

INSIGHTS

Issue **FOUR**

Universal Digital Access Already a Top Global Priority, Now More Urgent Due to COVID-19

"We recommend that by 2030, every adult should have affordable access to digital networks, as well as digitally-enabled financial and health services." - The Age of Digital Interdependence, United Nations Report

The world is undergoing an extraordinary technological revolution in satellite and high altitude communications. A dramatic increase in broadband capacity across the globe, spurred by new technologies, (including recent innovations in broadband High Altitude Platforms (HAPs)), is bringing the promise of reliable and affordable broadband connectivity to the hardest-to-reach corners of the Earth. At the same time, now accentuated by the global COVID-19 crisis, HAPs are also positioned to enable new capabilities and applications in areas already connected to the global network, helping drive down access costs for many people.

The fact remains though, that over 3 billion people do not have access to the Internet today, and are essentially cut off from modern society and all the benefits of health, education, equality and financial stability and advancement that it can bring. Due to their coverage, reliability, mobility, and flexibility, these new space-based technologies represent an important solution for expanding the reach and density of the global Internet, and achieving the Sustainable Development Goals (SDGs).

As detailed in the following pages, the SDGs are the world's shared plan to end extreme poverty, reduce inequality, and protect the planet by 2030. Adopted by 193 countries in 2015, the SDGs emerged from the most inclusive and comprehensive negotiations in UN history and have inspired people from across sectors, geographies, and cultures. Achieving the goals by 2030 will require heroic and imaginative effort, determination to learn about what works, and agility to adapt to new information and changing trends. (Continued on Page Three)



issue four FOCUS

Avealto's Mission: Avealto is developing lighter-than-air, solar-powered, uncrewed High Altitude Platforms (HAPs) to provide telecommunications infrastructure around the world.

Avealto will provide connectivity to unserved and underserved regions, mobile operators and the maritime industry. Each of Avealto's HAP vehicles will remain in a stationary position at an altitude of 20 km to 22 km (65,000 to 80,000 feet).

Issue Four focuses on HAPs' role in helping achieve the aggressive goals of the UN 2030 Sustainable Development Goals (SDGs) while creating a new, innovative and cost-effective solution towards connecting the 3B people who today do not have access to the Internet.



“ Satellite and high altitude systems offer significant advantages for expanding broadband coverage in developing countries. In addition to their broad coverage, versatility, and reliability, deployment of these systems can be relatively quick, cost-effective, and environmentally responsible.

Satellite and high altitude communications, including HAPs, are driving solutions essential to meeting the SDGs and helping make smart societies a reality in both developed and developing countries.”

- Rupert Pearce CEO, Inmarsat
Broadband Commission for Sustainable Development

Where will the Next Billion Internet Users come from?

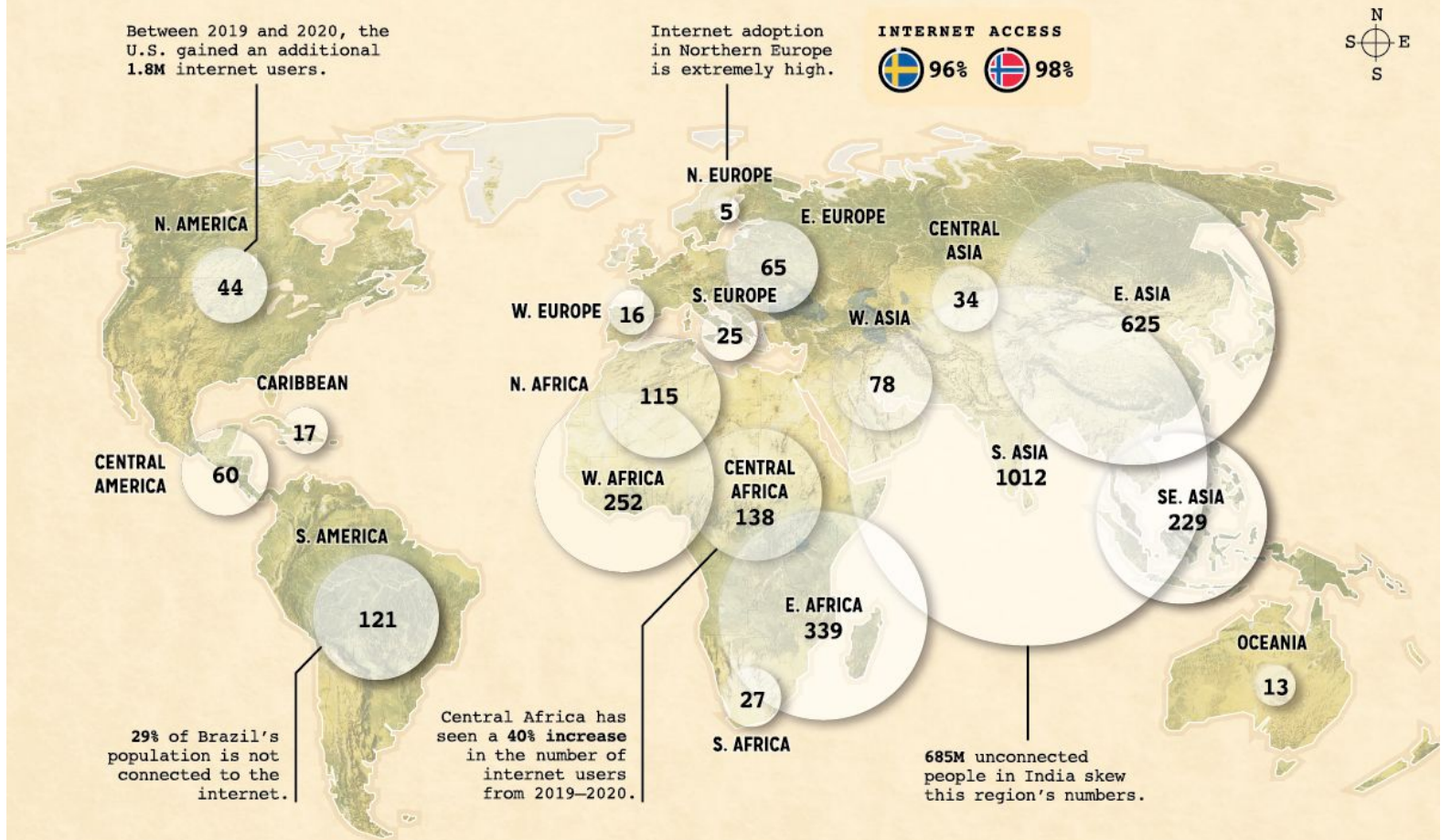


Over the years, internet adoption has steadily increased worldwide.

However, a significant portion of the population remains unconnected to the world wide web, and there's still a long way to go before we reach full connectivity.

Here's a snapshot of how many people don't have access to the internet, by region, showing us the greatest opportunities for growth across the globe.

Unconnected people BY MILLIONS



Source: DATAREPORTAL



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(Visual Capitalist) Internet adoption has steadily increased over the years—it's more than doubled since 2010.

Despite its widespread use, a significant portion of the global population still isn't connected to the internet, and in certain areas of the world, the number of disconnected people skews towards higher percentages.

Using information from DataReportal, the above visual highlights which regions have the greatest number of people disconnected from the web.



Universal Digital Access a Top Global Priority

(Continued from Page One)

According to UNESCO, around 45% of the world's population still has no access to the Internet. Just recently, the World Economic Forum warned how the Coronavirus pandemic had exposed the digital divide 'like never before,' with billions unable to access school coursework, or to work from home.

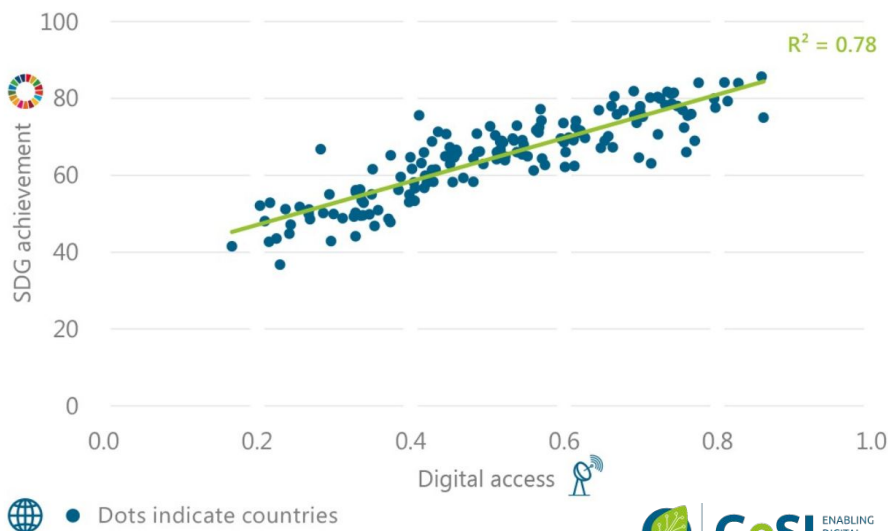
The United Nations itself, as the "multilateral system of the digital age," said the UN Chief, is "unprepared and needs to catch up," he said, adding that, every day, he sees ways that digital tech can help the UN to achieve its mission of peace, human rights and sustainable development.

However, he also sees daily examples of the disruption that digital technology can cause and the threats it can bring to that mission. "The international community is failing to meet its responsibilities. The systems for governance of digital technology are old, fragmented and reactive. The longer we wait to update these systems, the further we will fall behind."

Strong positive link between digital access and SDGs



Infographic: Correlation between the GeSI Digital Access Index and the SDSN SDG Index across 157 countries



Following are some highlights of just a few of the SDGs where HAPs will have a particular impact in the coming years and towards achieving the 2030 Goals:

(SDG 9) Build resilient infrastructure, promote sustainable and inclusive industrialization, and foster innovation: Connectivity brought by HAPs will play an essential role in achieving the three paths of SDG 9, especially for emerging information and knowledge societies. Some contributions of ICT are open access to academic research, transparency to make informed decisions, and platforms for online collaboration for co-creation, learning and work.

(SDG 10) Reduce inequality: By increasing access to information and knowledge, broader connectivity to the Internet helps reduce inequality within and among countries. This facilitates social and economic progress, even to disadvantaged segments of society, such as persons with disabilities.

from the HEADLINES

High altitude internet platforms 'crucial' in future pandemics

(excerpts from Vanilla+) Solar-powered high altitude platform systems (HAPS) could solve the problem of rural connectivity in communities across the globe. They may also save lives – and economies – during the next global pandemic, too. So says Dr Ogonnaya Anicho, a scientist at Liverpool Hope University, who has called for the systems to form part of all future pandemic strategic planning.



Dr Anicho says these multiple HAPS systems and HAPS generally, could prove crucial in coping with the next viral outbreak or natural disaster. He explains: "In my humble opinion, I think governments should acquire HAPS infrastructure for those strategic planning reasons. When there's a natural disaster and the terrestrial infrastructure is compromised, first responders can quickly begin to use HAPS instead, as it can be set up on an ad-hoc basis. And in a pandemic, it's essential you get emergency messages to people so they know how to stay safe. How do you do that if there are rural connectivity problems?"

"This connectivity is also essential for industry and productivity, too," he says. "You can see that in most of the developed nations people have found it easy to migrate their work online during the Covid-19 crisis because there's instant connectivity. Without connectivity, that doesn't happen, and entire regions suffer."

Dr Anicho, of Hope's School of Mathematics, Computer Science and Engineering, knows only too well the dangers of a pandemic. In 2014 he was working with a telecommunications services firm in Guinea, West Africa, when the Ebola outbreak was at its peak. He adds: "We were mandated to remain active so that the country could keep its telecommunications infrastructure operational – as a key service to support the effort to combat the epidemic. "It meant that first responders and medical practitioners could do their jobs."

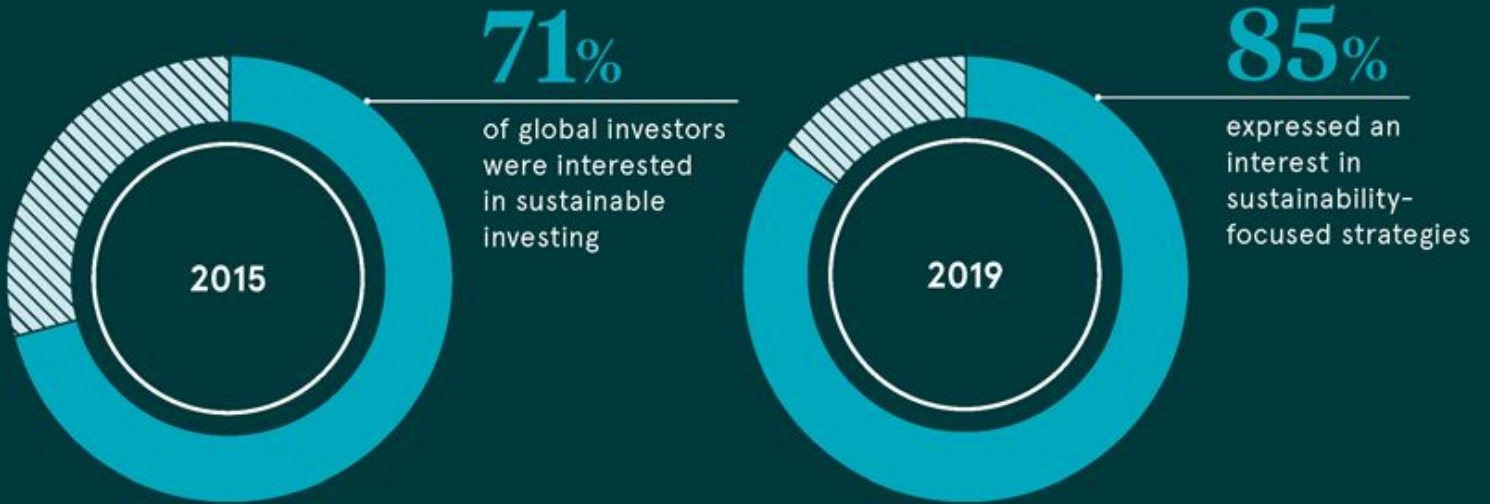


- Source: ADEC Innovations Blog

OUTPERFORMANCE

THE RISE AND RISE OF ESG INVESTING

The pandemic has accelerated the momentum of sustainable investment strategies, but idea spread adoption will depend on proving that socially responsible investment returns are superior over the long term.



Morgan Stanley 2019

\$45 trillion

of assets under management following global sustainable investment approaches (including ESG principles) expected by the end of 2020

JPMorgan 2020

15%



more investment per month recorded in companies with good sustainability ratings than those with poor ratings between 2016 and 2019

ABN AMRO/Saïd Business School 2020

COVID-19 Makes Universal Digital Access and Cooperation Essential: UN Tech Agency

As the COVID-19 pandemic reshapes the way in which we work, keep in touch, go to school and shop for essentials – across the world – it has never been more important to bridge the digital divide for the 3B+ people who remain offline.

(Source: UN News) The above statement is according to top experts from the International Telecommunications Union (ITU), who outlined the implications of the new coronavirus pandemic during a recent digital briefing in Geneva.

“Digital new society already came into our life, but we never imagined that we could be forced to stay at home and to use the digital worlds to connect ourselves and make our business continue. So that is something absolutely new,” said the ITU Secretary-General Houlin Zhao.

He praised workers in the Information and Communications Technologies (ICT) sector during the pandemic, described by another ITU official as the “unsung heroes” of the pandemic.

Internet traffic ‘tripled’

“We should also recognize that ICT services and ICT networks, are not so easy to manage, because nobody could imagine, under such circumstances, that traffic could to some extent triple,” Mr. Zhao said, referencing the massive surge for video conferencing and smartphone call capacity that the health crisis has engendered. One important challenge has been the massive shift in broadband usage in urban office buildings, toward the suburbs and rural areas, where people are now telecommuting from their homes.



UN Photo/Manuel Elias: Female participants at the Investment in Equality in Science, Technology and Innovation in the Era of Digitalization for Sustainable Development event.

“Additional spectrum has been identified,” said Mario Maniewicz, Director of the ITU Radiocommunication Bureau, adding that such resources can be used by countries “for new technologies that can help provide coverage at affordable prices to underserved communities. These technologies are both satellite and terrestrial, and can cover large areas, and they promise to enable affordable broadband access in rural and remote areas.”

‘Universal need’ for broadband

Mr. Maniewicz added that now spectrum has been allocated, governments must make use of these existing allocations to enable telecoms providers to do their job of servicing the acute “universal need” for broadband access.

The call for universal access has never been more keenly felt, said Doreen Bogdan-Martin, Director of the ITU’s Telecommunication Development Bureau: “There’s a lot of talk about defining the new normal in the post-Covid world and for me ‘new normal’ needs to include broadband access for all.”

With 1.5 billion children currently out of school, she pointed to the desperate need for digital partnership such as the one ITU is currently undertaking with Children’s Fund UNICEF, known as the GIGA initiative, to ensure that schooling everywhere can be provided through online platforms.

avealto development IN THE FIELD



UN Makes ‘Declaration of Digital Interdependence’ with Release of Tech Report

(The following is an excerpt from UN Secretary-General’s High-level Panel on Digital Cooperation, Chaired by Melinda Gates and Jack Ma) We live in an era of increasing interdependence and accelerating change, much of it driven by technological advances such as low-cost computing, the Internet and mobile connectivity.

Moments of change present new opportunities to solve old problems. The efficiency, innovation, and speed of a digitally connected world can expand what is possible for everyone – including those who historically have been marginalised. At the same time, humanity faces significant new challenges. Modern technologies can be used to erode security and violate privacy. We are also beginning to see complex impacts on education systems and labour markets.

The declaration outlines the Panel’s belief that cooperation in the digital space is paramount, as individuals, institutions, corporations and governments cannot manage digital developments alone, and that global aspirations and vulnerabilities are “deeply interconnected and interdependent”.

We believe the opportunities for human progress in the digital age ultimately outweigh the challenges – if we join together in a spirit of cooperation and inclusiveness. We urgently need to lay the foundations of an inclusive digital economy and society for all. We need to focus our energies on policies and investments that will enable people to use technology to build better lives and a more peaceful, trusting world. Making this vision a reality will require all stakeholders to find new ways of working together.

We recommend that by 2030, every adult should have affordable access to digital networks, as well as digitally-enabled financial and health services, as a means to make a substantial contribution to achieving the SDGs. Provision of these services should guard against abuse by building on emerging principles and best practices, one example of which is providing the ability to opt in and opt out, and by encouraging informed public discourse.

The immense power and value of data in the modern economy can and must be harnessed to meet the SDGs, but this will require new models of collaboration.



the age of digital interdependence

Report of the UN Secretary-General’s High-level Panel on Digital Cooperation



academics weigh in on the CONNECTED WORLD

(Georgetown Law Technology Review) As companies deploy innovative broadband infrastructure to blanket the globe with high-altitude connectivity, they should not ignore existing policies and institutional arrangements. Given the network structure of telecommunications, public policy will likely continue to play a significant role in telecom infrastructure production and regulation.

As the world steps into a new age of interconnectedness with 5G networks and potentially dramatic societal challenges, such collaboration may help harness the Internet of Things for future global development. Without the support of other actors already on a mission to bridge the global digital divide, the potentially breakthrough infrastructure solutions to the global last mile may deliver unexceptional development outcomes.

There does not exist a template for bringing disruptive technology to market, let alone to rural markets, and many regulatory challenges concerning national airspace, outer space, and spectrum are guaranteed given the transnational and global nature of the infrastructure.

A human-centered approach to commercialization plans for high-altitude connectivity infrastructure may help achieve positive development outcomes. Instead of assuming socioeconomic development in the aggregate will automatically follow the introduction of broadband infrastructure, companies seeking to deploy connectivity infrastructure should consider the real impact the infrastructure will have on individuals and communities, who are the intended beneficiaries of Internet access.

- The Global “Last Mile” Solution -
High-Altitude Broadband Infrastructure,
Snezhana Stadnik Tapia



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