Essentials

- **Understood and appreciated**: the role of digital technologies in our economies and societies has never been so valued

- **Inequality exposed**: the extent and impact of the digital divide is clearer than ever – within developed economies, too

- **Turning crisis into opportunity**: global pandemic and economic recession are providing momentum for accelerated digital transformation

- **Provisional to permanent**: the immediate response to move life online has created new realities that need infrastructure, regulation and policy support to work long-term

- **Culture change**: the technology has been there for some time; necessity has moved the dial on political will and personal habits

- **Cooperation**: from public private partnerships to working across ministries, industry sectors and technologies and sharing international good practice, collaboration is key to building connectivity

- **Innovation**: AI, IoT, 5G and other emerging technologies are driving change, demanding investment – and deliver results best when working together

- **People power**: invest in digital skills from basic literacy to data science to equip the workforce and end users of the digital future

> Connectivity is the most effective tool in keeping people virtually together and physically distant.

Mohamed Maleeh Jamal, Minister of Communication, Science and Technology, Maldives

> The crisis caused by COVID-19 is a turning point for digital transformation.

Nguyen Huy Dung, Director General, Authority of Information Technology Application, Ministry of Information and Communications, Vietnam

> The outbreak forced digitization at scale on society, so everything related to ICT took year-long leaps in a matter of months.

Konstantinos Masselos, President, Hellenic Telecommunications & Post Commission (EETT), Greece

Top priorities for government

- **Work closely with industry** to establish key policy, financial and regulatory incentives to investment and network deployment in revised national digital strategies.

- Invest in **emerging technologies** – and in a mix of technologies and providers (fixed, mobile, satellite etc.) to produce impactful solutions. Digital transformation is multi-faceted and collaborative.

- Lead by example through **digitalization of government operations**, providing relevant local content, efficient and cost-effective services.

- Invest in people as the greatest resource of any country. **Digital skills** from basic literacy to coding and analytics underpin universal access and build a workforce for the future.

- Invest in tech **SMEs**, innovation hubs and training centres as the engine of inclusive social and economic growth.

Top priorities for industry

- Ensure **network capacity and resilience** through investment in infrastructure, new technologies and regulatory approaches to meet increased demand long-term, consolidate the move on-line and prepare for future crises.

- Work with governments to build **powerful public private partnerships**, identify key regulatory or financial measures and make the case for long-term investment and strategy.

- **Collaborate** and share knowledge with industry peers, regional and international organizations to establish and scale good practices.

- Work with **a range of technologies** and partners throughout the industry to build combined connectivity solutions for universal access.

- Invest in people: **digital skills** are critical to increasing end user numbers, nurturing new talent and meeting future labour requirements.

Read on for the full report

❝ Keep the momentum of this turning point in digital transformation.

3

Key findings

This first such high-level ITU meeting since the beginning of the pandemic brought together 27 speakers at ministerial level and 11 regulatory authority representatives, from across the globe to discuss the role of digital technologies in response to, and recovery from, the COVID-19 pandemic.

The impact of the crisis has been felt to differing degrees in all countries and companies. Immediate responses, mid-term measures and future strategies vary between administrations and organizations.

Three key findings, however, are common to all:

1. Digital technologies have never been so important – or so greatly appreciated

The digital infrastructure and services supporting economies and societies around the world has emerged from the shadows. Digital technologies are indispensable for the functioning of our economies, societies and individual lives. Access to information, business, work, education, healthcare, entertainment and communication all depends upon access to connectivity, devices and services. Those countries or governments which had already developed or deployed digital strategies prior to the pandemic were at a great advantage when the crisis struck.

2. The digital divide has been laid bare – between and within developed and developing economies

Understanding the significance of digital technologies in enabling us to live our lives is accompanied by the realisation that not everyone is able to do so. The divide between the digital haves and have-nots is stark. Many people in developing nations are unconnected, or do not have access to meaningful connectivity. To be meaningful, connectivity must be reliable, robust and fast enough for work, study, communication and entertainment; services and devices must be affordable; content must be relevant to context and in local languages; and users must be equipped with digital skills.

The pandemic has revealed fault lines not only between developed and developing markets, but within developed nations, too: between those able to continue working or studying online, and those forced to continue working in the outside world, not able to work at all, or suffering from reduced educational attainment; between those with access to critical public health messaging and medicines, and those without; and between urban and rural or remote, typically underserved populations.

The "digital divide" is now a term which resonates beyond the ICT and development communities.

3. The huge challenge of responding to the ongoing health crisis and its dramatic impact on the economy represents a huge opportunity

The momentum is with digital technologies and digital transformation. Governments now have an opportunity to use this momentum to build short-term emergency responses into mid-term socio-economic recovery strategies – and long-term transformation. Industry can use this window, where the critical importance of digital technologies, infrastructure and services is all but universally accepted, to stimulate investment, build partnerships with the public sector and accelerate deployment.

> "ICTs have proved vital in helping us to adapt and respond to the challenges of living, working and learning remotely, becoming essential to the recovery of our economy and social activities.

Nguyen Manh Hung, Minister of Information and Communications of Vietnam

Responses to the pandemic

Digital technologies played a critical role in responses to the global crisis across a range of sectors and areas of life. Network operators and service providers worked with governments to meet the sudden widespread increase in demand on network services – and government itself moved online with unprecedented alacrity.

Network usage increased between 20% and 100% around the world, challenging operators to maintain service, quality and coverage. Changing traffic patterns created further difficulties as throughput shifted from major urban centres to more dispersed, rural or remoter areas when many began working from home. Network operators, regulators and service providers came together in joint actions to ensure capacity, including monitoring usage, extending data caps, enabling infrastructure sharing, and temporary spectrum allocations or licencing changes. Consumer guidance was offered on using services efficiently; network engineers were prioritized as key personnel able to move around despite local or national lockdowns.

> The networks are coping in spite of challenges in voice and data traffic – connectivity now needs to be front and centre of policy concerns.
>
> Ulf Pehrsson, Vice President and Head of Government & Industry Relations, Ericsson

Governments introduced a range of measures to **extend connectivity to underserved populations**. These included assigning spectrum free of charge to mobile operators in exchange for service provision in rural areas; free internet access and devices to enable distance learning in underprivileged households; free wifi or data in public locations such as community centres or healthcare facilities; and ensuring continued access by ending the practice of suspending mobile services due to non-payment. Financial instruments to increase deployment featured the use of universal service funds, removing taxes on mobile phones, computers and peripherals to reduce costs to the end users, and partnerships with ISPs to provide affordable connections in poorer areas

Emergency responses to the pandemic **fast-tracked the digitalization of government services and operations**. The efficiency, convenience and cost-effectiveness of conducting government business, meetings and communications online at local, regional and national levels has raised awareness and proved the concept of digital transformation successfully and at speed. Some administrations have established working groups to consolidate the move to e-government, ensuring last-mile connectivity for strategic infrastructure such as ports, healthcare food distribution centres and creating extensive digital identification programmes to enable full citizen engagement online.

> "The role played by digital technology throughout the pandemic cannot be overemphasized — and it will be at the core of a safe and orderly return to normal, allowing the smooth provision of services through collaboration and partnerships.
>
> Mercy Wanjau, Acting Director General, Communications Authority of Kenya

> "COVID-19 is the first pandemic in human history where knowledge has been used on a massive scale to keep people safe, connected and informed at all times.
>
> Battsengel Bolor-Erdene, Chairwoman, Communications and Information Technology Authority, Mongolia

In **healthcare**, digital technologies provided secure public health information through dedicated websites, apps or messaging. Track and trace apps were developed to detect the spread of the virus and identify potential contacts. Aggregated data from operators was used to inform mathematical modelling and predict patterns of contagion in a range of countries. Telemedicine apps enabled the remote diagnosis and treatment of disease, including COVID-19; drones delivered medicines in rural areas difficult to reach by ambulance. E-health provided for safe communication between medical staff and patients during the pandemic, but highlighted further the dangers of the digital divide.

E-education was prioritized through measures such as free internet provision in schools, subsidized broadband for students, operator-funded discounts for students and teachers, and dedicated online platforms and satellite television channels to enable access to higher education.

The provision of accurate, timely public health updates has been critical in creating awareness and compliance. **Health information** campaigns have disseminated key messages and public service announcements throughout the pandemic via toll-free enquiry hotlines, mobile networks, reinforced customer service channels and free SMS services, often with the support of industry regulatory bodies. Underserved rural and remote areas without adequate connectivity were also in danger of suffering from a potentially life-threatening lack of up-to-date information. Increased use of digital technologies has also, however, led to the rise of misinformation, disinformation or fake news with respect to the virus, threatening trust in governments and public health authorities.

Consolidation and recovery

Accelerating investment in fixed and mobile broadband infrastructure is fundamental to providing quality of service to businesses and extending access to underserved populations. Connectivity must be accompanied by capacity development programmes ensuring that as many people as possible possess the correct skillset to flourish in the digital economy, especially in rural and remote regions.

Building meaningful and affordable connectivity to support critical services and close the digital divide is the single greatest priority. High-speed fixed and mobile broadband are essential to enable quality of voice, video and data service, speed and resilience for multiple use cases. Governments must provide clear legal frameworks and engage with the private sector on creating **business conditions conducive to large–scale investment** in infrastructure and the provision of digital services.

Government measures may include new funding approaches, reducing sector-specific taxation and adopting a technology-neutral culture to allow for hybrid connectivity solutions, leverage existing utilities and incentivise partnerships. Regulatory measures can ensure level playing fields in infrastructure sharing, open up rights of way, and allow for flexible, affordable spectrum allocation and licencing fees.

> **The mobile industry has the resources and ambition, and looks forward to working with you all in the new digital age.**
>
> Mats Granryd, Director General, GSMA

New regulatory approaches adopted on the hoof in response to the pandemic have forced digitalization at scale and speed – and must now be reviewed and integrated into effective long-term post-COVID frameworks. The regulatory mandate remains a balancing act between enabling access to services, promoting innovation and entrepreneurship, ensuring fair competition and supporting consumer rights. New regulatory guidelines must include digital privacy regulation to ensure the mutually beneficial flow of cross-border data, and internet usage strategies to guarantee the correct provision of services to all stakeholders.

Regulatory guidelines may be adjusted to support network resilience and serviceservice to enable efficient online commerce, work and study long-term, addressing devices, video conferencing platforms and network capabilities. Now is the time to prepare for future demand and ensure resilience in the face of future crises.

> **We need deregulation to make sure that pre-COVID regulations don't hinder the potential of technology and communication in real time.**
>
> Konstantinos Masselos, President, Hellenic Telecommunications & Post Commission (EETT), Greece

An increased focus on **cybersecurity** measures to protect data, networks and users is essential. The dramatic increase in online activity has led to a parallel rise in cyber attacks, up by as much as 20% year-on-year throughout the world. Critical infrastructure in governments, industrial systems and the financial sector remain vulnerable. The move to home working, where many of the protections of the office online environment and equipment are not available, and the creation and uptake of new services at scale, have also increased individual vulnerability to attack. Cybersecurity awareness programmes are needed at government, corporate and personal levels.

Digital skills development is central to human development. New partnerships for digital literacy and access to e-learning programmes will meet the need to bring the workforce on line, drive digital transformation and enable young people – in remote areas or developing markets in particular – to bypass the lack of infrastructure, transport or local opportunity and contribute meaningfully to economic growth.

Investment in new technology must continue apace to enable sustainable, efficient and resilient development and support growing demand. **Emerging technologies** such as Artificial Intelligence (AI), machine learning, edge to cloud technology, 5G and the Internet of Things (IoT) can drive economic growth and employment with innovative business models and cutting-edge solutions. AI tools will be used to predict, diagnose and prevent disease, including identifying future pandemics, forecasting and tracing spread, and implementing appropriate mitigation measures. 5G networks can enable incentives for investment and employment outside major urban areas. The scalability, cost-efficiency and agility of cloud services will be key to embedding digital transformation to deliver efficient telehealth, mobile banking, remote working and e-education solutions at scale.

> **Make technology, not wars.**
>
> Yoaz Hendel, Minister of Communications, Israel

The digital sector will be a significant source of growth and financial stability as economics are forced to **diversify** in the wake of the pandemic and the collapse of tourism, the single largest source of GDP in many developing markets.

Fostering the development of tech **small and medium enterprises** (SMEs) is important to transform economies, enhance digital capabilities and increase digital services for sustainable social inclusion. Tech SMEs are the engine for digital transformation and economic recovery at local level, in particular in rural areas.

> **It is time for integration. The time for silo operations is gone. Let us build the digital world as the new world.**
>
> Stella Ndabeni-Abrahams, Minister of Communications and Digital Technologies, South Africa

Accelerating digital transformation calls for **collaboration**. Neither government or industry can do it alone. Public private partnerships remain the principal vehicle for efficient development. International organizations such as ITU offer platforms for sharing knowledge, good practice and expertise, bringing governments and regulatory bodies together with industry, academia and civil society. Cross-ministerial and inter-regulator collaboration within individual administrations will increase the impact and timely delivery of policies in taxation, e-commerce and e-education.

> **Governments must catalyze development with policies supporting workforce development and change, championing cloud-first, emerging technologies and digital skilling to accelerate and harness the benefits of digital technology.**
>
> Jay Carney, Senior Vice President, Global Corporate Affairs, Amazon

Our digital future

The COVID-19 pandemic has led to a **major culture change**. The technological capacity for digital transformation has been present for some time: the political will, collective social mindset and individual habits necessary for change were missing. Forced online by the global crisis, industry sectors such as health, education and retail, governments, business and individual users have taken a great and unprecedented leap forward in digital usage, processes and policies.

> **"** To build the digital world is more about institutional reforms than technology.
>
> Nguyen Manh Hung, Minister of Information and Communication, Viet Nam

Demand for digitalization is high, as is recognition of the value of digital technologies in all aspects of life. Awareness of the digital divide, and the need to level the digital playing field, has never been higher. **This is a moment of opportunity in the midst of health and economic crises to harness political will**, embark on institutional reform and put digital and broadband at the centre of national policies.

Innovation and cooperation are key to seizing this moment and pivoting to digital.

> **"** We simply cannot continue to do business as before. Let us seize this opportunity to accelerate progress towards connecting all of humanity. Let us work across borders and sectors to build back better together.
>
> Houlin Zhao, ITU Secretary-General

Cooperation should extend across silos, public and private sectors, tech entrepreneurs and big business, competing technologies and government ministries. **Innovation** in emerging technology, in particular AI, IoT, 5G and cloud, should be supported by government and industry, and accompanied by innovation in business models and partnerships to accelerate deployment. **Cybersecurity** awareness and initiatives must be strengthened. Building **digital skills** throughout all levels of society is critical to enable distance learning, encourage businesses to move online and mitigate the negative impact of the economic crisis.

> **"** The crisis caused by COVID-19 is a turning point for digital transformation.

Technology is the bridge between people and nations at a time of deglobalization and worldwide economic recession. Now is the time for governments to turn successful provisional measures into long-term digitalization, redesigning accelerated national digital strategies. Now is the time for industry to exploit the new global awareness of the importance and potential of connectivity and make the case for long-term investment and strategy. Now is the time to build a truly global, resilient and inclusive digital future.

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