



2021 Mobile Industry Impact Report: Sustainable Development Goals

September 2021





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Forewords



A message from Mats Granryd, GSMA Director General

Six years have passed since the mobile industry stepped forward and committed to all 17 Sustainable Development Goals (SDGs). Every year since, we have produced this report to update on progress, highlight successes and identify areas that require even more considerable effort.

As the world adapts to and emerges from the global pandemic, keeping the promise of the SDGs has never been more critical. Before the Covid-19 outbreak, the world was not on track to meet the 2030 goals. Although there had been significant improvements in areas such as reducing poverty and gender equality, progress on other goals had stalled and, in some cases, reversed. While the full effect of the pandemic is not yet known, it is clear that Covid-19 has set us even further back on achieving the “world’s to-do list.”

Recent reporting by the UN and the World Bank show that more people have been pushed into extreme poverty, gender inequalities have been exacerbated and the climate crisis continues to worsen.

In 2020, the global average SDG index score decreased for the first time since the adoption of the SDGs in 2015. If we want to achieve the SDG targets by 2030, an extraordinary global effort will be required by everyone – including governments, the private sector and individuals. The global effort to develop vaccines for Covid-19 at unprecedented speed shows what human beings are capable of when we work together toward a common goal.

Despite the difficulties of the last 18 months, the mobile industry has continued to increase its impact across every SDG and, although the industry’s progress slowed down due to the crisis, the pandemic highlighted the vital role that mobile plays in people’s lives. Around the world,

billions of people relied on mobile technology for every aspect of their day-to-day lives. Mobile connectivity became the lifeline keeping societies moving as we suddenly turned online for everything from education to healthcare. Thanks to continued investment in infrastructure and the resilience of networks, the mobile industry continues to achieve its highest impact on SDG 9: Industry, Innovation and Impact.

Despite this achievement, the pandemic exposed and increased some of the greatest inequalities. Our digital divides are still there: people lacking digital skills, unconnected rural communities, SMEs not being able to transform digitally.

The SDGs have never been more important. The world has shown the ingenuity and drive that it is capable of over the past two years. As we pause to reflect on our progress so far, we must look to the mammoth tasks ahead. As an industry, we must continue to connect the unconnected and we must enable other industries to realise their maximum effect on the SDGs. We call on world leaders, the public and private sector to work together to accelerate our progress towards achieving the SDGs.



Mats Granryd
GSMA Director General

A message from Stéphane Richard, CEO Orange, Chairman GSMA

As a leader of the mobile industry, I firmly believe that our sector is at the heart of the solutions that will and must be designed to tackle some of society's greatest challenges in the coming years. We are facing a number of new issues:

How can we contribute to equality and social progress, when trust in our society is often eroded?

How do we ensure our services do not exclude the most vulnerable, but instead can be used to reduce social and geographical inequalities?

How do we collectively act to reduce climate change?

We have the chance to be an industry that has supported development and has built trust for over a century. The benefits of technological progress for humanity depend not on the technology, but on what we do with it. This is why each year we are proud to review our collective corporate progress on the SDGs and to share what actions are needed to deliver the 2030 agenda.

During the pandemic we learnt how essential mobile connectivity is for our resilience and how much we are able to push the boundaries, using our abilities and resources to keep the world connected.

Through our networks, people can access education even when they can't go to school.

Through our networks, people are informed about health, protection measures and emergency situations.

Through our networks, people can continue to access countless services, from retail or public services to mobile banking. They can also continue to work and earn an income.

Overcoming our digital divides remain a priority. Mobile operators continue to deploy, extend and upgrade networks. There are now less than 500 million people with no 3G or 4G network coverage. However, 3 billion people are left behind. This means that they have the coverage, but do not benefit from it – whether through a lack of digital skills, financial means or locally adapted services.

Yet, when we succeed in connecting people, we increase equality, prosperity and well-being.

With 30 million employees, 2.7 trillion CAPEX since 2000, more than 5 billion people using a mobile phone and 25 billion IoT connections across the world, the mobile industry has shown that it has the power and the scale to make a meaningful difference. We were one of the first industries to join the United Nations Sustainable Development Goals and today we continue to deliver on this promise.



Stéphane Richard
Chairman and CEO Orange,
GSMA Chairman



01

Introduction and key findings





Across the world, many countries are recovering from a devastating public health and economic crisis, while others are still experiencing it.

As of 8 September 2021, there had been over 220 million confirmed Covid-19 cases globally and more than 4.5 million confirmed deaths.¹ To mitigate the spread of the virus and avoid overwhelming public health systems, lockdown restrictions and social distancing measures have been put in place. However, the subsequent economic and social impacts have been severe. In 2020, 255 million full-time jobs were lost, an additional 119-124 million people were pushed into extreme poverty and 101 million children fell below the minimum reading proficiency level amid widespread school closures.² Furthermore, despite the slowdown in economic activity and global travel restrictions, the pandemic has done little to mitigate the ongoing climate crisis.³

Looking forward, the global economy is set to expand by 5.6% in 2021— its strongest post-recession pace in 80 years.⁴ However, the recovery is set to be uneven and largely reflects sharp rebounds in some major economies. In many low- and middle-income countries (LMICs) the outlook is less positive, as obstacles to vaccination continue to weigh on social and economic activity. As a result, the serious health, economic and social consequences of the pandemic are likely to continue, undermining decades of development efforts.



¹ Johns Hopkins CSSE. Note: The CSSE states that its numbers rely upon publicly available data from multiple sources, which do not always agree.
² The Sustainable Development Goals Report, United Nations, 2021
³ The State of Global Climate 2020, World Meteorological Organisation
⁴ Global Economic Prospects, World Bank, 2021



Throughout the crisis, digital technologies have played a pivotal role in enabling social and economic activities to continue. People around the world have relied on the internet to stay connected to friends and family, access education and health services, and work remotely. This underscores the importance of connectivity in our daily lives and, in particular, the value of mobile networks, which remain the only form of internet access for many people. However, the pandemic has also shone a light on the need to bridge the digital divide. People without internet access are most vulnerable to the economic and social disruptions caused by the pandemic. This has increased the urgency of identifying solutions to accelerate mobile internet adoption and use.

This sixth annual SDG impact report demonstrates the mobile industry's continued commitment to the SDGs. It shows that, despite the significant challenges posed by the pandemic, the mobile industry increased its contribution to all 17 SDGs in 2020. This reflects the efforts of mobile operators and their partners in responding quickly and effectively to the Covid-19 crisis. Operators in every region have been proactive in reaching out to their customers, working with public authorities and third parties to provide a range of vital services, and supporting the communities in which they operate. However, while the mobile industry's SDG impact increased in 2020, progress slowed amid the pandemic. This highlights the importance of taking decisive action over the next decade and driving the acceleration of digital transformation.

Key findings

The mobile industry is halfway to maximising its potential impact on the SDGs.

33%  48%  50%
2015 2019 2020

In 2020, the mobile industry increased its impact for each of the 17 SDGs, achieving an average SDG impact score of 50. This means the industry is achieving 50% of its potential contribution to the SDGs – up from 48% in 2019 and 33% in 2015.

Mobile adoption continued to increase in 2020, despite the economic recession, supporting the industry's contribution to multiple SDGs.

5.2 billion people
(67% of the global population)



By the end of 2020, 5.2 billion people (67% of the global population) were using a mobile phone, representing an increase of 90 million people since 2019. In addition, four billion people (51% of the global population) were also using the mobile internet, which is an increase of 220 million since 2019.

2.6 billion people
(50% of mobile subscribers)...

...used mobile financial services (such as mobile banking and mobile money). This represents an increase of 270 million people since 2019. Using mobile financial services helps to create employment opportunities, raise productivity and formalise the economy, contributing to SDG 1: No Poverty and SDG 8: Decent Work and Economic Growth.

The average SDG impact score improvement slowed in 2020 amid the Covid-19 crisis.



Progress cannot be taken for granted, especially with the pandemic undermining decades of development efforts. There are less than 10 years left to achieve the 2030 SDG targets and there is more to be done to accelerate the mobile industry's impact.

3.3 billion people
(64% of mobile subscribers)...

...used mobile to make video calls, aiding several online activities, including e-learning, telehealth and remote working. This represents an additional 440 million people since 2019. This supports the mobile industry's contribution to SDG 3: Good Health, SDG 4: Quality Education and SDG 8: Decent Work and Economic Growth.

2.3 billion people
(45% of mobile subscribers)...

...used their phone to purchase goods and services, representing an increase of 300 million since 2019. During the pandemic, more people used mobile to purchase food and other essential products and services as they became less comfortable handling cash.

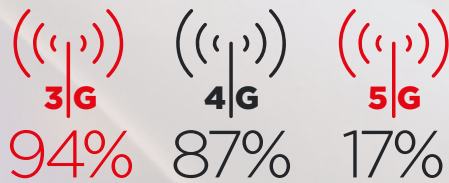


Net zero by 2050

The mobile industry is making continued progress on disclosing climate data (rather than performance) and setting targets for emissions reductions.

At the end of 2020, 69% of operators by connections and 80% by revenue disclosed their climate impacts, while 31% of operators by connections and 36% by revenue had set carbon reduction targets to be net zero by 2050.

The mobile industry achieves its highest impact on SDG 9: Industry, Innovation and Infrastructure, driven by the reach of mobile.



At the end of 2020, 3G population coverage reached 94% (equivalent to 7.3 billion people), while 4G population coverage totalled 87% (equivalent to 6.7 billion people). 5G networks covered 17% of the global population – with coverage above 80% in six markets.

Despite rising mobile data traffic, mobile networks delivered a 33% improvement in download speeds in 2020.



Rising 4G adoption, in addition to 5G take-up in pioneering markets such as China and South Korea, was the key driver of the improvement in mobile data speeds. This enables mobile to support a broad range of services, enhancing the industry's SDG impact.

Mobile operators played a pivotal role in keeping individuals safe and economies functioning in the pandemic.










Mobile operators have been proactive in reaching out to their customers, working with third parties to provide a range of vital services and utilising the power of mobile big data (MBD) to drive powerful analytical tools.

An important lesson from the Covid-19 crisis has been the importance of cooperation in tackling big issues in society.



Multi-stakeholder partnerships involving the public sector, NGOs and other industries are pivotal to the mobile industry's SDG impact. Collaboration must continue in order to accelerate progress against the SDGs.

The mobile industry and the SDGs – key milestones

| | 2016 | 2017 | 2018 | 2019 | 2020 |
|--|--|--|--|---|---|
|  Industry | Mobile industry commits to the SDGs Launch of EQUALS: The Global Partnership for Gender Equality in the Digital Age | Launch of the We Care initiative Launch of AI for Impact | Launch of the GSMA Mobile Money Certification Scheme The Humanitarian Connectivity Charter reaches 147 signatories in 106 countries | Digital Declaration published | More than 40 million women reached with mobile internet or mobile money from the Connected Women initiative |
|  Mobile broadband coverage | | 4G population coverage reaches 75% | 3G population coverage reaches 90% | 4G accounts for over 50% of total connections | 5G population coverage passes 15% |
|  Mobile adoption | | | 5 billion unique mobile subscribers | | 4 billion unique mobile internet subscribers |
|  Mobile financial services | | 1 billion people use mobile to purchase goods and services | | 2 billion people use mobile financial services | 1.2 billion registered mobile money accounts |
|  Life-enhancing services | | 1 billion people use mobile to monitor or improve their health | 1 billion people use mobile to access government services | | 2 billion people use mobile for educational purposes |
|  Gender equality | | | 1 billion women in LMICs use mobile internet | | 1 billion women use mobile to purchase goods and services |
|  Climate change | | | | The GSMA Board sets ambition for mobile industry to reach net zero carbon emissions by 2050 at the latest | 80% of operators by revenue disclose their climate impacts 65% have committed to a science-based target |



02

Impact of the mobile industry on the SDGs





Covid-19 has set the world back even further on the SDGs

The Covid-19 pandemic has derailed progress on the SDGs. Even before the Covid-19 outbreak in early 2020, the world was not on track to meet the 2030 targets. Although there were significant and important achievements in terms of poverty reduction, maternal and child health and gender equality, they were not happening fast enough. Furthermore, progress on other SDGs had either stalled or reversed, including reducing inequality, lowering carbon emissions and eliminating hunger.

While the full extent to which the SDGs have been knocked further off track is not yet known, findings from the most recent UN SDG report highlight some of the impacts thus far (see below).⁵

As a result, for the first time since the adoption of the SDGs in 2015, the global average SDG Index score decreased in 2020.⁶ Meeting the SDGs by 2030 will therefore require extraordinary efforts from governments, the private sector and citizens.

An additional 119 to 124 million people have been pushed into

extreme poverty

in the first increase in over 20 years.

Gender inequalities have been exacerbated, with violence against women and girls intensifying, child marriage increasing and women being disproportionately affected by increased care work at home.

Real GDP per capita

declined by 4.6%, with the equivalent of 255 million full-time jobs lost in 2020.

An additional 101 million children and youths fell below the

minimum reading proficiency level

amid widespread school closures, potentially wiping out the education gains achieved over the last two decades.

An additional 70–161 million people are likely to have

experienced hunger

as a result of the pandemic in 2020.

The **climate crisis** continued largely unabated, with the global average temperature around 1.2°C above pre-industrial levels. Concentrations of major greenhouse gases continue to increase despite the temporary reduction in emissions in 2020 related to lockdowns and other Covid-19 response measures.

The mobile industry was able to increase its impact across all the SDGs despite Covid-19 – but progress has slowed

The vital role that the mobile industry plays came into sharp focus during the pandemic. Billions of individuals have relied on mobile technology for virtually all aspects of their lives, providing access to a range of life-enhancing and, in some cases, life-saving services.

As a result, despite the pandemic, the mobile industry continued to make sustained progress against the SDGs:

- The average SDG impact score across the 17 SDGs increased to 50, up from 48 in 2019 and 33 in 2015, meaning the mobile industry is achieving half of what it could potentially contribute to the SDGs.
- There are now eight SDGs where mobile's contribution is over 50, compared to five in 2019 and none in 2015.
- Some of the biggest improvements were recorded in the industry's contribution to SDG 2: Zero Hunger, SDG 3: Good Health and Well-being, SDG 4: Quality Education and SDG 8: Decent Work and Economic Growth. This is due to the rising usage of mobile financial services, as well as the increasing proportion of people using mobile to make video calls and watch free video (which enables remote working and online education), improve or monitor their health, and access agricultural information.

At the same time, however, it is important to recognise that the industry is not on track to maximise its contribution to the SDGs by 2030⁷ and that the average score improvement slowed in 2020 amid the challenges of the Covid-19 crisis. Progress cannot be taken for granted, especially with the pandemic undermining decades of development efforts. There are less than 10 years left to achieve the 2030 SDG targets; the mobile industry and its partners must accelerate efforts to maximise the power of connectivity.



"The telecoms sector is a key player to building a sustainable, resilient and quality infrastructure. We are committed to developing the full potential of the internet and digital solutions in the service of the 2030 Agenda and significantly accelerating the achievement of the SDGs. We have a realistic opportunity to contribute significantly to a key project for the future of humankind, leaving no one behind."

Julio Linares López, Vice President, Telefónica



7 See 2020 Mobile Industry Impact Report: Sustainable Development Goals, GSMA, 2020

Figure 1 SDG mobile impact scores

Source: GSMA Intelligence



Measuring SDG Impact

This report applies the same methodology used in previous Mobile Industry Impact reports to measure the impact of the mobile industry across all 17 SDGs. For each SDG, an 'impact score' is calculated out of 100. A score of 0 means the industry is having no impact at all, while a score of 100 means the industry is doing everything possible to contribute to that SDG. The impact scores are underpinned by two enablers: connectivity and sustainable business practices. A more detailed description is provided in the SDG Impact Methodology document.⁸



Connectivity

(Consumers/businesses)

Providing connectivity drives the industry's impact on the SDGs

Operators deploy networks to connect the unconnected and facilitate access to mobile-enabled services. Connectivity can be broken down into three parts:



Coverage: The proportion of the population covered by a 2G, 3G or 4G network.



Adoption: The penetration of mobile and mobile internet services among the population. We also consider the adoption of IoT services across different consumer and enterprise verticals.



Usage: The percentage of subscribers that use mobile phones to access particular life-enhancing applications beyond communication, including digital finance, health and clean energy. We refer to these as mobile-enabled services in this report.



Operating responsibly

(Underpinned by sustainable business practices)

How operators incorporate sustainability into their business activity influences the SDGs

Operators have significant direct impacts, both positive and negative, on the SDGs through the environmental and social performance of their operations.

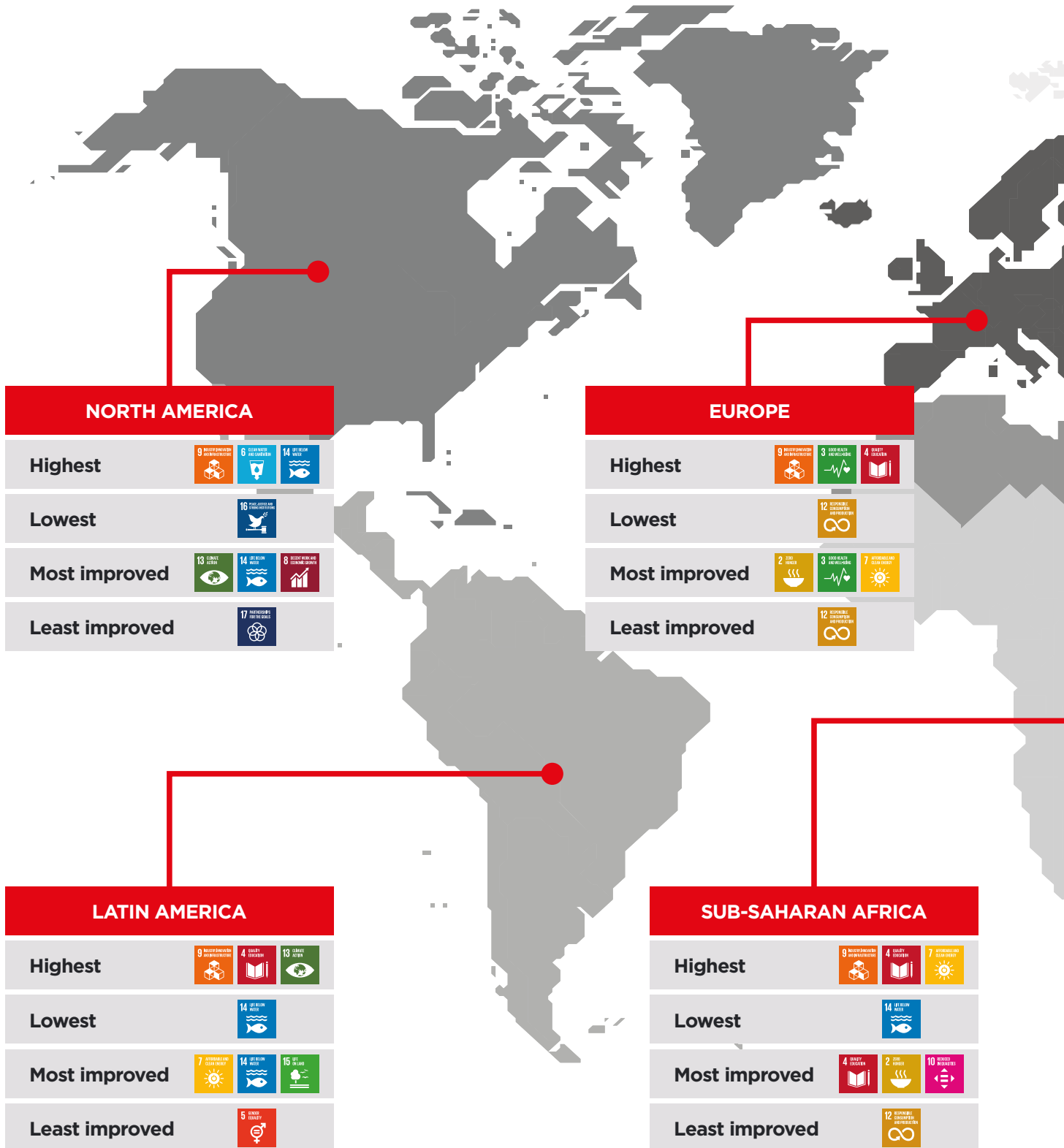


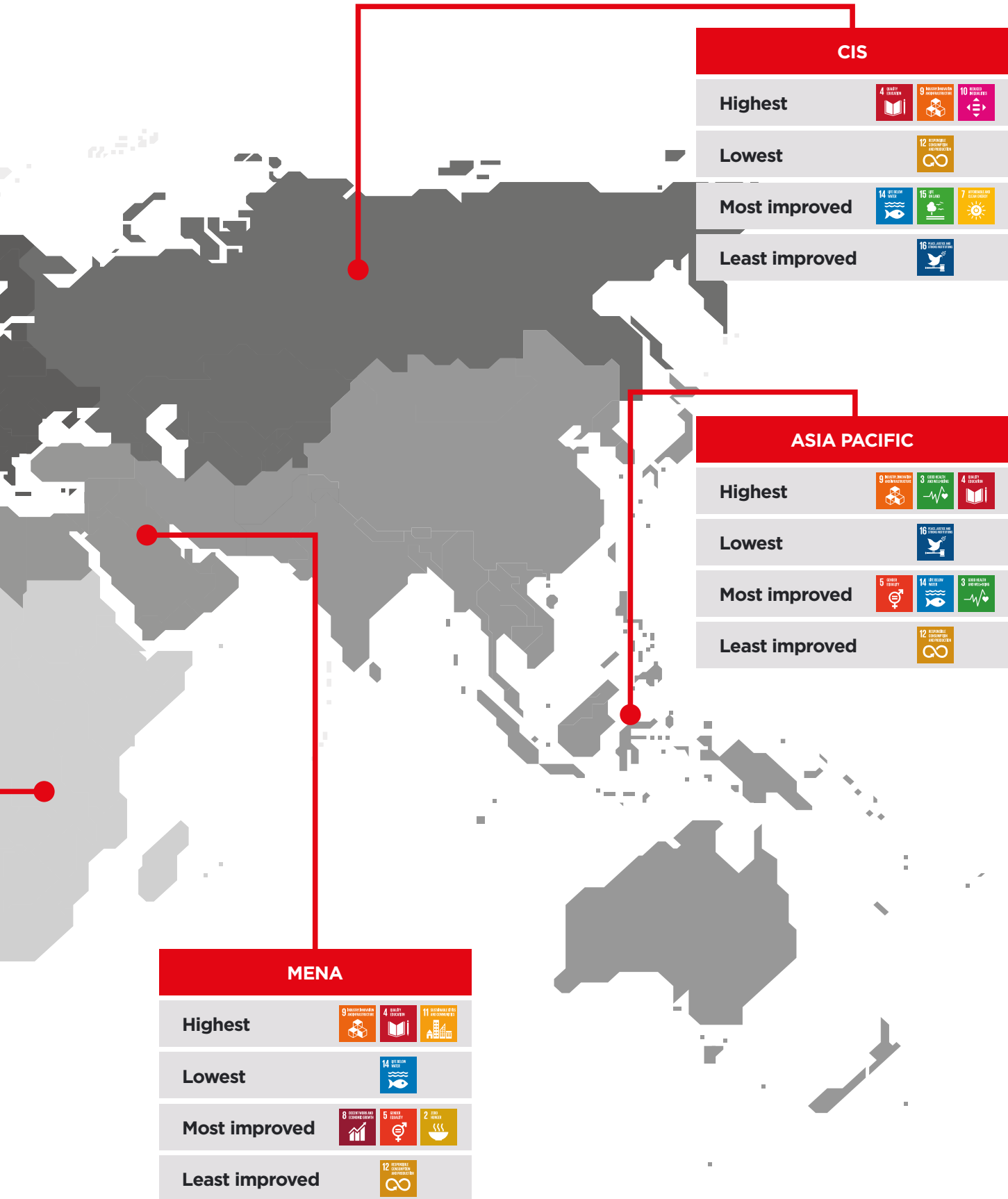
One pillar of the GSMA Sustainability Assessment Framework, 'Operating Responsibly', captures operator management and performance on key social, ethical and environmental sustainability issues within their own operations and value chains.

⁸ See www.gsma.com/betterfuture/2020sdgimpactreport

Figure 2 SDG impact scores rank and improvement rank by region, 2020

Source: GSMA Intelligence





ASIA PACIFIC

Most impacted



Most improved



More individuals are using mobile to improve and monitor their health by accessing telehealth services and other applications on their phones. Improvements to network quality enable mobile to support a broader range of services and applications, supporting the industry's impact across several SDGs.

| | 2019 | 2020 | 2019 | 2020 |
|--------------------------------|-------------|-------------|------|------|
| Using mobile to monitor health | 780 million | 880 million | 28% | 31% |
| Average download speeds | 18 Mbps | 36 Mbps | | |
| Average upload speeds | 8 Mbps | 11 Mbps | | |

COMMONWEALTH OF INDEPENDENT STATES (CIS)

Most impacted



Most improved



Increased mobile internet adoption allows users to access a range of mobile-enabled activities, from government services to mobile financial tools. More individuals are using mobile to improve education by accessing online materials and watching free video.

| | 2019 | 2020 | 2019 | 2020 |
|-----------------------------------|-------------|-------------|------|------|
| Mobile internet adoption | 170 million | 180 million | 59% | 62% |
| Using mobile to improve education | 130 million | 140 million | 55% | 60% |
| Using mobile to watch free video | 150 million | 160 million | 64% | 68% |

EUROPE

Most impacted



Most improved



An uplift in IoT health connections supports frontline teams during the pandemic through applications such as vaccine cold chain monitoring and PPE stock management. Increased usage of mobile to make video calls supports remote working and education, as well as telehealth services.

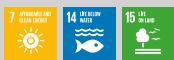
| | 2019 | 2020 | 2019 | 2020 |
|--|-------------|-------------|------|------|
| IoT health connections | 29 million | 35 million | | |
| Using mobile to make video calls | 280 million | 350 million | 60% | 75% |
| Using mobile to access government services | 260 million | 270 million | 55% | 58% |

LATIN AMERICA

Most impacted



Most improved



Increased adoption of smart building solutions facilitates emission reductions while improving safety and supporting economic growth. Using mobile to access agricultural information boosts agricultural productivity by providing farmers and fisherfolk with relevant advice.

| | 2019 | 2020 | 2019 | 2020 |
|---|------------|------------|------|------|
| Using mobile to access agricultural information | 18 million | 43 million | 4% | 10% |
| Average network latency | 60 ms | 51 ms | | |
| Smart buildings IoT connections | 31 million | 34 million | | |

THE MIDDLE EAST AND NORTH AFRICA (MENA)

Most impacted



Most improved



An uplift in smart city IoT connections increases safety and improves traffic flow, improving the health and environmental impact of cities. Increased use of mobile to apply and search for jobs improves employment prospects and helps to formalise the economy.

| | 2019 | 2020 | 2019 | 2020 |
|--|-------------|-------------|------|------|
| Using mobile to search for information | 150 million | 180 million | 38% | 42% |
| Using mobile to look/apply for a job | 100 million | 120 million | 24% | 29% |
| Smart city IoT connections | 23 million | 25 million | | |

NORTH AMERICA

Most impacted



Most improved



Growth in cellular IoT connections facilitates innovation across a range of industries, supporting mobile's contribution to several SDGs. Increased adoption of IoT manufacturing solutions improves business efficiency, supporting economic growth and responsible production.

| | 2019 | 2020 | 2019 | 2020 |
|----------------------------------|-------------|-------------|------|------|
| Cellular IoT connections | 186 million | 224 million | | |
| Manufacturing IoT connections | 69 million | 92 million | | |
| Using mobile to make video calls | 180 million | 210 million | 58% | 68% |

SUB-SAHARAN AFRICA

Most impacted



Most improved



Growth in 4G coverage provides more individuals with a tool to communicate and a platform to access life-enhancing services. Rising mobile money adoption enables a broad range of use cases, including PAYG energy solutions that allow households to purchase solar products and appliances.

| | 2019 | 2020 | 2019 | 2020 |
|-----------------------------------|-------------|-------------|------|------|
| 4G coverage | 40% | 49% | | |
| Using mobile financial services | 210 million | 240 million | 43% | 48% |
| Using mobile to pay utility bills | 140 million | 160 million | 30% | 32% |

03

**Supporting the
world to go digital**





Mobile has never been more important

With lockdown restrictions and social distancing measures in place, people relied on mobile networks to stay connected and access life-enhancing services, reflecting the importance of mobile connectivity to societies and economies everywhere. Consequently, mobile adoption continued to increase in 2020, despite the economic recession and its effects on consumer incomes. By the end of 2020, 5.2 billion people (67% of the global population) were using a mobile phone, representing an increase of 90 million people since 2019. In addition, four billion people (51% of the global population) were using the mobile internet, an increase of 220 million compared to 2019.

This underpins the mobile industry's contribution to an array of SDGs. For example, mobile technology contributes to SDG 1: No Poverty by driving sustainable economic growth, which increases household welfare and reduces poverty.

The importance of mobile connectivity during the pandemic is also highlighted by the sustained rise in mobile data traffic in 2020. The shift to online activities contributed to a 46% increase in traffic in the 12 months to March 2021 – in absolute terms, this was the largest increase in traffic over the last five years.⁹ Traffic growth in percentage terms was particularly high in developing regions, where mobile is the primary and, in many cases only, form of internet access.

Network resilience: the mobile industry's Covid-19 response

Spectrum resources made available by governments during the crisis contributed to the optimisation of mobile network infrastructure, which allowed operators to better serve the needs of communities and public services. Mechanisms included providing short-term licences to unallocated spectrum, expediting the issue of short-term/trial licences, extending deadlines for licence renewals and removing red tape and restrictions in areas such as spectrum sharing, as highlighted in the following examples:

- The Federal Communications Commission (FCC) granted AT&T and Verizon temporary access to unallocated spectrum while also permitting T-Mobile to temporarily access unused spectrum from Dish and others.
- Jordan renewed the already released short-term basis spectrum to mobile operators in capacity bands, sub-1 GHz and for fixed wireless access until the end of 2020 for free.
- The New Zealand government enabled the early release of 3.5 GHz spectrum via a direct offer for the reserve price, instead of delaying a planned 5G award.

In addition to providing access to more spectrum, regulators and governments introduced other measures to promote better connectivity by supporting additional investments. For example, Canada, Romania and South Africa delayed spectrum annual fee payments.¹⁰

⁹ Ericsson Mobility Report, Ericsson, 2021

¹⁰ For further information, see "Keeping everyone and everything connected: How temporary access to spectrum can ease congestion during the Covid-19 crisis", GSMA, March 2020

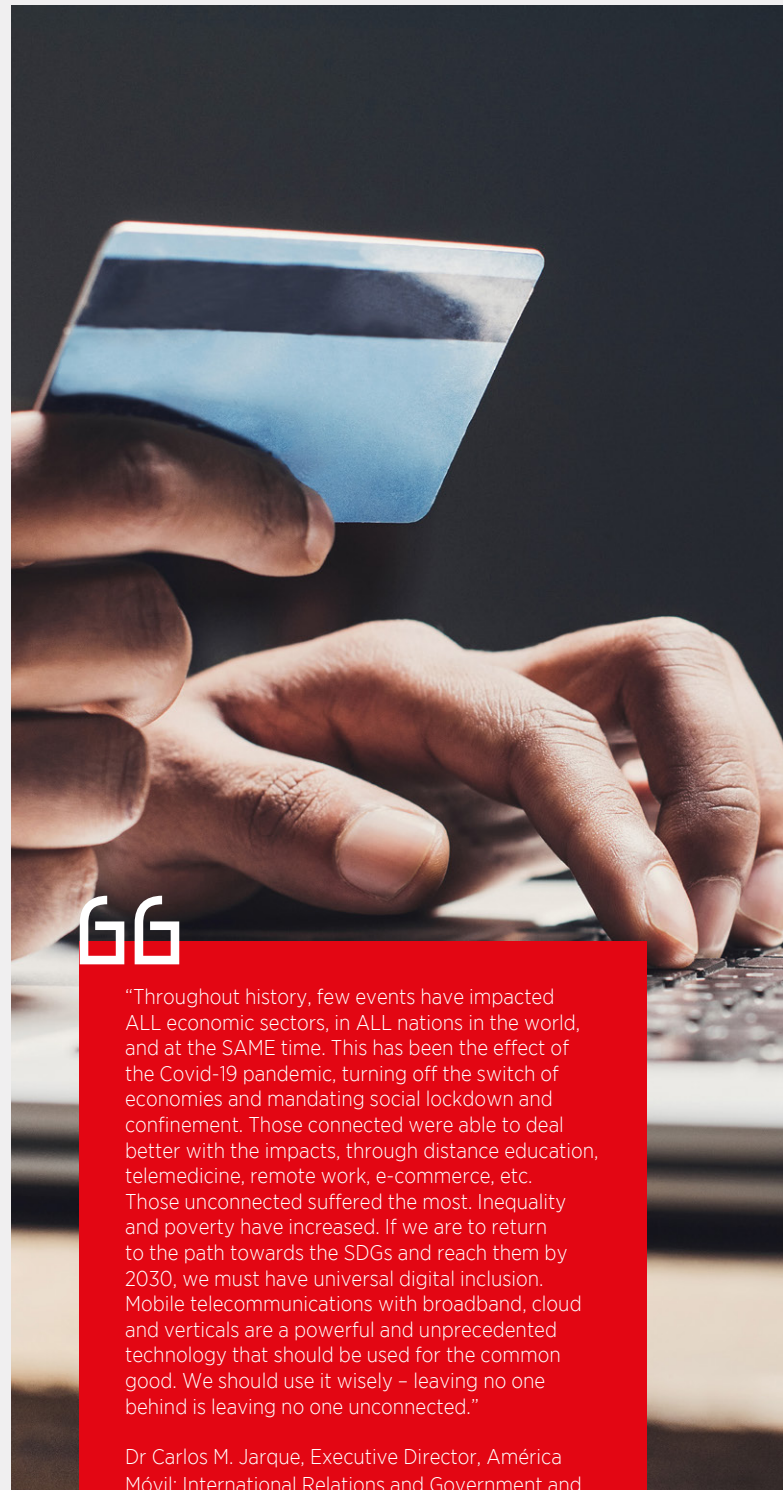
Usage continues to grow across key mobile-enabled services

The proportion of mobile subscribers engaging in activities on their phones relevant to the SDGs has grown over the years, driving the mobile industry's impact across multiple SDGs.

In 2020, the biggest uplift was in people using mobile phones to make video calls, with 3.3 billion individuals (64% of mobile subscribers) using their device for this purpose – an increase of 440 million people since 2019. As the majority of mobile phones have an in-built camera, they are well suited to video calling. This improves interactions across several online activities, including e-learning and telehealth, supporting the industry's contribution towards SDG 3: Good Health and SDG 4: Quality Education. Growth in video calling also contributes to SDG 8: Decent Work and Economic Growth, with many employees working remotely during the pandemic. To support this shift, mobile operators such as T-Mobile US have introduced new service plans, bundling connectivity with video conferencing tools and security applications.¹¹

The use of mobile to access free video also accelerated during the pandemic. An additional 270 million people used mobile for this purpose in 2020, meaning 61% of mobile subscribers (3.1 billion individuals) watched free videos on their mobile phones. Free video content is an important learning resource for many people, particularly in cases where individuals cannot afford to sign up to dedicated educational services. When schools closed due to the pandemic, average daily views of videos with 'homeschool' or 'home school' in the title increased by 120%, as people turned to YouTube to watch daily live-stream lessons and access lesson-planning tips from experienced home educators.¹²

Watching free video also supports SDG 8: Decent Work and Economic Growth, as it allows people to learn new skills that can boost household income. For example, during the pandemic, some women reported using free video platforms to learn sewing, embroidery and other trades to boost household income, especially in households where jobs had been lost due to lockdown measures.¹³



"Throughout history, few events have impacted ALL economic sectors, in ALL nations in the world, and at the SAME time. This has been the effect of the Covid-19 pandemic, turning off the switch of economies and mandating social lockdown and confinement. Those connected were able to deal better with the impacts, through distance education, telemedicine, remote work, e-commerce, etc. Those unconnected suffered the most. Inequality and poverty have increased. If we are to return to the path towards the SDGs and reach them by 2030, we must have universal digital inclusion. Mobile telecommunications with broadband, cloud and verticals are a powerful and unprecedented technology that should be used for the common good. We should use it wisely – leaving no one behind is leaving no one unconnected."

Dr Carlos M. Jarque, Executive Director, América Móvil; International Relations and Government and Corporate Affairs, América Móvil

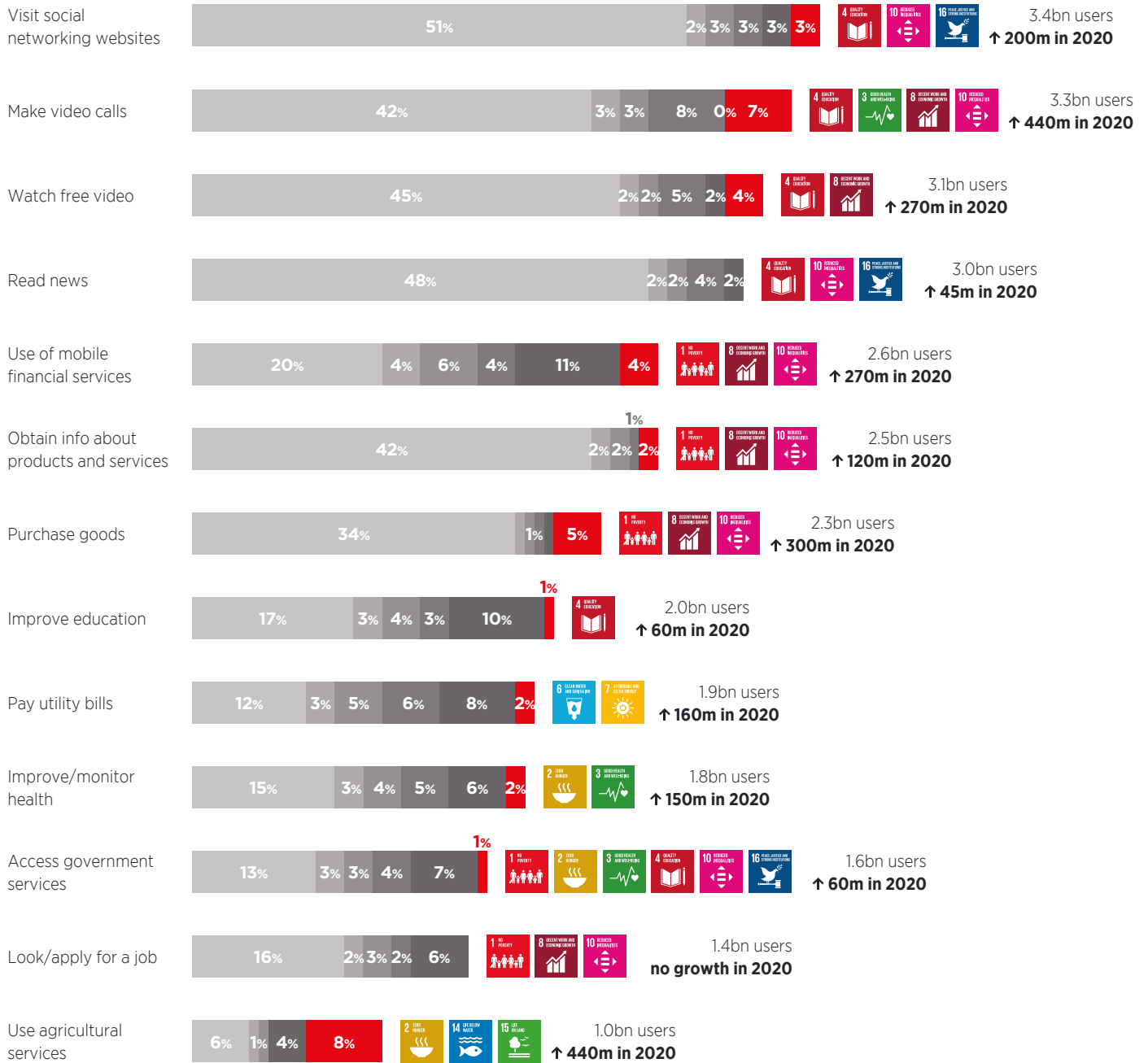
¹¹ "T-Mobile chases enterprise with latest Uncarrier push", Mobile World Live, March 2021

¹² "3 ways people are using YouTube to learn at home during the coronavirus pandemic", Think with Google, May 2020

¹³ The Mobile Gender Gap report, GSMA, 2021

Figure 3 Mobile usage by activity

Source: GSMA Intelligence



Data is sourced from the GSMA Intelligence Consumers in Focus Survey 2020, which has more than 50,000 respondents and covers 52 countries over the 2017–2020 period. The number of users is calculated by multiplying unique mobile subscribers by the percentage of survey respondents that performed a particular activity (e.g. reading the news) on a mobile phone. Unique subscriber data is sourced from GSMA Intelligence, combining data reported by mobile operators with the annual GSMA Intelligence Consumers in Focus Survey.

Cybersecurity: the mobile industry's Covid-19 response

The increased dependence on digital services during the pandemic emphasises the importance of mobile to several SDGs; however, the rise of Covid-19-related scams, phishing and fraud during the crisis underlines cybersecurity risks. To give individuals and businesses confidence to use online services, mobile operators have built up their cybersecurity divisions while partnering with specialists to provide support for small and medium-sized businesses.¹⁴ Operators have also produced free videos to warn customers of potential cyber fraud and offered advice on how to stay safe while connected.¹⁵ There is also a growing need for operators to help tackle false online information, pointing customers towards useful information on relevant issues from credible sources. As has been demonstrated in Pakistan, operators can utilise their own channels to steer customers towards verifiable information, such as links to government awareness campaigns on operators' websites.¹⁶

¹⁴ "WatchGuard and Deutsche Telekom Partner to Deliver Enterprise-Grade Security Solution for Small and Midsized Businesses", GlobeNewswire, April 2020
¹⁵ "Telcos issue advisory against fake messages promising free recharges", ET Telecom, April 2021
¹⁶ <https://jazz.com.pk/darna-nahin-bachna-hai>

Mobile improves access to digital health and education services

As the Covid-19 pandemic continues to cause major disruptions to health systems, mobile health solutions are playing a growing role in achieving SDG 3: Good Health and Well-being. An additional 150 million people used mobile to improve or monitor their health in 2020, taking the total to 1.8 billion (35% of mobile subscribers). Usage grew fastest in high-income Asia Pacific and Europe, where the proportion of subscribers using mobile to improve or monitor their health increased from 48% to 60% and 49% to 55%, respectively. In Sweden, the proportion of people using mobile for health purposes on a weekly basis increased from 25% to 33% of mobile subscribers in 2020. There was also growth in upper and lower middle-income countries. The number of weekly users increased from 28% to 37% of mobile subscribers in Russia and 6% to 11% in Kenya.

The mobile industry is supporting the shift to digital health in several ways. For example, mobile operators are providing connectivity and devices to new hospitals, testing sites and vaccination centres to aid frontline workers. There are also several operator initiatives that specifically leverage mobile technology to offer new ways of delivering healthcare. Vodafone has developed a smartphone app to speed up cancer and coronavirus research,¹⁷ while Telstra and Telus have built up considerable expertise in the healthcare vertical and offer a range of digital health solutions, including telehealth and remote patient monitoring.^{18 19}



“The pandemic has reinforced the importance of connectivity to the way we work; access healthcare and education; and stay in touch with friends and family. It has also shone a spotlight on the fact that not everyone has it – there is a digital divide. As we come out of the pandemic, I want to see us work together to tackle this divide; bring the benefits of connectivity to everyone; and do so in a way that is inclusive and protects our planet - harnessing the power of technology and innovation. I firmly believe we can connect for a better future.”

Ahmed Essam, CEO, Vodafone UK



“Mobile technology has never played such a critical role in our lives, providing access to education, healthcare, work, essential services and entertainment as the world continues to battle the Covid-19 pandemic. The ability to connect to the people and things we love, the services and information we need and the communities to which we belong is not just important; it’s vital to our existence and wellbeing. But, as we look forward, our future prosperity as an industry and our ability to drive collective action on the Sustainable Development Goals will rely heavily on us leveraging the benefits of technological innovation like 5G, Internet of Things and artificial intelligence so we are more digitally inclusive, and so we take greater accountability for our impact on individuals, on society and on the world in which we live.”

Andrew Penn, Chief Executive Officer, Telstra



¹⁷ <https://www.vodafone.com/vodafone-foundation/focus-areas/dreamlab-app>
¹⁸ <https://www.telstrahealth.com/content/telstrahealth/en/our-solutions/virtual-care.html>
¹⁹ <https://www.telus.com/en/health>

Mobile technology can also help with education through the dissemination of online content and support. In 2020, two billion individuals used mobile to access educational information for themselves or their children (39% of mobile subscribers). Growth was highest in regions where mobile is the primary and, in many cases, only form of internet access. For example, 100 million mobile users (38% of mobile subscribers) accessed educational services on their mobile phones in middle-income countries in Sub-Saharan Africa in 2020, up from 85 million (34% of mobile subscribers) in the previous year.

Mobile operators are supporting edtech startups by opening up APIs to integrate their communication channels (e.g. mobile voice, SMS, USSD) and mobile money services into e-learning platforms, such as Eneza Education, which reaches 300,000 learners per day.²⁰ While adoption of e-learning services has accelerated during the pandemic, these solutions fulfil a constant

need in many cases. For example, a study in Côte d'Ivoire showed that over two thirds of people intend to continue using e-learning solutions when schools re-open, demonstrating the ongoing importance of mobile technology to achieving SDG 4: Quality Education.²¹

While in many markets, especially higher-income countries, fixed platforms were more widely used for online schooling and education,²² but mobile solutions still played a key role, particularly for under-resourced students. In the UK, for example, 7% of households with school-age children do not have fixed broadband and 4% had access to the internet only via a mobile phone.²³ In 2020, an additional two million individuals in the UK used mobile to access educational information for themselves or their children on a weekly basis, taking the total to 11 million people - equivalent to 19% of mobile subscribers.

Health and education: the mobile industry's Covid-19 response

Several mobile operators offered customers free content, zero-rated access or additional data to ensure they could access digital health services during the pandemic. For example, MTN zero-rated a USSD line for reporting infections and for other critical information, and zero-rated two Ayoba Covid-19 channels for sharing updated news and information.²⁴ In Saudi Arabia, STC, Mobily and Zain offered free access to the Soha health application.²⁵

Mobile operators also supported students and their families during the pandemic. UK mobile operators

zero-rated popular educational websites, provided SIMs with extra data and distributed free devices.²⁶ Operators in other markets made similar contributions to SDG 4: Quality Education. In the US, AT&T committed \$10 million to support students in need with free hotspots and data plans, T-Mobile increased the data allowance to 20 GB/month for free to schools and students using its EmpowerED digital learning programme, and Verizon tripled its monthly data allowance for Verizon Innovative Learning Tier 1 middle schools.

²⁰ Scaling digital platforms through partnerships: The value of collaboration between mobile operators and digital platforms in emerging economies, GSMA, 2021

²¹ RECOVR Côte D'Ivoire: Tracking the Effects of the COVID-19 Pandemic, Innovations for Poverty Actions, 2020

²² For example, see Connected Nations 2020: UK report, Ofcom, 2020

²³ Online Nation 2021 report, Ofcom, 2021

²⁴ "MTN ramps up efforts to support customers and communities as COVID-19 spreads across markets", MTN, March 2020

²⁵ The Mobile Economy Middle East & North Africa 2020, GSMA, 2020

²⁶ "£940m of support from UK telecoms operators during Covid-19", Assembly Research, January 2021

Usage of mobile financial services and digital tools in agriculture accelerates in the pandemic

In 2020, the use of mobile financial services (such as mobile banking and mobile money) increased by 270 million people to reach 2.6 billion adults (50% of mobile subscribers). A shift to mobile financial services creates employment opportunities, raises productivity and helps to formalise the economy, contributing to SDG 1: No Poverty and SDG 8: Decent Work and Economic Growth. Mobile money services in particular have an important role in helping to close the gap in access to financial services in LMICs. Mobile money providers became an integral part of the national Covid-19 response in many markets, emphasising the importance of the mobile sector to SDG 1: No Poverty. The value of government-to-person (G2P) payments quadrupled during the pandemic as the mobile money industry worked hand in hand with governments and non-governmental organisations (NGOs) to distribute social and humanitarian payments quickly, securely and efficiently to those in need. Furthermore, international remittances also increased, as diasporas around the world used mobile money to come to the aid of those back home.²⁷

There was a strong increase in the number of people using mobile financial services to purchase goods and services, further supporting the industry's contribution to SDG 1: No Poverty, SDG 8: Decent Work and Economic Growth and SDG 10: Reduced Inequalities. An additional 300 million people performed this activity in 2020, reaching 2.3 billion individuals (45% of mobile subscribers), with more consumers turning to mobile financial services to purchase food and other essential products and services as they became uncomfortable handling cash in the pandemic. In the year to March 2021, M-Pesa's monthly transactions value grew by 64%, while MTN MoMo and Airtel Money recorded a 54% increase during the same period.²⁸ There was also an uplift in the use of mobile financial services to pay for goods in developed markets. In Japan, KDDI's smartphone prepaid card (au PAY Card) added 1.1 million members in the 12 months to March 2021, reaching 6.5 million members.²⁹



“We are determined to fulfil our mission by building reliable communication infrastructure that ensures communication services at all times and under any circumstances and establishing early recovery support systems. Offering new lifestyles centred on 5G technologies, we are striving toward the realisation of a resilient future society through co-creation.”

Makoto Takahashi, CEO, KDDI



Mobile financial services also play a key role in rural areas of developing countries. The pandemic has accelerated the adoption of mobile money among smallholder farmers, supported by moves from mobile operators and governments to waive fees, raise transaction limits and digitise agricultural subsidy schemes for inputs.³⁰ Mobile operators have also helped farmers during the pandemic by adding Covid-19 information to their existing advisory tools.^{31 32} In 2020, an additional 100 million individuals living in rural areas of developing countries used mobile to access agricultural information, taking the total to 340 million (18% of rural subscribers). This supports the industry's contribution to SDG 2: Zero Hunger, as well as SDG 14: Life Below Water and SDG 15: Life On Land.

²⁷ State of the Industry Report on Mobile Money, GSMA, 2021

²⁸ Region in Focus: Sub-Saharan Africa, Q1 2021, GSMA Intelligence 2021

²⁹ KDDI Financial Results for the Fiscal Year Ended March 2021

³⁰ COVID-19: Accelerating the Use of Digital Agriculture, GSMA, 2021

³¹ <https://dlg.dialog.lk/govi-mithru>

³² “Digital platforms have an important role in African agriculture”, Vodafone, February 2021

Financial services: the mobile industry's Covid-19 response

Mobile money played a vital role in delivering financial support and providing safe, no-contact ways to pay for food, electricity and other life essentials during the pandemic:

- A study led by the Cambridge Centre for Alternative Finance (CCAF), and supported by the GSMA, showed that close to half of all mobile money providers deployed additional payment instruments (e.g. QR codes, USSD) to support customers during the pandemic.³³
- Mobile money providers partnered with a range of humanitarian organisations to facilitate cash payments to the most vulnerable. The World Food Programme reports that mobile money accounted for 8.9% of its cash-based transfers in 2020, more than double the same figure in 2019.³⁴
- Mobile money providers worked in partnership with lenders to support customers affected by the pandemic. In Kenya, NCBA Group and Safaricom

gave M-Shwari customers more time to repay outstanding loan payments. Safaricom also worked with KCB Bank to set aside funds for digital loans for the SME sector.^{35 36}

Regulators responded to the pandemic with a variety of measures: waiving transaction fees; making KYC and onboarding requirements more flexible; declaring mobile money providers and agents an essential service; maintaining liquidity for agents; and enabling government social transfers to be disbursed directly to mobile money wallets.³⁷ These drove the digitisation of payments across many countries. However, some of these measures, if prolonged, pose risks and challenges to the sustainability of the mobile money industry. For example, the implementation and extension of fee waivers has had a negative impact on the core revenue stream of providers.³⁸ Regulators therefore need to engage closely with mobile money providers to ensure that services are sustainable in the longer term.

³³ Global COVID-19 FinTech Market Rapid Assessment Study, Cambridge Centre for Alternative Finance, 2021

³⁴ State of the Industry Report on Mobile Money, GSMA, 2021

³⁵ "NCBA and Safaricom offer reprieve to M-Shwari customers as the impact of COVID-19 takes effect", NCBA, March 2020

³⁶ "KCB sets aside Sh30bn for mobile loans over coronavirus crisis", Business Daily, March 2020

³⁷ Mobile money recommendations to central banks in response to COVID-19, GSMA, 2020

³⁸ Safaricom PLC H1 FY21 Investor Presentation, 2020

There is more to be done to make products and services available to everyone

Despite usage increasing across nearly all mobile-enabled services in 2020, there was a slowdown in growth across most activities compared to the previous year. This is one of the main reasons why the mobile industry's progress against the SDGs slowed in 2020.

The availability and accessibility of online services remains a key barrier to usage. For example, data collected for the 2020 UN E-government Survey showed that many countries and municipalities are pursuing digital government strategies. However, many governments continue to face challenges, including resource limitations and insufficient capacities or capabilities, especially in developing countries and countries in special situations.³⁹ This highlights that while connectivity is an important first step, there is more to be done to make products and services available to everyone.



“Covid-19 is a reminder of both the importance of achieving the SDGs and how our industry is uniquely placed to help address the world's biggest challenges through its scale and reach. We see our business operations as intertwined with our commitment to society and our responsibility to empower societies by promoting digital inclusion, increasing connectivity and building skills for a digital future.”

Sigve Brekke, CEO, Telenor



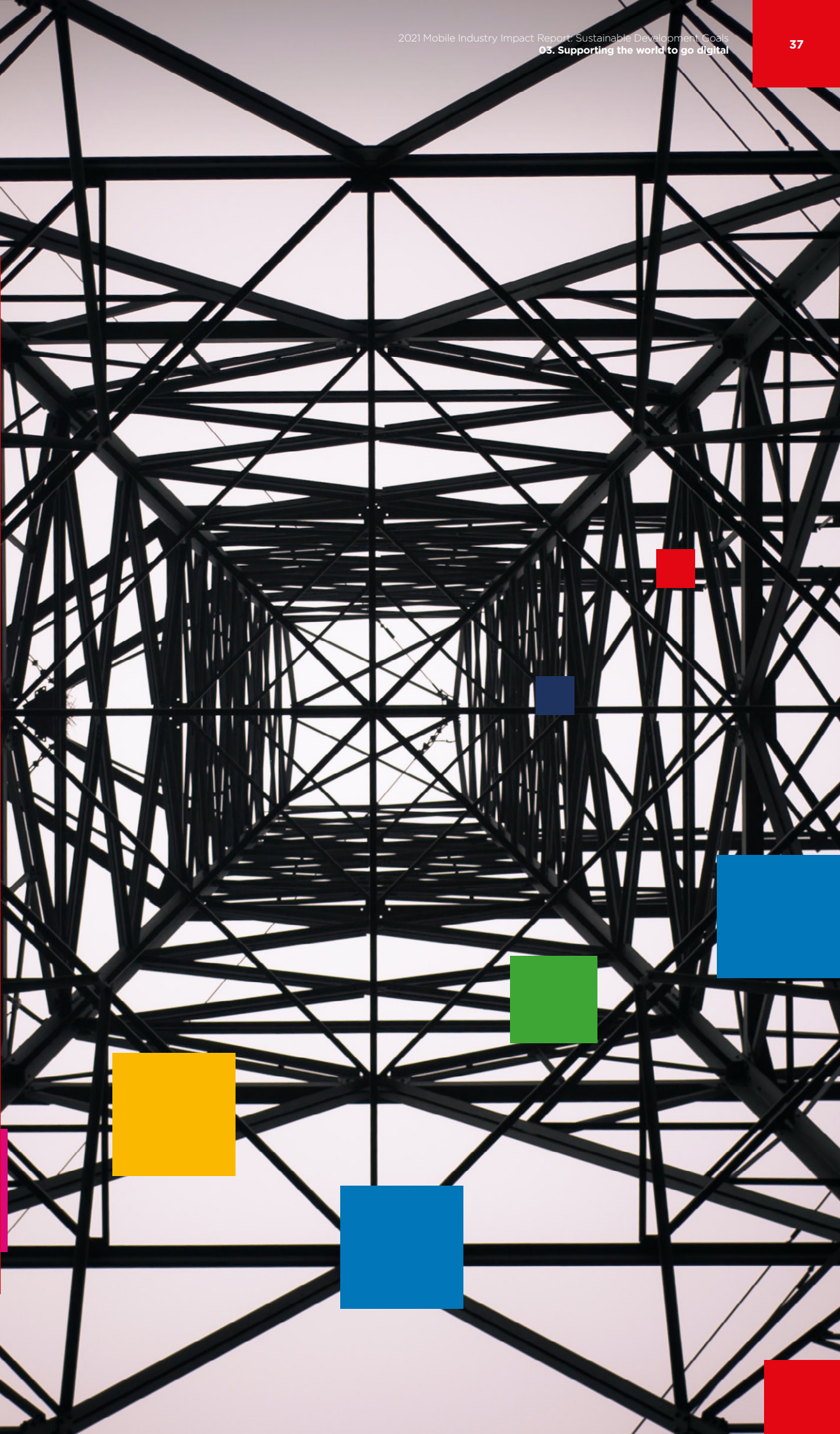
Actions to drive use of mobile-enabled services

- With the pandemic demonstrating the power of digital technologies to enable and enhance essential services, there must be a greater urgency to tackle barriers around affordability of devices and services, low levels of literacy and digital skills, a perceived lack of relevance, and safety and security concerns.⁴⁰
- There is a need to expand the availability of local content and services by creating an enabling environment for digital businesses to thrive, for startups to grow and for priority sectors and SMEs to execute digital transformation strategies. Governments should take the lead by accelerating the digitisation of public services, including e-government services, healthcare and education, taking a mobile-first approach.
- Concerns around data privacy and data security remain a barrier to greater usage. A renewed focus on protecting personal data is an opportunity to create smarter laws, which can help countries take advantage of the huge opportunity that digital transformation offers while also strengthening trust in technology. These should be guided by principles that protect personal data while offering flexibility instead of excessively prescriptive requirements, align with international data privacy frameworks and promote cross-border data flows.⁴¹

³⁹ E-Government Survey 2020: Digital Government in the Decade of Action for Sustainable Development, United Nations, 2020

⁴⁰ For further information, see "Accelerating mobile internet adoption: Policy considerations to bridge the digital divide in low- and middle-income countries", GSMA, May 2021

⁴¹ The Mobile Economy 2021, GSMA, 2021 UN Global Company Strategy 2021–2023, United Nations Global Compact, 2021



04

**Implementing
sustainable
business practices
in the mobile
industry**





Operator performance improves across several sustainability issues

To deliver the 2030 agenda, it is increasingly important for businesses to embed principles of sustainability in their ways of working. While mobile's SDG impact is principally driven by the provision of connectivity and services, operators also contribute to sustainable development through their business operations. This aligns with underlying notion of the Ten Principles of the UN Global Compact, which is that corporate sustainability starts with a principles-based approach to doing business. This means operating in ways that meet fundamental responsibilities in human rights, labour, environment and anti-corruption.⁴²

To better understand operator efforts in this area, the GSMA's Sustainability Assessment Framework assesses the social and environmental performance of operators in areas relevant to the mobile industry and considers how operators interact with society and respond to global challenges and opportunities.⁴³

A key part of the framework is the 'Operating Responsibly' pillar, which focuses on the extent to which a company manages and discloses performance on sustainability issues within its own operations and value chain.⁴⁴ This supports the industry's contribution to several SDGs, as highlighted in Figure 4, which compares the average scores for each sustainability issue based on the 25 operators assessed in 2019 and 2020.

The scoring criteria for the Sustainability Assessment Framework was updated in 2020 to reflect the growing expectations of stakeholders on issues relating to sustainable development. However, despite the scoring criteria becoming more challenging, the average operator score increased for 12 categories and declined in only two (waste and e-waste and tax transparency). This shows that mobile operators are being proactive and continually looking to improve their business practices.



"We continue to enrich the lives and experience of the communities we work and live in. Our industry has the capacity to transform many aspects of society, with digital innovation creating new industries, new ways of working, innovative products and services, and additional opportunities for people, whatever their circumstances. We recognise the importance of each of the 17 SDGs and have identified the highest priority SDGs for our business strategy, and we are taking action to support the SDGs and their specific targets in our business and across the wider community."

Olayan Alwetaid, Group CEO, STC



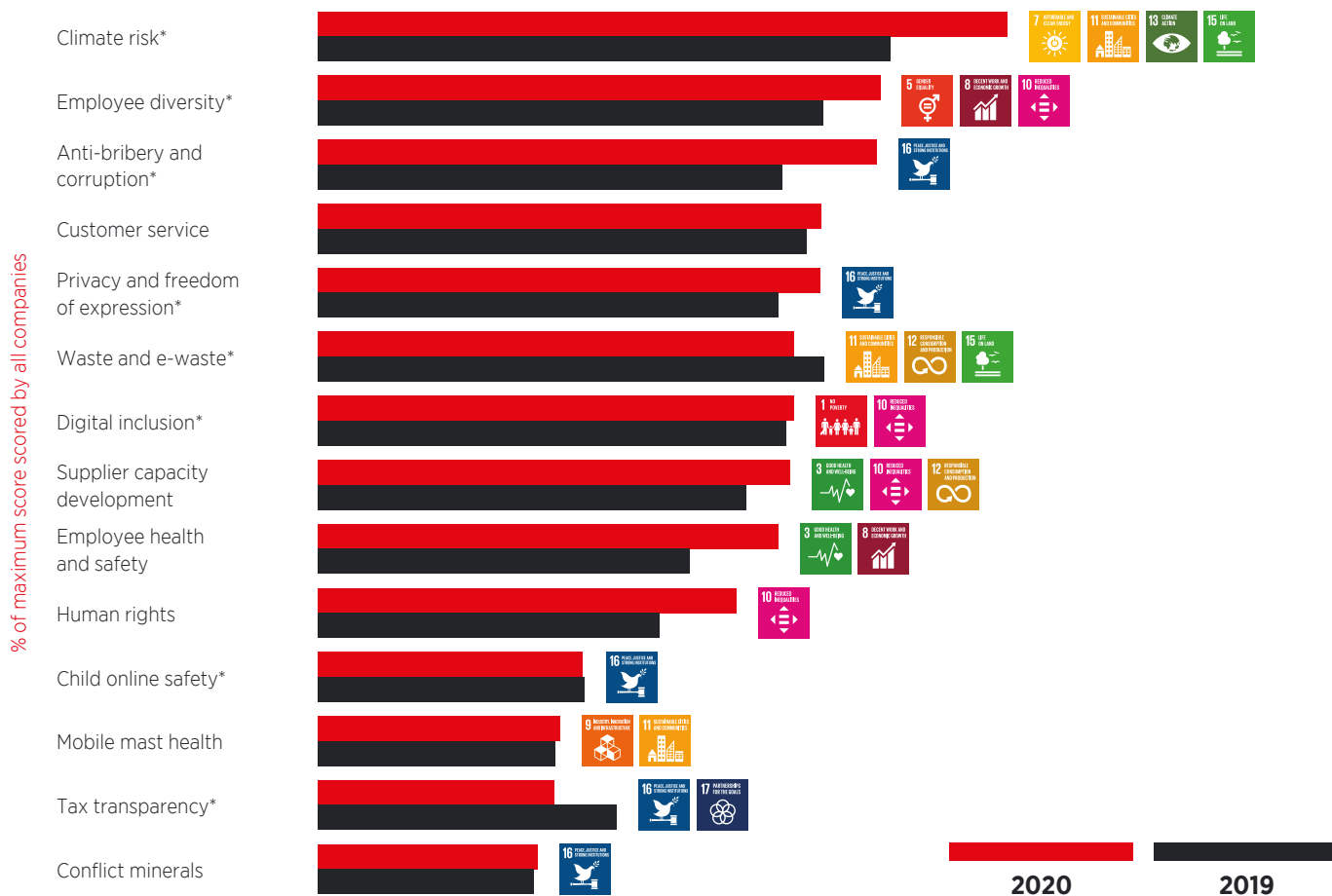
⁴² UN Global Company Strategy 2021-2023, United Nations Global Compact, 2021

⁴³ The Sustainability Assessment Framework assesses operators using publicly disclosed data, such as company sustainability reports, annual reports and other online communications. The assessments were conducted in summer 2019 and 2020 and reflects information available at that time (consistent with other data used in the SDG impact assessment). For further information, see results of the GSMA Sustainability Assessment Framework 2020.

⁴⁴ The scoring elements in this pillar are comparable to the indicators identified by the GRI and SASB standards, although they have been tailored specifically to the mobile sector.

Figure 4 Operating responsibly – key issues

Source: GSMA



* To reflect changing societal expectations, incremental changes were made to the scoring criteria in 2020 for these issues.

Sustainable Business Practices: the mobile industry's Covid-19 response

Mobile operators introduced new sustainable business practices to support key stakeholders during the pandemic. Several operators put in place new measures to support SMEs within their supply chain, such as introducing improved payment terms for vulnerable suppliers. For example, Telefónica allocated €75 million to suppliers, SMEs and self-employed individuals following the Covid-19 outbreak.⁴⁵

Mobile operators also implemented new measures to keep employees safe during the pandemic, pivoting to remote working where possible and adding specific measures for frontline staff. For example, Verizon introduced Covid-19 paid leave, family care assistance and enhanced pay for essential frontline employees.⁴⁶ Meanwhile, Telenor Pakistan supported the mental and physical health of its employees during lockdown by providing free access to telehealth service Sehat Kahani.⁴⁷

⁴⁵ <https://www.telefonica.com/ext/westayconnected/>

⁴⁶ <https://www.verizon.com/about/news/our-response-coronavirus>

⁴⁷ "Using technology to fight Covid-19: A spotlight on telemedicine start-up Sehat Kahani in Pakistan", GSMA, June 2020

Climate remains a key focus area for the mobile industry

Climate risk was the highest-scoring issue, as well as the most improved, reflecting the mobile industry's continued progress on disclosing climate emissions and setting targets for reductions. The mobile industry became one of the first sectors to set a milestone ambition – to transform the mobile industry to reach net-zero carbon emissions by 2050 at the latest. Following this, the UN's Race to Zero campaign declared the mobile industry had made a critical 'breakthrough' in early 2021, as more than a third of operators by revenue had committed to achieving net-zero emissions by 2050 or earlier.⁴⁸

At the end of 2020, 80% of operators by revenue disclosed their climate impacts, while almost two thirds of operators by revenue had set science-based targets to cut their carbon emissions rapidly over the next decade.⁴⁹ Switching to renewable energy will be essential in reducing carbon emissions, with BT Group, KPN, Proximus and others already powering their operations with 100% renewable energy. Overall, these moves to set targets and improve disclosure and performance help to drive the industry's impact on SDG 7: Affordable and Clean Energy, SDG 11: Sustainable Cities and Communities, SDG 13: Climate Action and SDG 15: Life On Land.

There were also improvements in operator performance across anti-bribery, employee health and safety and human rights, with additional operators identifying and addressing these issues in 2020 and several operators improving the quality of disclosures compared to the 2019 assessment. This supports the industry's contribution to several SDGs; for instance, initiatives by operators such as KPN, Telia and Telefónica to implement policies and commitments on human rights and improve their disclosure on these issues support SDG 16: Peace, Justice and Strong Institutions.^{50 51 52}



"With natural disasters, climate change or Covid-19, the daily life of many citizens of the world is being challenged in many ways. But we are not powerless. We are convinced that digitisation can help to tackle many problems. It is all about being closely connected, transferring vital data quickly and getting people together. It is also about reliability and responsibility: Deutsche Telekom wants to be the trusted partner for our customers and lead by example.

We have given ourselves very strong environmental targets to bring down the company's direct and indirect emissions to zero by 2025 and to be a net-zero company by 2040 at the latest by totally eliminating its carbon footprint. Further, we are committed to making the digital world a safer and tolerant space for everyone."

Dominique Leroy, Board Member for Europe,
Deutsche Telekom

While there were improvements in average scores across several areas, there was also a decline in two areas, including waste and e-waste. The scoring criteria for this issue was updated in 2020 to require operators to demonstrate management of both operational (i.e. internal) waste and consumer (i.e. external) waste streams to achieve the higher scores. To combat the rapidly growing amount of e-waste being produced,⁵³ mobile operators are actively engaging with and supporting new e-waste policies and legislation around the world and creating new reverse logistics supply chains to manage the flow of equipment for recycling.⁵⁴ Mobile operators are also working with device vendors to implement a new pan-industry point-of-sale labelling scheme to score the environmental impact of devices.⁵⁵ These initiatives help to maximise the industry's impact on SDG 11: Sustainable Communities and SDG 12: Responsible Consumption and Production by encouraging more sustainable device manufacturing and increasing awareness among consumers of eco-friendly initiatives.

⁴⁸ "Mobile sector declares climate action breakthrough", Race to Zero, April 2021

⁴⁹ Mobile Net Zero – State of the Industry on Climate Action, GSMA, 2021

⁵⁰ <https://www.overons.kpn/en/kpn-in-the-netherlands/sustainability/working-together>

⁵¹ <https://www.teliacompany.com/en/sustainability/responsible-business/human-rights/>

⁵² <https://www.telefonica.com/en/web/responsible-business/human-rights>

⁵³ Global E-waste Monitor 2020, United Nations, 2020

⁵⁴ Mobile Net Zero – State of the Industry on Climate Action, GSMA, 2021

⁵⁵ "European operators target phone sustainability", Mobile World Live, May 2021



Covid-19 reinforces the importance of sustainable business practices

The urgency of the crisis – along with the increased use of digital services and the steps taken to ensure business continuity – has impacted sustainability priorities in the mobile sector.⁵⁶ There is an overriding consensus on increased priority across six issues: digital inclusion; employee health and safety; supply-chain responsibility and supplier capacity development; child online safety; privacy; and climate risk. This could serve to improve the industry's contribution to the SDGs relevant to these issues as operators implement updated policies, systems and controls to reflect their new priorities.

“As societies continue to grapple with challenging pandemic impacts, it is encouraging how the global mobile industry has come together to accelerate digital adoption within our societies, and create inclusive solutions to support a swift socioeconomic recovery. Telcos anchored by strong ESG frameworks are better prepared to respond to struggles confronting communities and small businesses trying to get back on track. The SDGs are mission critical in guiding the industry forward with the right focus as we support revival and resilience through these unprecedented tough times.”

Dato' Izzaddin Idris, Executive Director, Deputy Group CEO, Axiata



Figure 5 Evolving sustainability priorities in the mobile sector following the pandemic

Source: GSMA

| Sustainability issues common to the mobile sector | Explanation of issue | Change in priority in response to the Covid-19 pandemic |
|--|---|---|
| Customer service | Identifying and meeting the needs of customers | ↗ |
| Child online safety | Protecting young people from threats and exploitation online and taking measures to protect children from sexual exploitation and abuse online | ↗ |
| Digital inclusion | Ensuring products and services are accessible to all members of society, including the underserved | ↑ |
| Privacy | Ensuring privacy risks are considered when designing new apps and services and developing solutions that provide customers with simple ways to understand their privacy choices and control their data | ↗ |
| Freedom of expression | Protecting the right of customers to access and publish content freely, and without deliberately causing harm to others' character and/or reputation by false or misleading statements | → |
| Anti-bribery and corruption | Policies, systems and controls to guide employee conduct and prevent breaches of anti-bribery and corruption laws | ↗ |
| Human rights | Recognising and actively protecting the human rights of employees and wider stakeholders in line with the UN Universal Declaration of Human Rights | ↗ |
| Tax transparency | Disclosure of tax policy, strategy and payments | → |
| Mobile mast health | Being compliant with electromagnetic fields and health-related policies based on established science | ↗ |
| Employee diversity | Measuring and promoting workforce diversity and preventing discrimination | ↗ |
| Employee health and safety | Practices for protecting the workforce in the area of health and safety | ↑ |
| Supply chain responsibility and supplier capacity development | Setting and applying standards for environmental, social and ethical practices and performance by suppliers and developing initiatives or programmes to increase the professional capacities of suppliers | ↗ |
| Waste and e-waste | Managing waste, e-waste and hazardous waste from production or use of products and waste returned by customers | → |
| Climate risk | Identifying and reducing environmental impacts and contribution to climate change and identifying and reducing exposure to climate risks | ↗ |
| Conflict minerals | Identifying and acting upon the use of conflict minerals in supply chains | → |

The arrow indicates the change in priority going forwards following the pandemic. ↑ Indicates much higher priority;

↗ indicates slightly higher priority; → indicates no change in priority.



Actions to accelerate the implementation of sustainable business practices

Interest from investors in the link between a company's financial returns and its management of ESG issues continues to grow, demonstrated by the rise of sustainability or impact financing. The fact that institutional investors are increasingly gearing capital allocations with climate covenants is a clear sign that sustainability is very much a part of a new normal in the corporate world. Mobile operators must recognise this and continue to adapt their business practices accordingly in order to secure future investments.

To drive sustainable business practices across the mobile industry, the GSMA highlights five essential building blocks that any company that wants to operate responsibly needs to consider: a sustainability strategy that aligns to the core business strategy; effective two-way stakeholder engagement; governance practices that 'set the tone at the top'; performance management, including goals and targets; and regular and transparent reporting.

05

Connecting consumers and businesses





The digital divide is still not closing fast enough

Although the 'coverage gap'⁵⁷ has been significantly reduced thanks to operator investments, the Covid-19 crisis has reinforced the impacts of the digital divide, with the unconnected less able to mitigate the economic and social disruption to their lives. Today, most of those who do not have mobile broadband coverage live in rural and remote areas, where the business case for expanding connectivity is most difficult. Mobile operators and their partners therefore continue to pursue innovations in network technology and business models to increase the commercial viability of extending mobile broadband networks.

Those who are unconnected are disproportionately poorer, less educated, rural, female and/or people with disabilities. Addressing the main barriers to mobile internet adoption and use therefore remains critical. These include affordability, knowledge and digital skills, relevance, safety and security, and access to enablers (e.g. electricity and formal IDs).⁵⁸

Mobile operators remain committed to reducing disparities in adoption between different user segments, supporting the industry's contribution to SDG 5: Gender Equality and SDG 10: Reduced Inequalities. For instance, Safaricom recently launched a smartphone financing



"The Covid-19 pandemic has not only accentuated the digital divide for the vulnerable in our communities but also provided us with the opportunity to dial up our support for the SDGs through digital enablement and inclusion for vulnerable seniors and disadvantaged youth with programs like Singtel Digital Silvers, Optus Donate Your Data and the Future Makers Social Innovation program."

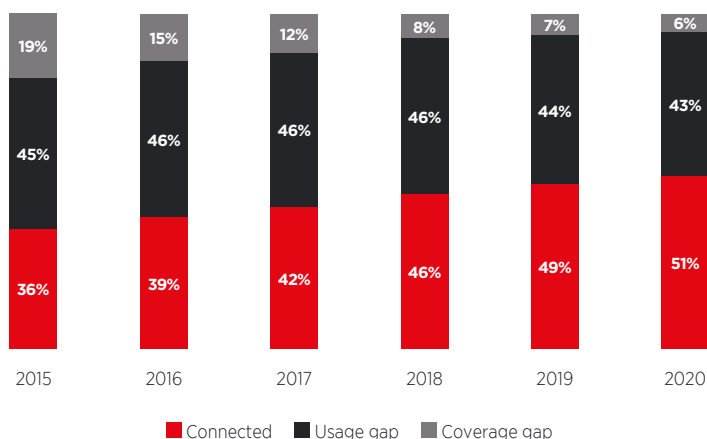
Yuen Kuan Moon, Group Chief Executive Officer, Singtel



project (Lipa Mdogo Mdogo) that allows customers to buy 4G-enabled smartphones and pay them off in instalments of KES20 (\$0.18) a day.⁵⁹ The daily, rather than monthly, payment option reflects the financial culture of low-income users, many of whom earn a daily wage and can only afford smaller payments on a regular basis. Other operators are also exploring smartphone financing initiatives. For example, Orange's Sanza Touch device, produced in partnership with Google, launched at \$30 and is available on a credit plan through the PayJoy app.⁶⁰ Initiatives like these can help to drive growth in mobile and mobile internet adoption in the short term among the world's poorest 40%, although more

Figure 6 The coverage and usage gaps

Source: GSMA Intelligence



- The 'coverage gap' continues to narrow and is now less than 500 million people (6% of the population), down from 1.4 billion (19% of the population) in 2015
- Africa accounts for around half of the people that do not live within the reach of either a 3G or 4G network
- The 'usage gap' – those who live in areas covered by mobile broadband networks but remain unconnected – stands at 3.3 billion

Base: Total population

Note: Totals may not add up due to rounding

Unique subscriber data is sourced from GSMA Intelligence, combining data reported by mobile operators with the annual GSMA Intelligence Consumers in Focus Survey. Coverage data is sourced from GSMA Intelligence, combining data reported by mobile operators and national regulatory authorities. Population data is sourced from the World Bank.

⁵⁷ The 'coverage gap' refers to those living outside of areas covered by mobile broadband networks.

⁵⁸ For example, see Accelerating mobile internet adoption: Policy considerations to bridge the digital divide in low- and middle-income countries, GSMA, 2021

⁵⁹ "250,000 Kenyans got a Safaricom smartphone on credit", Connecting Africa, August 2021

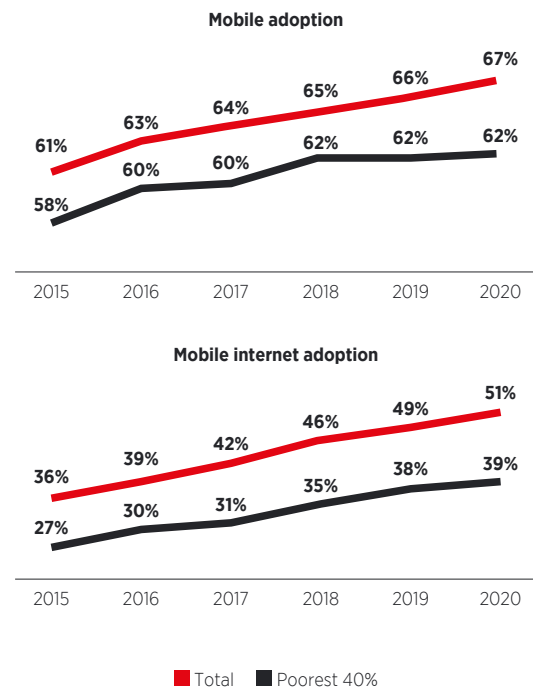
⁶⁰ "Orange CEO makes Africa plea, unveils \$30 smartphone", Mobile World Live, September 2020

sustainable measures are needed to address affordability barriers in the longer term. In 2020, there were 65 million new mobile internet subscribers and 34 million new mobile subscribers among the world's poorest 40%.⁶¹ However, the gap with the overall population did not improve, highlighting the need to accelerate adoption among the poorest 40% in each country.

The mobile industry also continues to make progress on reducing the gender gap in mobile internet, in support of SDG 5: Gender Equality. In 2020, 83% of adult women in LMICs owned a phone and 58% used mobile internet. The gender gap in mobile internet use stands at 15% (compared to 20% in 2019), with the reduction driven primarily by South Asia, where the mobile internet gender gap decreased from 50% in 2019 to 36% in 2020. However, in other regions – particularly the Middle East and Africa – the gender gap in mobile internet use has remained persistently high. The gender gap in mobile ownership is also proving difficult to close across LMICs. This highlights the need to intensify efforts to address the structural barriers and inequalities that underpin the mobile gender gap.⁶²

Figure 7 Mobile and mobile internet adoption*

Source: GSMA Intelligence



* Percentage of population connected.
Base: Total population

Keeping People Connected: the mobile industry's Covid-19 response

Operators implemented various measures to ensure that customers did not lose connectivity in the early days of the pandemic, including the following:

- Pledging not to terminate services in cases where users were unable to pay their bills due to disruptions caused by Covid-19.** In Chile, Claro, Entel, GTD, Movistar and VTR allowed users who could not afford to pay their telecoms bills to temporarily suspend their regular service charges and activate a free 60-day connectivity bundle to browse the web and access emails.
- Working with governments to support network resilience, and ensure affordability and access to vital connectivity.** Thailand's National Broadcasting and Telecommunications Commission (NBTC) set aside THB3 billion (\$90 million) to provide 10 GB of mobile data to eligible citizens.⁶³
- Waiving late fees, offering extra data and introducing new tariffs to keep consumers connected and ease the shift to remote working and learning.** In Bangladesh, Robi Axiata launched three special-assistance packs of 100 MB, 1 GB and 25 GB, while Grameenphone provided 10 crore worth of minutes for free to users who were unable to recharge their balances due to lockdown restrictions.

Despite positive outcomes, these measures pose risks and challenges to the sustainability of the mobile industry if implemented permanently. They should therefore be seen as temporary measures that have been introduced in exceptional circumstances, rather than long-term solutions to improving mobile internet adoption and use.

⁶¹ This calculation of mobile penetration takes into account the poorest 40% of population in each country (not the poorest 40% of the population worldwide).

⁶² The Mobile Gender Gap report, GSMA, 2021

⁶³ "Mobile users get 10GB perk from April 10", Bangkok Post, March 2020

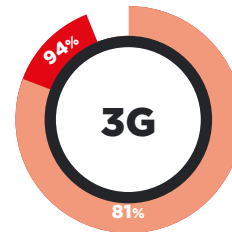
Higher-quality networks enable mobile to support a broader range of services

Despite the changes in traffic levels and patterns during the pandemic, mobile networks have shown notable resilience, emphasising the investment in network capacity by operators and the importance of mobile networks to SDG 9: Industry, Innovation and Infrastructure.

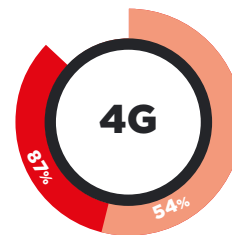
As operators deploy new infrastructure, individuals around the world are connecting to higher-quality mobile networks. 4G remains the most prevalent mobile technology with 4.6 billion connections, while 5G adoption reached 3% at the end of 2020, representing 240 million connections.

Figure 8 Mobile network coverage

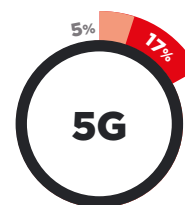
Source: GSMA Intelligence



Between 2015 and 2020, 3G population coverage increased from 81% to 94% (equivalent to 1.3 billion additional people covered)...



...while 4G population coverage grew from 54% to 87% (equivalent to 2.7 billion additional people covered).



Between 2019 and 2020, 5G population coverage grew from 5% to 17% (equivalent to 930 million additional people covered).

5G roll-out: the mobile industry's Covid-19 response

The rollout of 5G networks has continued unabated during the pandemic. With the launch of commercial 5G services in Latin America and Sub-Saharan Africa in mid-2020, 5G networks are available in every region of the world. At the end of 2020, 135 operators had launched commercial 5G networks across 52 markets, representing a rise of more than 80% compared to the previous 12 months. This boosts network capacity and paves the way for innovative services and applications, which can boost the industry's contribution to an array of SDGs. Moreover, 5G fixed wireless access (FWA) enables operators to meet the growing demand for high-quality home broadband, particularly in emerging markets.⁶⁴

The pandemic also served to increase the urgency of finding innovative solutions to improve coverage in rural areas. In the UK, O2, Three and Vodafone have signed a mast-sharing deal to improve 4G network coverage as part of the first stage of delivering a shared rural network (SRN), which will increase 4G coverage from 67% to 90% of the UK's landmass by 2026.⁶⁵ Mobile operators are also using new technologies to expand coverage, such as in Colombia, where Millicom plans to deploy the first 4G open RAN networks in Latin America, starting with 362 rural sites.⁶⁶

⁶⁴ 5G fixed wireless: a renewed playbook, GSMA Intelligence, 2021

⁶⁵ Shared Rural Network (SRN) consultation document, Department for Digital, Culture, Media and Sport, 2021

⁶⁶ "Millicom to launch open RAN network in LatAm", Mobile World Live, May 2021

Despite the increase in mobile data usage, average download speeds grew at a faster rate in 2020 compared with 2018 and 2019. This was driven by rising 4G adoption, as well as early 5G take-up in pioneering markets, such as South Korea and China. Both countries recorded average 5G download speeds of over 300 Mbps (10 times higher than the current 4G average download speed in those markets). This demonstrates how 5G can provide a significantly better customer experience and support a broader range of applications, which increases the mobile industry’s contribution across the SDGs.

Overall, mobile network performance has been a clear positive in the face of sustained traffic rises during the pandemic. Mobile operators have maintained their investment levels to improve coverage while supporting customers to upgrade to the latest network generations. Collaboration between mobile operators and policymakers has been vital. In addition to measures to improve the availability of spectrum resources, some policymakers have helped improve the affordability of mobile services by reducing right-of-way fees and other fiscal measures, and designated telecommunications as an essential service during lockdowns to enable operators to carry out necessary installation and maintenance on networks.⁶⁷

Figure 9 Proportion of mobile connections by technology

Source: GSMA Intelligence

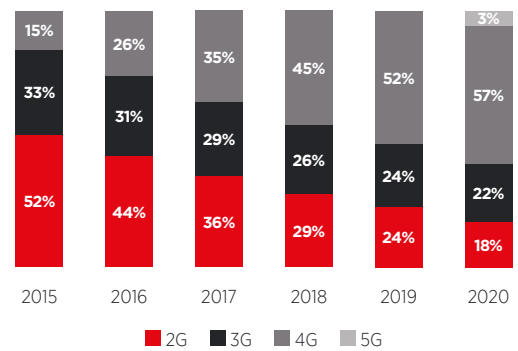
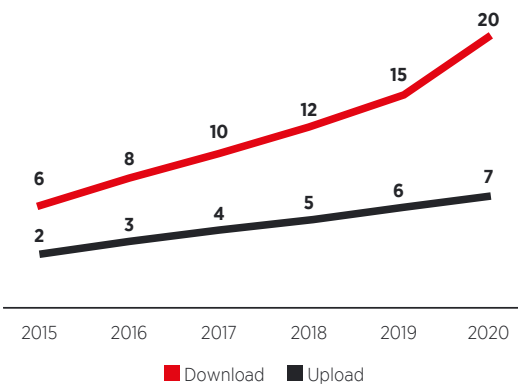


Figure 10 Average mobile download and upload speeds (Mbps)

Source: GSMA Intelligence calculations of data provided by Ookla® Speedtest Intelligence®



“The digital world has transformed more this past year than during the last 15 years and, with this accelerated global transformation, our role as digital service providers has become more central to the economy, society and global stability. At Jio, we take this responsibility very seriously. We remain focused on delivering equal access to information, education, health and opportunity, ensuring diversity, protecting the environment and safeguarding economic security.”

Mathew Oommen, President and Member of the Board of Directors, Reliance Jio



67 “Communications as an essential service during coronavirus (COVID-19) confinement”, CMS Law-Now, April 2020

IoT growth continues amid Covid-19 disruption

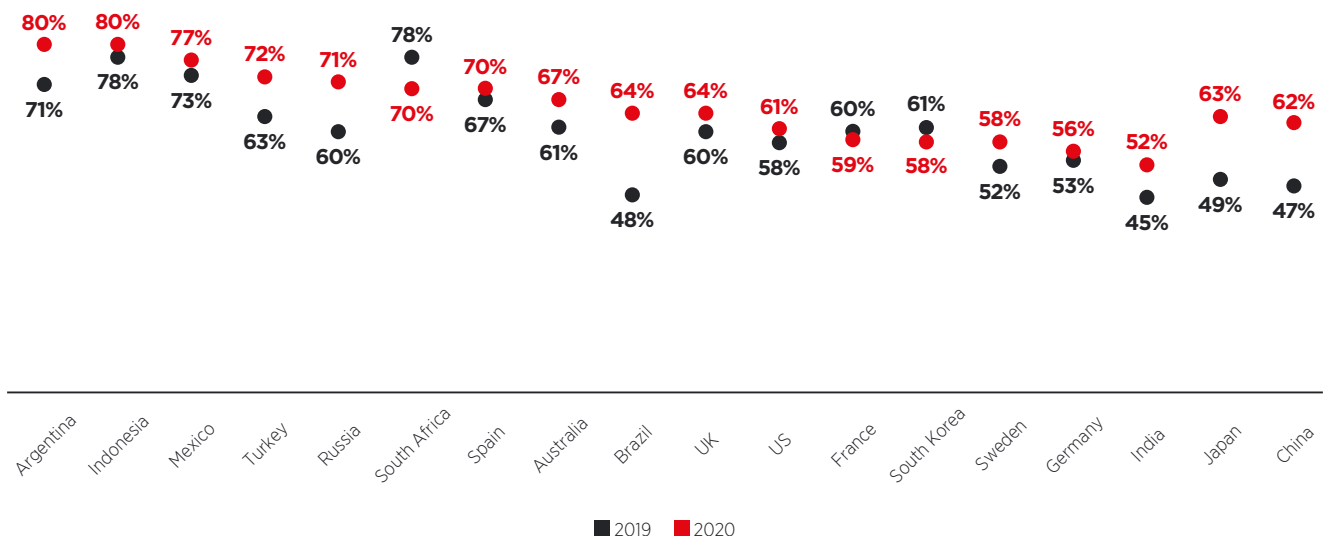
Despite the disruption of Covid-19, the total number of IoT connections continued to grow, increasing by almost one billion in 2020 to reach 13.1 billion connections worldwide. This helped to increase the industry's impact across several SDGs – for example, providing innovative solutions for the utility sector (which added 1.1 billion IoT connections in 2020) contributed to the industry's impact on SDG 6: Clean Water and Sanitation and SDG 7: Affordable and Clean Energy.

However, the growth in IoT was not as strong as had been expected prior to the Covid-19 outbreak. Enterprise IoT budgets have come under pressure from the slump in economic activity and disruptions to products and services supply chains. This has affected IoT sales volumes across multiple sectors, including connected vehicles, smart cities and smart buildings. Overall, there was a 21 percentage point reduction in the proportion of companies planning to deploy IoT within a year between 2019 and 2020.⁶⁸ Most of this change has been accounted for by enterprises with fewer than 250 employees.

Deploying IoT as part of a wider enterprise transformation agenda remains a top priority. Almost two thirds (63%) of enterprises globally are deploying IoT as part of a wider digital transformation agenda, as opposed to a standalone initiative, and this figure is even higher in developing markets such as Argentina (80%), Indonesia (80%), Mexico (77%), Turkey (72%) and South Africa (70%).⁶⁹ Mobile operators are playing a central role in the emerging IoT ecosystem. For example, in Argentina, Claro has partnered with 15 IoT and cloud companies, combining the mobile operator's connectivity, distribution and marketing expertise with specialised knowledge across different verticals.⁷⁰ The partnerships help to scale IoT solutions and highlight the opportunity to bring new technologies to developing countries, fostering innovation and industrialisation in support of SDG 8: Decent Work and Economic Growth and SDG 9: Industry, Innovation and Infrastructure.

Figure 11 The proportion of companies that agree IoT is being deployed as part of a wider transformation agenda rather than a standalone initiative, by country

Source: GSMA Intelligence Enterprise in Focus Survey 2020



⁶⁸ Enterprises speak: IoT gets real, GSMA Intelligence, December 2020

⁶⁹ GSMA Intelligence Enterprise in Focus Survey 2020

⁷⁰ The Mobile Economy Latin America 2020, GSMA, 2020



“Covid-19 revealed how critical connectivity is in our rapidly changing world. Now, more than ever, AT&T and mobile operators are focused on providing faster, more flexible ways for businesses and people to connect and innovate. 5G, fiber and rural broadband access are fundamental enablers to help ensure reliable access to educational and job opportunities in a post-Covid world. AT&T is focused on working with the GSMA, regulatory bodies and other mobile operators to help bridge connectivity gaps across the globe.”

Susan Johnson, Executive VP Global Supply Chain, AT&T



The pandemic accelerates the urgency of digital transformation in the healthcare sector

During the pandemic, healthcare service providers have relied on IoT to enhance service delivery and improve efficiency in the delivery of medical supplies. For example, IoT-enabled drones have been utilised to deliver medicines and other vital medical supplies, which could be particularly useful in developing regions with poor logistics infrastructure. Connected-drone company Swoop Aero is supporting the delivery of essential medications and vaccines to remote parts of the Democratic Republic of Congo, Malawi and Mozambique.⁷¹ Meanwhile, AT&T is powering a remote health solution from Cherish Health that uses an advanced biosensor to monitor a patient’s oxygen levels, temperature and heart rate.⁷²

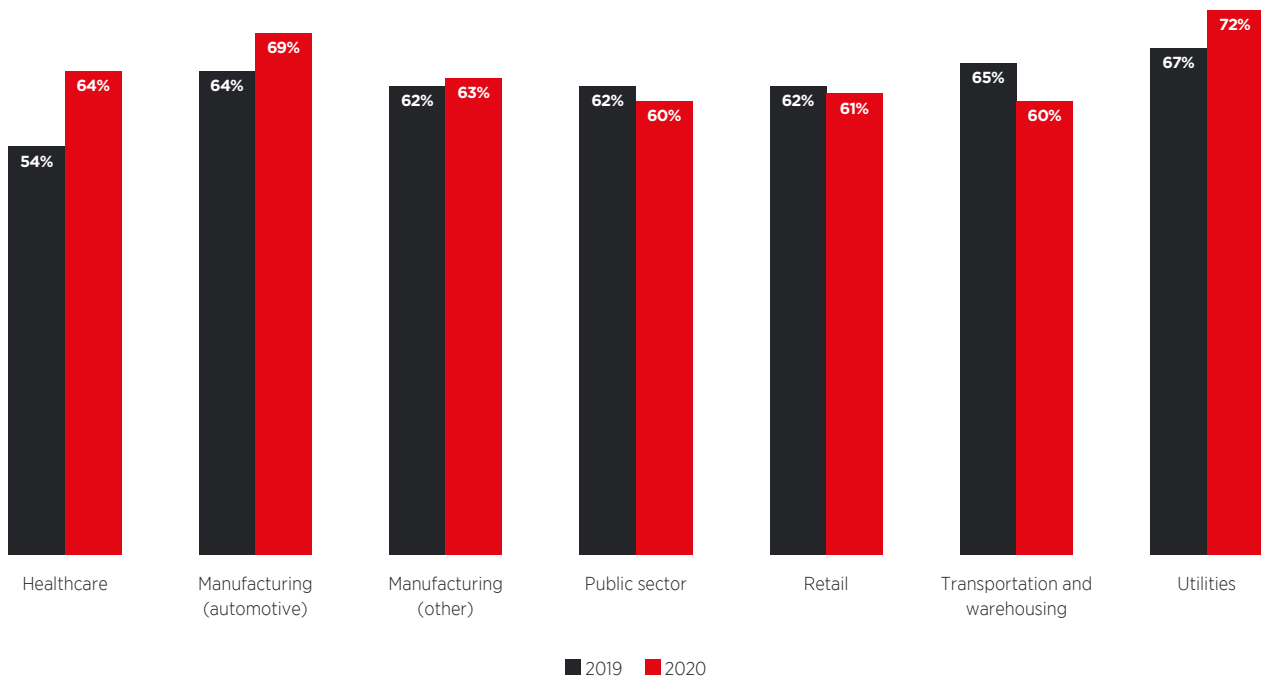
This period of accelerated experimentation appears to have increased demand for IoT solutions in the healthcare vertical. The proportion of healthcare organisations with further plans to deploy IoT increased by 10 percentage points in 2020 – twice that of any other vertical. As a result, IoT connections in the healthcare sector are expected to increase by 244 million between 2020 and 2025, reaching 537 million connections. This will help to optimise healthcare service delivery by providing the necessary infrastructure for the early detection of diseases through analytics, which supports the mobile industry’s contribution to SDG: 3 Good Health and Well-being.

71 “Swoop Aero expands African drone delivery networks”, Swoop Aero, April 2021

72 “AT&T and Cherish Health Team Up to Help Monitor COVID-19 Patients”, AT&T, May 2021

Figure 12 The proportion of companies with further plans to deploy IoT, by vertical

Source: GSMA Intelligence Enterprise in Focus Survey 2020



AI and Big Data: the mobile industry's Covid-19 response

The enormous amounts of data generated by mobile networks can be aggregated, anonymised, analysed, combined with data and information from other relevant sources and packaged into valuable products and services such as reports and dashboards. At various stages of the pandemic, mobile operators have used their MBD analytics and AI expertise to inform government response measures in at least 40 countries, including the following:

- **Argentina:** Telefónica Argentina partnered with the University of San Martín to develop The Citizen Mobility Index, an MBD and AI solution, to help governments monitor and control mobility flows during lockdown restrictions.
- **Japan:** KDDI provided its big-data analysis tool, KDDI Location Analyzer, to 47 regions of Japan. The tool enabled municipalities to understand mobility patterns using anonymised smartphone location data and certain demographic characteristics.
- **Norway:** Telenor has been providing mobility data on movement between Norway's 356 municipalities to the Norwegian Institute of Public Health's Covid-19 task force. This data has been utilised to inform modelling of the potential spread of the virus, to develop predicted incidence in each municipality and to simulate the number of hospitalisations, intensive care patients and deaths.⁷³
- **Europe:** 14 operators shared anonymised and aggregated data with the European Commission to support Covid-19 research and information for national health authorities.

⁷³ For further information, see Utilising mobile big data and AI to benefit society: Insights from the Covid-19 response, GSMA, 2021

IoT is playing a key role in supporting the low-carbon transition

While the mobile industry is currently responsible for around 0.4% of carbon emissions globally, it enables carbon reductions in other sectors that are 10 times larger, equivalent to approximately 4% of global emissions.⁷⁴ One area where the mobile industry can play a particularly important role is in decarbonising energy systems. For example, mobile operators can provide wireless connectivity, as well as platform and integration support, for new appliances and devices deployed by smart energy systems (SES), which combine energy generation and storage technologies with 'intelligent' applications, controlling and optimising their usage.

It is estimated that SES will prevent an overbuild of capacity worth 16,000 TWh of annual generation which, based on 2019's energy mix, will save emissions of 7.7 billion tons of CO₂, making it responsible for over 23% of global decarbonisation.⁷⁵ This highlights the importance of SES to halving emissions by 2030, which is needed to limit global overheating to 1.5°C. Moreover, the implementation of SES will lead to greater efficiency and a better use of resources, supporting the targets of SDG 12: Responsible Consumption and Production and SDG 13: Climate Action.



“China Unicom actively implements the concept of “innovation leads sustainable development”, adheres to the development strategy of saving resources and protecting the environment and promotes the continuous development of society and economy, while working with all partners to strive to achieve the Sustainable Development Goals and build together a beautiful home with lucid waters and lush mountains in the future.”

Mai Yanzhou, Senior Vice President, China Unicom



⁷⁴ The Enablement Effect: The impact of mobile communications technologies on carbon emission reductions, GSMA, 2019
⁷⁵ Smart Energy Systems: Connectivity for a zero-emissions future, GSMA, 2021



Policy actions to accelerate connectivity for the SDGs

- **Network resilience:** Governments and regulatory authorities have many levers to accelerate investment in mobile infrastructure. From access to sufficient, harmonised and affordable spectrum to reduced sector-specific taxation and streamlined deployment approvals, governments can set optimal conditions to unlock the investment required to move further and faster towards the digital future.⁷⁶
- **Economic recovery:** Governments around the world will put digital technologies at the centre of efforts to rebuild their economies after the pandemic. Continued network evolution and expansion will be essential to stimulating economic growth, mobilising the workforce and enabling new levels of industrial efficiency across various parts of the economy. Public funding can be applied to objectives that cannot be achieved purely through competitive, market-based activity – particularly where R&D or collaborative, cross-sector efforts are required.
- **Digital inclusion:** A comprehensive policy approach is required to improve mobile internet adoption and use as the pandemic exacerbated existing digital divides. Policy priorities should be determined based on a country's local context and level of digital development, which requires granular and reliable data. There is also a need to promote digital skills and education across all parts of society and expand the availability of local content and services.⁷⁷
- **Consumer trust:** When people use the internet responsibly and are confident that the digital environment is safe, private and trustworthy, they are more likely to realise the full benefits of a digitally enabled life. Working with industry to protect digital infrastructure and data from cyber threats is essential. Given the increased internet usage among children during the pandemic, it is important that mobile operators, governments and international organisations take the necessary steps to ensure young people can access the opportunities offered by mobile connectivity safely and responsibly. Parental controls, as well as online training and guidance for parents and teachers relating to child online safety, can play an important role.⁷⁸

⁷⁶ For more detailed recommendations, see Enabling Rural Coverage, GSMA, 2018

⁷⁷ Accelerating mobile internet adoption: Policy considerations to bridge the digital divide in low- and middle-income countries, GSMA, 2021

⁷⁸ Enhancing Children's Lives Through Mobile, GSMA and UNICEF, 2019



06

Conclusion





Accelerating the mobile industry's SDG impact

Mobile technology has been contributing to economic and social development for more than two decades by bringing connectivity into the palms of our hands. As the primary means of accessing the internet for billions of people, mobile is a key platform for economic development, financial inclusion, better healthcare and education, and many other life-enhancing services. Mobile connectivity is also fuelling the digital transformation of enterprises and fostering innovative solutions to support the transition to a low-carbon economy.

The importance of mobile technology has been put under the spotlight during the Covid-19 crisis, with operators playing a critical role in the response to the pandemic. Operators maintained network performance during lockdown restrictions, zero-rated access to health and education services and provided connectivity for new hospitals, testing centres and vaccination facilities, among other activities.

However, not all of the actions taken by mobile operators in the pandemic are sustainable in the long term. For example, operators have offered flexible payment options, higher data caps and discounts to ensure customers remain connected. This provided vital support to customers at a difficult time; however, it also constrained operator revenues, putting much-needed

investments in critical infrastructure at risk. This is also the case for the mobile money industry. The implementation and extension of fee waivers enabled more people to use mobile money services, but negatively impacted the core revenue streams of providers. Consequently, governments and regulators need to engage closely with mobile operators on their Covid-19 response strategies to ensure that the industry can continue to ease the burden of the pandemic on individuals and businesses.

It is also vital for governments and regulators to provide the best possible enabling environment for the mobile industry's SDG impact. For example, rather than looking for ways to increase revenues from the mobile sector through taxation and even higher spectrum prices – which would dampen investment and delay the economic boost that advanced connectivity delivers – the way forward is to attract investment that builds national economic competitiveness in digital infrastructure, digital skills and digital adoption across industry and society. Furthermore, preparedness for future crises can be enhanced by prioritising digital strategies that leverage e-government solutions and adopting best practices in digital infrastructure regulation (such as predictable and cost-effective spectrum allocation).

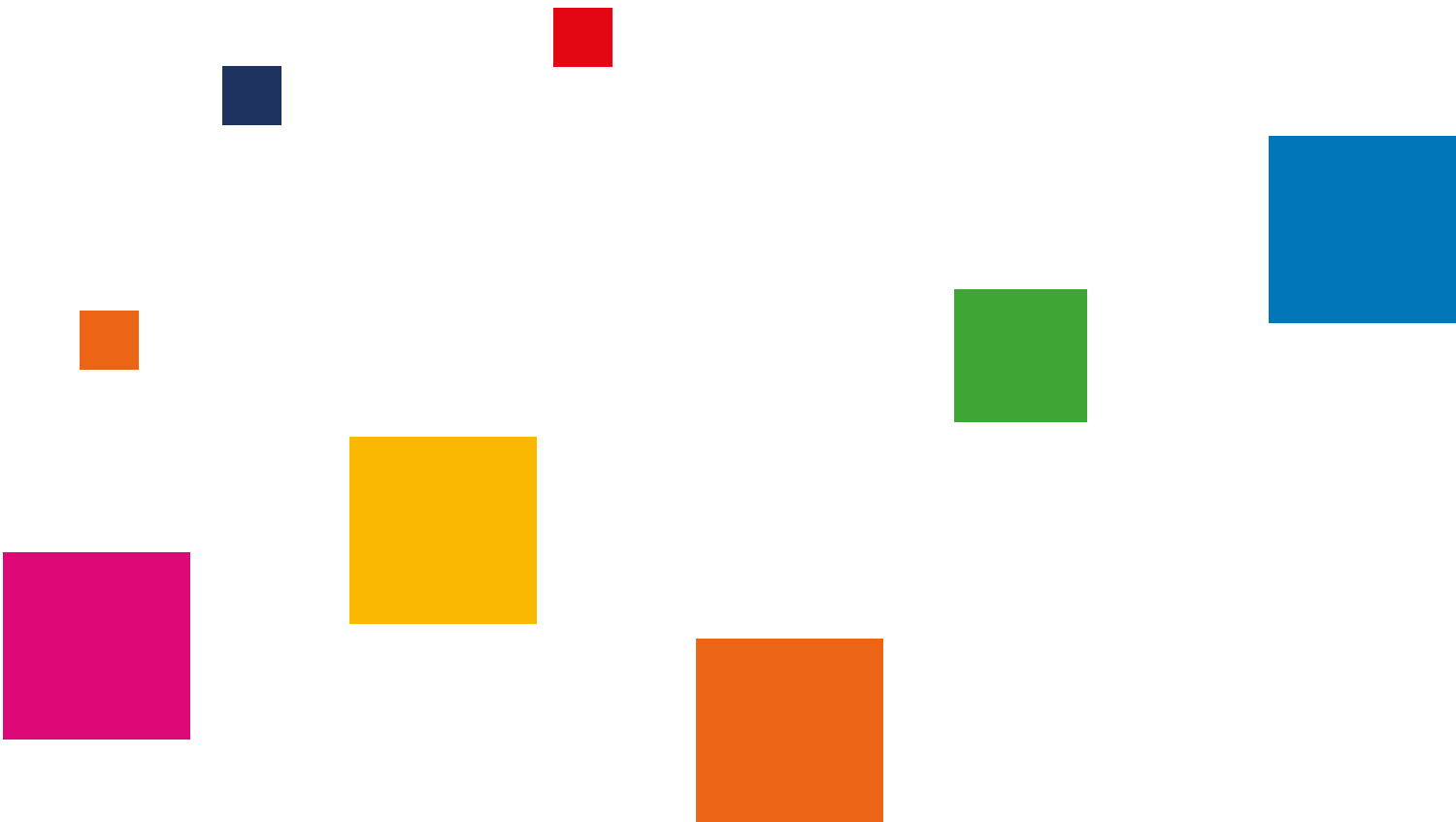


The importance of cooperation in tackling pressing issues in society

During the pandemic, mobile operators have worked closely with different organisations to minimise the disruption caused to people's lives, monitor the spread of the virus, inform public sector decision-making and build a more resilient and more sustainable society. For example, operators and governments have worked together to expedite spectrum allocation and remove restrictions in areas such as spectrum sharing in order to optimise mobile network infrastructure. This has enabled operators to better serve customers throughout the crisis, demonstrating the value of collaboration between governments and operators, particularly during unprecedented and rapidly changing situations. Mobile operators have also worked with the public sector, NGOs and other industries to address other challenges, such as by delivering remote learning solutions to address the global education crisis.

These partnerships are key to sharing expertise, maximising the chances of scaling viable solutions and avoiding the duplication of initiatives and related inefficiencies. The spirit of collaboration on display during the pandemic reflects the importance of SDG 17: Partnerships for the Goals, which aims to bring together national governments, the international community, civil society, the private sector and other players to drive sustainable development.

With less than a decade left to achieve the 2030 agenda, mobile operators and their partners need to come together to find new ways to increase mobile internet adoption, drive usage of mobile-enabled activities and scale IoT solutions to drive enterprise digitisation. Against the backdrop of the biggest public health, economic and human development crisis of a generation, there has never been a more important time to accelerate efforts to unlock the power of connectivity.





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