an operational risk

Organisational resilience risks

Market

- Materials/supplies
- Interest rates
- Competition
- Economy
- Currency
- Liquidity

Credit

- Customers
- Suppliers
- Compliance

Operational

- Environmental
- Natural disasters
- Facility
- Country
- Biohazard
- **Biological disease/pandemic**
- Geopolitical
- Social unrest/networking

- Information technology
- Cybersecurity
- Legal and regulatory
- Third party
- Business process
- Separation of duties
- Workforce
- Corporate culture

Source: emtemp.gcom

SOCIETAL DEPENDENCE ON NETWORK COMMUNICATIONS SURGES

With users spending long periods of time online, we have also seen the following changes in global telecom network traffic and protocols:
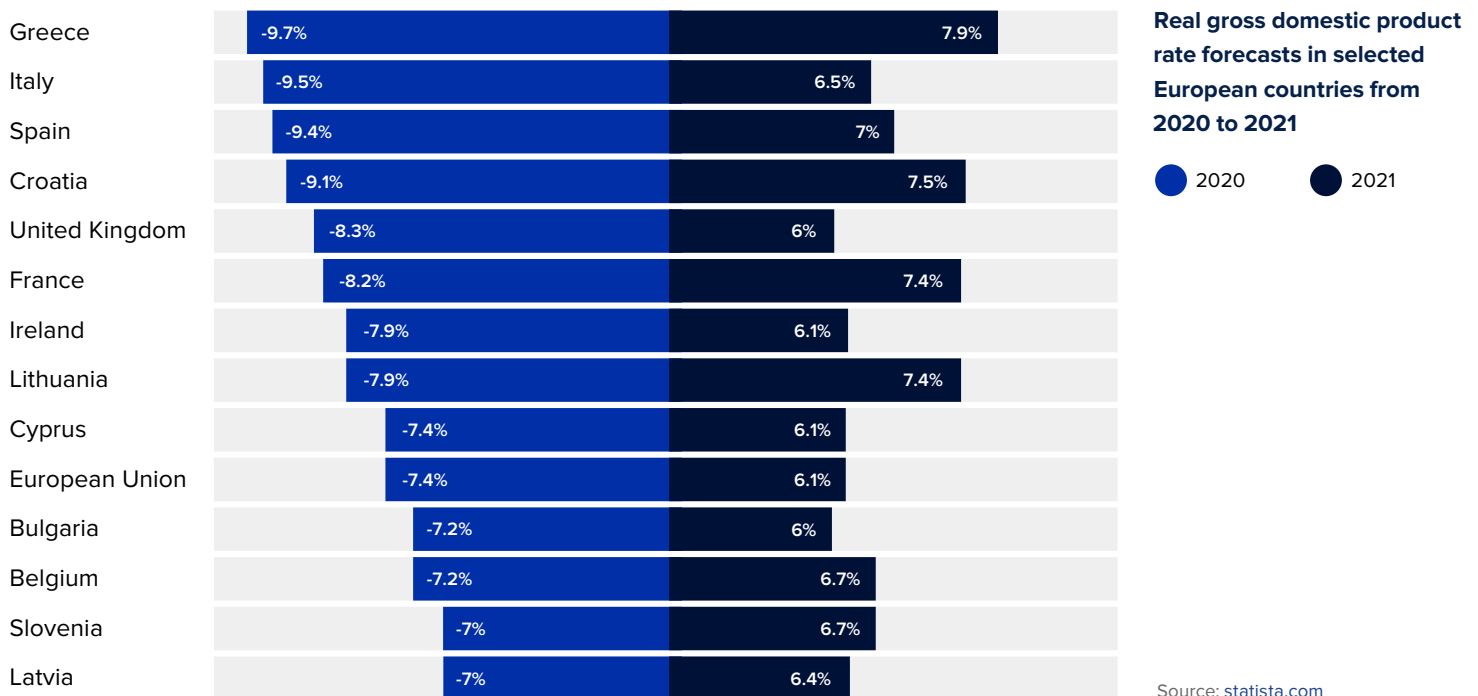
Surges in voice and data traffic

- BT are seeing [an increase in mobile voice call volumes](#), which is to be expected. They are encouraging customers to use IP voice services like BT Cloud Work, especially for long conference calls.

- Vodafone Group (global) said they are seeing increases in video conferencing streams, as customers work from home to an unprecedented degree, which has increased upstream data flows (from the customer to the Vodafone network) by as much as 100% in some markets. Downstream traffic has also increased by 44% in aggregate.

- [Three UK reported](#) mobile broadband data usage increased by 12% and calls grew by 8% to 2.5 billion in March 2020.

NETWORK OPERATORS RESPONDED BY LIFTING BROADBAND AND MOBILE DATA RESTRICTIONS

Major telecoms providers like BT/EE, Vodafone, Openreach, and Virgin Media struck an agreement that removes all data caps on current landline broadband services. [Mobile providers also have to offer](#) generous new packages to help people stay connected (particularly the vulnerable), such as data boosts and free calls. For example, BT lifted all data caps for UK NHS workers until October 2020. Telecoms will have to provide alternative methods of communication if the outbreak prevents repairs to landlines. They'll likewise have to ensure customers are treated fairly if they have a hard time paying their bills.

Country	2020	2021
Greece	-9.7%	7.9%
Italy	-9.5%	6.5%
Spain	-9.4%	7%
Croatia	-9.1%	7.5%
United Kingdom	-8.3%	6%
France	-8.2%	7.4%
Ireland	-7.9%	6.1%
Lithuania	-7.9%	7.4%
Cyprus	-7.4%	6.1%
European Union	-7.4%	6.1%
Bulgaria	-7.2%	6%
Belgium	-7.2%	6.7%
Slovenia	-7%	6.7%
Latvia	-7%	6.4%

Real gross domestic product rate forecasts in selected European countries from 2020 to 2021

● 2020   ● 2021

Source: statista.com

DEMAND FOR CLOUD COMMUNICATIONS SYSTEMS RISE DURING THE PANDEMIC

Individuals, families, and businesses from all industries have been greatly affected by lockdown measures, pushing them to demand more from their communications systems. Many businesses have come to realise the importance of digital transformation, and they are working with cloud providers to leverage technology to fight against the pandemic.

INDUSTRIES GOING DIGITAL TO STRENGTHEN THEIR BUSINESS CONTINUITY

Industries that heavily rely on a physical component were hit hard by the isolation measures. The highest output of losses due to the coronavirus were reported in the education, accommodation and food services, construction, and manufacturing sectors. Much of this was a direct result of the voluntary or mandated changes in behaviour. The most common measures taken to manage workforces due to the coronavirus were enforcing working from home, encouraging working from home, decreasing working hours, and reducing staff levels in the short term.

Numerous industries are still seeking solutions to the problem of connecting staff and customers, reinstating their supply lines, and generating direct revenue. Great potential remains for businesses to identify and adopt more advanced communications technologies to fight the pandemic and stay in touch with their customers.

CLOUD ADOPTION ACCELERATES

When the shift was made to working remotely in lockdown, the businesses that were already operating in a cloud-native manner switched to remote working seamlessly. For those that weren't operating in the cloud, we've seen the coronavirus pandemic accelerating cloud adoption. This is not just a technological shift but is also an operating model shift, as companies recognise the limitations of their current environments and struggle with the impact of the pandemic on their financials. We expect this shift to be dramatic and compress the adoption curve from decades to just a few years.

The most immediate impact we have seen with our customers is the massive shift to remote working. We're engaging with our customers regularly to support them through the pandemic in light of the stay-at-home reality. The effect of the transition from in-office to work from home was remarkable: By the end of March, RingCentral app downloads were up 300% MoM, meetings usage was up 100%, and team messaging usage was up 70% MoM.

The world is currently redefining what it means to "go to work." Customers are trusting us to guide them on that journey. This has meant new customers embracing our unified Message-Video-Phone #MVP solution—backed by our quality, experience, and reliability.

We expect that using video optimisation and network traffic management tools (SD-WAN), in line with existing cloud apps will allow businesses to maintain service availability for all forms of internet usage. Vodafone cited that their own employees are hosting 40,000 virtual video meetings over 6 million minutes every single day thanks to a rapid expansion of capacity to all of the digital tools.

THE FUTURE OF BRITISH HEALTHCARE: FULLY CONNECTED, CONTACTLESS, AND GEOLOCATION DEPENDENT

"The telemedicine agenda has been accelerated by about 10 years, simply because it is not safe or practical to do much of the traditional medical model," says Dr Rhyddian Harris, a former clinician who works as a product manager for Pando.

In what could be a silver lining of this pandemic cloud, physical distancing brought remote medicine, or telehealth, into greater prominence. With a growing population, diminishing budgets, and rapidly ageing technology, healthcare providers in the UK were already struggling to meet the demands of patient management.

The adoption of remote working software allows healthcare professionals to carry out consultations without the risk of cross infection and is an efficient alternative to in-person appointments. While video conferencing has been adopted by some health workers to conduct virtual "screenings" of patients to aid in the diagnostic process, its full potential in terms of alleviating pressure on the NHS is yet to be realised.
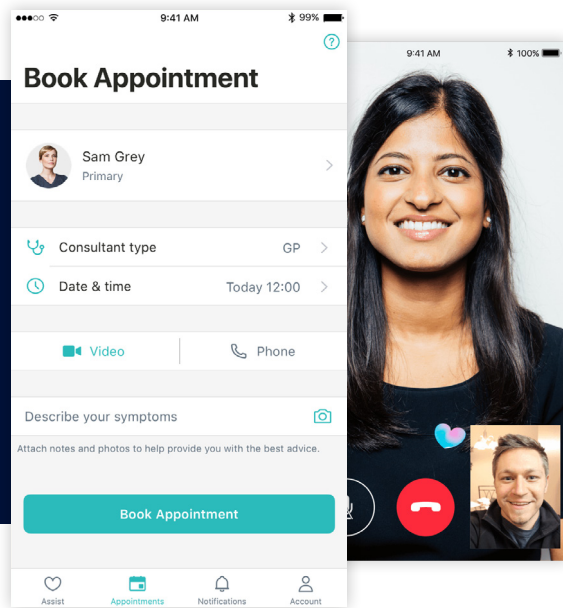
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THE FUTURE OF UK PUBLIC SERVICES: LEANING ON BIG DATA, REAL-TIME NATIONAL COMMUNICATIONS AND DRONE SURVEILLANCE

As drone surveillance becomes more widespread, privacy concerns haven't diminished. In China, using drones did help areas like Wuhan enforce their shelter-in-place orders. Drones reduce the need for law enforcement to patrol during a pandemic response, instead allowing flying drones to survey city streets and spot citizens defying orders. However, as Derbyshire Police were criticised for their use of public shaming to deter those breaking lockdown rules, it's clear that enforcement in the UK is still lacking proper protocols for the deployment of drones.

Cloud communications technologies have been identified as a strong vehicle for urgent public services, such as the promotion and execution of epidemic prevention and control measures.

These can be seen in the growing deployment of field workers using digital platforms to report back on patrolled open spaces, digital platforms being used to broadcast coronavirus-related knowledge within local communities, and more.

Reliance on a cloud platform was what enabled Arco, the leading supplier of personal protective equipment (PPE) in the UK, to send its 200 contact centre agents to work from home as soon as lockdown measures came into place. Arco is taking huge numbers of contracts for PPE from the NHS and emergency services as well as food producers and supermarkets. The company's cloud-based contact centre has proved critical to maintaining customer contact and meeting demand throughout the pandemic.

THE FUTURE OF BRITISH EDUCATION: NEEDS HIGH BANDWIDTH, VIDEO CONFERENCING, AND LOW LATENCY SERVICES

As of mid-April, 191 countries announced or implemented school or university closures, impacting 1.57 billion students. The coronavirus has forced elementary and secondary schools across the UK to move school online, and office workers to work from home. Technologies involved in distance learning are similar to those for remote work and also include virtual reality, augmented reality, 3D printing, and artificial-intelligence-enabled robot teachers. There are some major considerations when adopting this new distance learning ecosystem, however. Concerns about distance learning include the possibility the technologies could create a wider divide in terms of digital readiness and income level. Distance learning could also create

economic pressure on parents—more often women—who need to stay home to watch their children and may face decreased productivity at work.

Lastly, we must consider the network demands distance learning will put on our at-home networks. High latency and network downtime have been the cause of some complaint during the pandemic, though the disruption was not as considerable as some feared. However, in considering distance learning alongside professional video conferencing from a long-term perspective, the capacity of cloud platforms and the bandwidth of internet networks are critical components in enabling such widespread practices.

THE FUTURE OF THE UK HOSPITALITY SECTOR: CONTACTLESS PLATFORMS AND DELIVERY AUTOMATION

Spring and summer bank holidays in the UK are traditionally marked by holiday home bookings, social gatherings, weddings and receptions, birthday celebrations, and other activities. This year, the industries supporting those activities will be unable to benefit from the demand. Restaurants and venues are temporarily closed and hotels are operating skeleton crews due to the outbreak. As a result, transportation of food and other goods has required delivery drivers and logistics employees to work through many of these orders, yet as autonomous delivery robots become more mainstream, this need will wane in the future. Efficient contactless services require online platforms that support online orders, cloud-based inventory management, and mobile payment.

Smart cities that embrace autonomous delivery options such as drones, driverless trucks, and even autonomous ships, can seamlessly control the transportation of goods and services in times of crisis. This gives cities the power to prioritise needs, such as the delivery of medicine.

During the time of crisis, many local support groups have sprung up all over the country to serve those in need. In the Villages of Tisbury in Wiltshire and Woodbridge in Suffolk, emergency response groups have facilitated the delivery of medicines to the most vulnerable members of their communities. Both groups use RingCentral Office® to receive requests for support and to communicate with volunteers providing the support service in the local area.

Expected cumulative impact of lost retail sales caused by the coronavirus outbreak in the United Kingdom (UK), Germany, and France from 9 March 2020 to 20 April 2020 (in million British pounds)

UNITED KINGDOM	FRANCE	GERMANY	EU OVERALL
253	445	728	3,264
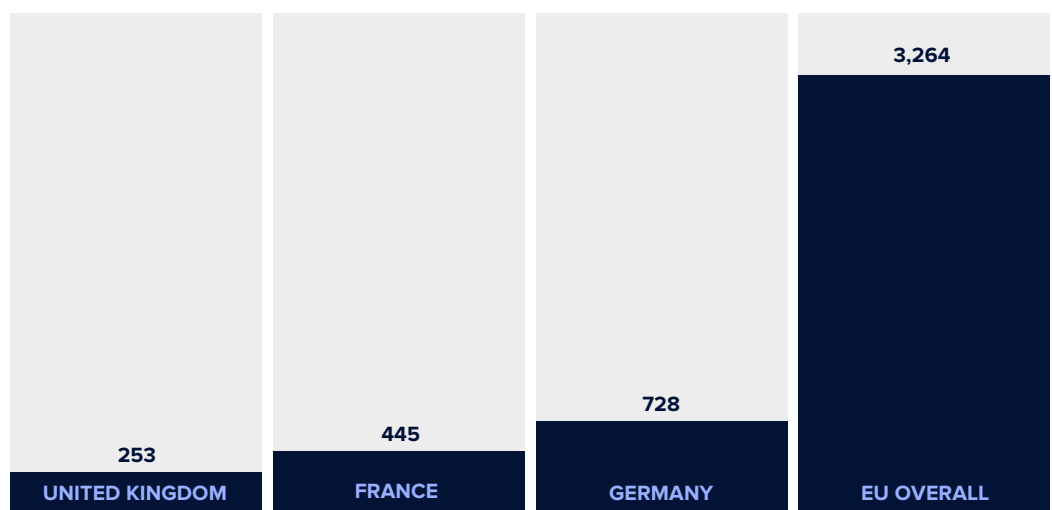
Source: statista.com

THE FUTURE OF UK RETAIL: ONLINE SHOPPING, DIGITAL PAYMENTS, AND ROBOTIC DELIVERIES

The coronavirus has transformed online shopping from a nice-to-have to a must-have around the world. Some bars in the UK and Ireland have even continued to offer beverages through online orders and at-home delivery. Online shopping needs to be supported by a robust logistics system and in-person delivery is not virus-proof. Many delivery companies and restaurants globally are launching contactless delivery services where goods are picked up and dropped off at a designated location instead of from or into the hands of a person. UK e-commerce giants are also ramping up their development of robot deliveries. However, before robot delivery services become prevalent, delivery companies need to establish clear protocols to safeguard the sanitary condition of delivered goods.

Cash might carry the virus, so central banks in the UK have implemented various measures to ensure banknotes are clean before they go into circulation. Contactless digital payments, either in the form of cards or e-wallets, remain the recommended payment method to avoid the spread of the coronavirus. Digital payments enable people to make online purchases and payments of goods, services, and even utility payments, as well as to receive stimulus funds faster.

However, according to the World Bank, there are more than 1.7 billion unbanked people, who may not have easy access to digital payments. The availability of digital payments also relies on internet availability, devices, and a network to convert cash into a digitalised format.

Image source: weforum.org

All the aforementioned technology trends rely on a stable, high-speed and affordable internet. The adoption of 5G will increase the cost of compatible devices and the cost of data plans. Addressing these issues to ensure inclusive access to the internet will continue to be a challenge as the 5G network expands globally.

EPIDEMIC EFFORTS FROM RINGCENTRAL IN THE UK

Measures RingCentral took to protect its workforce and customers from the coronavirus:

- Asked employees to work from home and perform self-quarantine to reduce the spread of the virus.

- Initiated 100% remote working policies globally and banned international business travel to protect employees' safety.

- Provided communications stack assurance in terms of hardware, software, spare parts, human resources, and other aspects to ensure connectivity.

- Offered affected industries (customers) free service for three months to alleviate cash flow concerns during the pandemic.

- Offered new customers access to the RingCentral Contact Centre Work from Home Business Continuity Programme for 90 days, with a 48-hour go-live express implementation SLA.

- Offered 48-hour rapid deployment of RingCentral Office to help new customers set up working from home quickly.

USING TECHNOLOGY TO STAY CONNECTED

SCHOOLS

From early in the pandemic, St. Bartholomew's Church of England Primary School in Bolton has been demonstrating the capability of digital networks and video conferencing to keep communities connected. Headteacher Mark Johns took advantage of RingCentral's free offer of RingCentral Office licences to set up a new internal and external communications system for the school. The school uses video conferencing to post department updates, run quizzes, continue lessons, and stay connected with parents. Internally, the staff use the cloud-based tools to conduct regular staff meetings and provide support wherever needed. The school announces its communication events on Twitter, using the broadcast nature to spread a wide message with little effort.

HEALTHCARE

Private and public organisations have been using cloud telephony, AI, and mobile apps to help keep the public safe and enable digital health.

- **Broadcasting information**: Local police patrolled streets and communicated with headquarters remotely by using secure mobile cloud communications apps in order to promote epidemic prevention information and instructions.

- **Connecting temporary hospitals**: The NHS set up various temporary field hospitals as quickly as they could by leveraging cloud and VoIP communications platforms and high-speed connectivity. They were able to deploy the communications systems overnight, and all NHS workers could immediately download the apps to their smartphones to start securely conversing with their colleagues on epidemic-related activities.

- **Keeping people at home**: The Babylon Health app encourages people to avoid public exposure by enabling non-urgent patients to use virtual healthcare to fill their prescriptions and stay out of doctors offices and hospitals.

- **Introducing contact tracing**: Big data helps users see if they are closely connected to a coronavirus patient. There is increasing demand for big data given recent developments and the need to prevent the disease from spreading. To meet such demands, the NHS launched the Close Contact Identification app. This app analyses whether the user has been in close contact with a coronavirus patient by using big data analyses of travel history and public transit records, including train departure times.

REMOTE COLLABORATION IMPROVING RESOURCE SHARING, DIAGNOSIS, AND TREATMENTS

To respond to these challenges, cloud and healthcare partners quickly provided multiple solutions for remote collaboration. Where possible, many doctors have turned to telehealth to aid diagnosis. As the coronavirus situation became more serious, Texas-based Consultants in Pain Medicine (CPM)

realised it needed a way to allow doctors to work virtually. After expanding its reliance on RingCentral from fax to also cover video meetings, CPM had trained doctors and was providing customers with telemedicine appointments within 48 hours.

This solution allowed medical experts in different locations to read scans remotely and make diagnoses in real time.

Mental health has been a prominent subject in the discussion of life during lockdown. Counsellors and psychiatrists have also adopted video conferencing to offer continuity of their services while the uncertainty of the pandemic looms large. Men's Action Network, an organisation promoting and supporting men's mental health in Northern Ireland, used RingCentral's cloud-based voice and video service to maintain contact with clients.

Accepting RingCentral's offer of free licences to help continue their work during the pandemic, Men's Action Network was able to upgrade from an office-based PBX to a cloud service to keep their helpline open by enabling volunteers to receive calls from anywhere on their mobile devices. The organisation is also able to maintain its face-to-face counselling service by using video calls as an alternative to same-room interaction.

UK HOMES: A LASTING CHANGE

Photos of empty city centre streets highlight the dramatic way in which the pandemic has affected daily life. The home has overwhelmingly become the epicentre of daily life, taking on new roles as classroom, office, and even hospice. However, thanks to digital connections, more functions than ever before can be continued while sheltering within four walls.

Although quarantine measures have reduced in-person interactions significantly, human creativity has brought the party online. Cloud raves and online streaming of concerts have gained traction around the world. UK film production

companies and UK Netflix also released films online. Museums and international heritage sites offer virtual tours. There has also been a surge of online gaming traffic since the outbreak.

The suspension of the Premier League and English Football League seasons drew much discussion, in part driven by opinions on financial issues such as voluntary wage cuts and applications for governmental aid. As PE with Joe became one of the nation's favourite morning programmes, professional athletes strived to keep in shape as they anticipated the resumption of sporting activities.

Promotion hopefuls Fulham FC used their social media accounts to keep fans engaged by conducting video [interviews with players](#) and coaching staff, and publishing them online. Fulham FC had adopted RingCentral's cloud-based message, video, and phone capability only a few months previously, so they were ideally prepared to make the most of their digital capability to keep players, staff, and fans connected. More recently, Fulham opened up their training sessions to a public audience, to demonstrate the steps the team and staff are taking to be ready for a return to Craven Cottage.

The home has overwhelmingly become the epicentre of daily life, taking on new roles as classroom, office, and even hospice.

UK ENTERPRISES: CLOUD COMPUTING PROVES INDISPENSABLE

As the UK government dragged its heels on launching containment measures, the sudden escalation from "herd immunity" to "stay at home" took many businesses by surprise. Suddenly, offices had to close, threatening to separate workforces from their means of productivity.

Most work would have to take place virtually. To meet businesses' demand for virtual connections, network and cloud providers put measures in place to help businesses.

BUSINESSES OPEN UP TO ENABLE TELECOMMUTING

During the height of the initial outbreak in the UK, operators such as BT opened up some of their cloud conferencing services to existing customers for free (i.e., BT Cloud Work free Meetings licence upgrade for all existing customers for three months) so local UK businesses could get their employees working and meeting online.

Right now, the resumption of economic activities is a top concern for local UK businesses. As workers return to their places of employment from where they were sheltered during lockdown, there would be a high risk of cross infection. Ensuring employee security will therefore become one of the biggest considerations for UK businesses that resume operations.

RINGCENTRAL UK SUPPORT

RingCentral's cloud communications platform, RingCentral Office, provides UK businesses with a full range of communication tools including HD video conferencing, audio conferencing, team messaging and persistent chat apps, task management tools, free cloud storage, file sharing, web sharing, a mobile app, a desktop app (that you can also use as a phone), light call centre capabilities, powerful analytics, internet fax, voicemail to email, and out-of-the-box integrations with 200+ cloud apps including Salesforce, Google, Microsoft suite, Okta, Zendesk, and more.

This means users can make and receive calls, attend video meetings, collaborate with colleagues, and remain productive from anywhere with an internet connection. The cloud-based nature of RingCentral's communications platform reduces the need for hardware, allowing businesses more flexibility in taking their operations remote.

To help businesses adapt to the pandemic conditions, RingCentral UK announced its Office product would be free to education, public sector, and non-profit organisations for three months. Later, that group was widened to include further sectors, an additional offer regarding the RingCentral Contact Centre™ product, and an additional Rapid Deployment offer. In the two weeks following the original announcement in March, the number of businesses switching to RingCentral Office increased by over 60%.

Globally, RingCentral now has 4,000+ educational institutions, healthcare organisations, and non-profits signed up on the free COVID-19 offer, covering 50,000+ users, to help address the circumstances created by the pandemic. All over the world, the offer was particularly useful for vulnerable operations like schools and voluntary services, and was invaluable in helping community groups protect and support their most at-risk members.

To help businesses of all sizes and means adapt to the new conditions, RingCentral created a remote working resource hub featuring advice, information and signposting about enabling workforces to work from home.

Before committing to helping others fight the pandemic, RingCentral had to make sure its own employees were supported. At the beginning of the initial outbreak, RingCentral took a series of measures to effectively ensure the health and safety of its employees. Using these measures as a foundation for further services, RingCentral then answered to customer and government requests for pandemic relief around the world. Currently, RingCentral is doing all it can to help partners fight the pandemic and resume operations.

THE WORKING FROM HOME TOOLKIT

Essential tools to enable an agile workforce

Mobile and desktop app
Simple and intuitive on your preferred devices

Video meetings
Video conferencing, screen sharing, and webinars

Team collaboration
All work conversations and shared files in one platform

Presence and head-up display
Simple and intuitive on your preferred devices

Call monitoring
Managers can listen into calls, provide coaching, and facilitate discussion

Call recording
A record of conversations to play back and download anytime

Admin control
Instant employee moves, adds, and changes from a web interface

Call forwarding
Divert calls to reach you at any place and time

ringcentral.co.uk/remote

IMPLICATIONS AND OUTLOOK

The coronavirus pandemic has gripped the world, and one of the biggest challenges for response teams, as well as researchers and scientists, has been the lack of data about the virus. The coronavirus has demonstrated the importance of digital readiness, which allows business and life to continue as usual—as much as possible—during pandemics. Building the necessary infrastructure to support a digitised world and stay current in the latest technology will be essential for any business or country to remain competitive in a post-COVID-19 world, as well as take a human-centred and inclusive approach to technology governance. Using technology to track data in real time can be the difference between life and death. Our connected world will continue to revolutionise pandemic responses. Here are some implications for UK enterprises from the pandemic to consider for the future.

Communications is the foundation of the digital world, and the digital technology supported by cloud communications is the cornerstone to fighting the pandemic.

Cloud communications have played an important role in the fight against the pandemic. Digital technologies such as video conferencing, big data, AI, and mobile apps supported by unified cloud communications platforms are crucial in monitoring and analysing the pandemic, tracking the virus, preventing and controlling the pandemic, treating patients, and allocating resources.

These technologies have also been applied in other areas, such as helping businesses tackle their problems and safeguarding normal social activities.

One of the biggest characteristics of the pandemic is that it affects offline economic activities because of the measures such as "stay at home" and "social distancing." A massive amount of social and economic activities have gone online. Businesses closed their doors and students stayed home from school, but networks and collaboration software allowed people to "go" back to work and school.

The number of daily active users and average daily network usage have both reached record highs.

When choosing a cloud collaboration software, pay attention to your network provider and vendor's combined resilience, availability, and flexibility. Keeping a moderate level of network and app redundancy is vital for addressing the traffic surge caused by the pandemic.

The ongoing pandemic has been an unprecedented shock to telecom networks worldwide, whose traffic models have undergone significant changes as a result. The changes can be summarised as resulting in traffic surges, transferring hotspots, concurrent traffic spikes, and longer periods of heavy traffic. How these changes impact networks worldwide will not be certain, but the UK's networks have handled heavy traffic flow and remained stable so far. RingCentral Office has the following four pillars as not only founding principles for our architecture and infrastructure decisions, but also critical elements to ensure a reliable and secure solution.

4 PILLARS OF RELIABILITY

Scalability

Redundancy

Quality

Security

SCALABILITY

The RingCentral Office platform's modular pod design offers remarkable flexibility and allows seamless integration of additional pods as the subscriber base continues to grow. Unlimited new user groups can be added at any time, without taking the system offline to rebuild databases or add new servers. Network application triggers generate alerts when resources need to be reallocated, and the entire system is constantly monitored for any bottlenecks.

REDUNDANCY

The RingCentral Office software is purpose-built to perform as a highly redundant, reliable, and secure communications network. This is an important distinction in the UCaaS industry. Core technology infrastructure are housed in multiple geographically diverse, state-of-the-art, Tier 4 data centers, minimising the risk of loss and regional service interruption due to natural disasters and other catastrophic situations. These data centers share hosted facilities space with some of the UK's largest financial institutions, high-tech companies, telecommunications carriers, and the UK's top internet exchange points, ensuring the fastest response times and interconnected services possible. Within each major data center, RingCentral builds multiple layers of redundancy into a vendor-agnostic, commodity-based architecture. Internet access is ensured by purchasing multiple internet transits. All service components are designed to ensure high availability, fault tolerance, and fault impact segregation. Customer data, including service configurations, messages, etc., is fully replicated across the data centers in real time. This geo-redundant, active-active architecture ensures high availability at all times.

QUALITY

To consistently deliver the highest HD quality possible, RingCentral Office employs the advanced Opus Interactive codec, as well as the wideband G.722 codec. HD voice with Opus codec is enabled by default on RingCentral apps, providing a better user experience with more clarity in HD voice, especially in limited bandwidth environments.

RingCentral has also developed one of the most proactive QoS initiatives in the industry that covers: Network Address Translation (NAT), bandwidth, monitoring, firewall, DHCP, DNS, last mile integration, wireless operation, line testing.

SECURITY

Security is a crucial component of the RingCentral Office software and encompasses policies and governance practices (people), service development and operational processes (process), and application and infrastructure layers (technology).

Enterprise organisation

Business process

Application

Data

Host

Network

Physical

UK businesses can benefit from evaluating the impact of the pandemic from neighbouring countries and proactively deploy business continuity plans to safeguard from future unknowns.

The pandemic is accelerating the digitisation of thousands of industries. Its impact on cloud communications also opens the conversation for UK businesses to consider and plan future-oriented technology evolution from a new perspective. We propose the following business continuity suggestions:

- **Strong broadband network**: A strong network connection with sufficient bandwidth for your business, personal, and home-education needs helps establish the foundation for a connected, digital world. The UK network providers we are familiar with provide high-performance and widespread broadband services for individuals, families, and enterprises, and they support ubiquitous connections for everyone's work and personal lives. They also help in the digital transformation of traditional industries for a more robust digital economy.

- **Simplified tech stack**: Simplifying technology strategy with unified applications that seamlessly integrate with devices and other applications can accelerate your productivity through uncertain and ever-changing times such as today. We should learn from this coronavirus pandemic that we need only a few good tools and good internet to get our work done effectively.

- **Cloud collaboration tools**: Leveraging the ever-expanding collaboration tools put out by pure cloud vendors like RingCentral helps your organisation safeguard against coronavirus and any other health pandemics that we may encounter in the future.

- **Intelligent network prioritisation**: This pandemic has posed new requirements on network efficiency and methods. UK businesses should apply new technologies such as SD-WAN and AI to optimise their bandwidth efficiencies. For example, if you leverage your SD-WAN solution to prioritise VoIP traffic over video traffic, you can ensure that your phone calls to customers are crisp and clear, not compromised due to someone watching HD 4K YouTube cat videos at the same time. This can further be applied to improving the automation and intelligence of networks, bring intelligent troubleshooting, and further accelerate the delivery of new services to your UK customer base.

The warm summer is coming with longer daytimes and blossoming flowers. The coronavirus pandemic is not over yet, but people have already begun to reflect on it. RingCentral has always been in pursuit of excellent technological innovations as we believe that technology is the ladder of human progress, the key to overcoming difficulties, as well as the foundation of human excellence. Cloud providers play a key role in our fight against the coronavirus outbreak. The invisible light and electrical signals flowing through the cables above and below us have established a digital channel for saving lives and maintaining the basic operation of society as a whole. The UK's communications infrastructure has become more advanced with the convergence of 5G networks, large-scale data centers, and cloud communications softwares. We will continue to promote this advantage as much as possible to contribute to the wider economic development.

> "The world of work we're returning to isn't the same one that we left. That needn't be a frightening prospect—a new landscape means new opportunities, and it's time for us to make the most of what's available to us.
>
> We have the technology to not only survive, but to thrive—as individuals, as colleagues, and as communities. This is our opportunity: to enable every single one of us to start thriving inside and outside of work; no matter where we are, no matter what we do."

Sunny Dhami, Senior Director of Product Marketing, RingCentral

For more information, please contact one of our solution experts. Visit ringcentral.co.uk or call 0800 098 8136.

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