UNITING TO DELIVER TECHNOLOGY FOR THE GLOBAL GOALS

2030 VISION

Global Goals Technology Forum

THE GLOBAL GOALS
For Sustainable Development

INTRODUCING 2030VISION

In January 2017, the Business and Sustainable Development Commission highlighted the huge economic opportunity inherent in meeting the UN 2030 Sustainable Development Goals (the Global Goals).

THE PROJECTION?

A staggering

US$12tn

in revenue and cost savings per year by 2030

along with

380m

new jobs[1]

2030Vision believes

DIGITAL TECHNOLOGY*

will be a critical enabler on this journey.

The Global e-Sustainability Initiative and Accenture estimate that digital solutions with positive impact on the Goals could unlock

US$2.1tn

additional annual revenue for the technology sector in 2030[2]

However enticing, this value will only be realized with unprecedented levels of private sector collaboration and innovation. Digital solutions need to be democratized and deployed across sectors including healthcare, agriculture, logistics, energy, finance and education. The enabling conditions for digital technology, such as electricity and connectivity, need to be put in place. There is also a critical need for cross-sector dialogue to understand the potential benefits that digital can deliver as well as the risks it may introduce.

* For the purposes of this paper, we define digital technology as the tools, systems and services that support the generation, storage, sharing and analysis of data. See page 6 for a fuller definition.

2030Vision is a new partnership that connects businesses, NGOs and governments with the technology and expertise they need to realize the Global Goals. Founded and chaired by Arm, the partners are UN Global Compact, UNICEF, The New York Academy of Sciences, SustainAbility, Fauna & Flora International, Centre for Global Equality, Cambridge Judge Business School, British Council and Be He@lthy Be Mobile. 2030Vision's ambition is to transform the use of technology so that all people can live their lives to their full potential by 2030.

This report provides a summary of key opportunities and challenges for digital and the Global Goals, as a foundation for the launch of the 2030Vision partnership. A full report will be published to coincide with the 2030Vision launch event in December.

FOREWORD

In September 2015, more than 190 countries signed up to the 17 Sustainable Development Goals of the 2030 Agenda for Sustainable Development. The Agenda sets out a vision to end poverty, protect the planet and ensure prosperity for all. Delivering the Global Goals by 2030 will require collaboration across the private sector, governments and civil society, massive investment and innovation, as well as fresh thinking about economic paradigms and business models.

Achieving the Global Goals is unquestionably a moral imperative, but the task also presents a significant commercial opportunity, estimated at US$12 trillion a year in revenue and cost savings and 380 million new jobs by 2030[1]. At Arm, we understand this opportunity, and believe business can and should make the relevant investments to unlock it.

Digital technology will be a critical enabler to the realization of this market opportunity. Analysis from the Global e-Sustainability Initiative (GeSI) and Accenture shows that digital technology could generate US$2.1 trillion additional annual revenue in 2030 from solutions with a positive impact on the Global Goals[2].

AT ARM, WE KNOW FROM EXPERIENCE THAT DIGITAL SOLUTIONS CAN ADDRESS THE GLOBAL GOALS AND DELIVER BUSINESS VALUE.

Achieving the Global Goals will require digital technologies to be deployed to address critical human needs. Digital is already supporting democratized and decentralized access to energy, finance and education. However, we do not know the scale of impact these transformations could have on production, employment, health and prosperity. Could artificial intelligence drive radical improvements in agricultural productivity and product design? Could sensors help eliminate overfishing and improve economic opportunity? How might blockchain revolutionize privacy, security and trust?

2030Vision will serve as a platform for dialogue and collaboration to understand the potential for digital to deliver the Global Goals and to explore the role the technology sector can play supporting other industries' efforts. Arm is proud to have initiated 2030Vision and is pleased to support its future success.

2030Vision has commissioned this research to highlight the imperatives and opportunities for digital solutions to support a more prosperous and sustainable future while capturing new market opportunities and supporting economic prosperity across the globe.

Simon Segars
CEO Arm
Board member SoftBank Group

arm

THE WORLD IN 2030

IF WE ACHIEVE THE VISION PUT FORWARD BY THE GLOBAL GOALS, OUR WORLD WILL BE A RADICALLY BETTER PLACE IN 2030.

Forecasting the world in 2030 brings to mind a quote often attributed to physicist Niels Bohr: "Prediction is very difficult, especially if it's about the future."

GOING BACK TO THE YEAR 2004, FEW PEOPLE COULD HAVE IMAGINED WHAT 2017 WOULD LOOK LIKE:

MOBILE

The iPhone (2007) and Samsung Galaxy (2009) had not been invented; today vast ecosystems of products and services are designed around each.

TECH GIANTS

Google announced its IPO in 2004; today it has morphed into US$600 billion[3] company Alphabet with reach into a variety of sectors including transport and life sciences.

HUMAN GENOME

The first quality assessment of the human genome published in 2003 cost over US$2.7 billion[4]. Today, a whole-exome sequence can be generated for less than US$1,000[5].

RENEWABLES

In 2004, the IEA predicted that the share of renewable energy for electricity would rise to 6% by 2030[6]; we have blown past that prediction, hitting 23% in 2015[7].

HEALTH

The annual number of AIDS-related deaths peaked in 2005 at two million. Between 2005 and 2016, AIDS-related deaths per year fell by 48%[8].

Envisioning the world in 2030: Organizations and individuals such as the World Economic Forum[9] and Bill and Melinda Gates[10] have risen to the challenge of envisioning the world in 2030. Common themes include increasing urbanization, growing displacement from conflict and climate change, near universal access to the internet, the end of the internal combustion engine and less resource-intensive food systems. Earlier this year, Japan released its 'Society 5.0' blueprint which envisions a 'super smart society' in which digital tools solve challenges such as the nation's aging workforce and global pollution[11].

If we achieve the vision put forward by the Global Goals our world will be a radically better place in 2030.

Achieving Goal 1 would free the 767 million people[12] living below the international poverty line of US$1.90 a day to contribute to the global economy.

Reaching the gender equity prescribed by Goal 5 would multiply prosperity by allowing women to reach their full economic potential.

Meeting Goals 2 and 13 would mean that we have cultivated a food system able to feed nine billion people by 2050 without harming the environment.

Technology disrupting industries: The exponential growth of digital technology could transform industries including manufacturing, agriculture, health, energy and mobility. SoftBank CEO Masayoshi Son envisions a future in which satellite networks span every inch of the Earth and a trillion connected devices continuously deliver data to the cloud to be analyzed by artificial intelligence[13]. SoftBank's US$93 billion Vision Fund invests in companies that will benefit from this new paradigm as they disrupt industries, such as Plenty (indoor farming) and Nauto (autonomous vehicles)[14].

Channeling digital for the Goals: To achieve the vision for 2030 set out in the Global Goals, it will be critical to channel digital technology to address the world's most pressing needs and to mitigate the risk that it exacerbates inequality. Bill Gates envisions that technology can help Africa achieve food self sufficiency by 2030, but also warns against job loss due to automation[15]. In considering solutions for less developed nations, we must address primary needs such as electricity, running water and basic banking services which are critical foundations for digital solutions. Building capacity to deploy and regulate digital technology will be vital. 2030Vision aims to foster dialogue and collaboration to develop digital technologies which contribute to a more prosperous and sustainable world in 2030.

CRITICAL AREAS FOR INTERVENTION

According to the UN the world made notable progress towards the Global Goals over the last decade, but the pace of progress is insufficient to meet the targets by 2030[12].

Each year, 2030Vision will focus on a selection of key themes which represent vital areas of intervention in support of the Global Goals. Three themes have been selected for 2017. Action in these areas, representing key societal needs and accounting for a significant portion of the global economy, will enable and support progress across the Global Goals.

2030VISION 2017 THEMES	GLOBAL GOAL AREAS
FOOD & AGRICULTURE	Hunger & malnutrition
	Agricultural productivity & resilience
	Food waste
	Equitable global food markets
	Water efficiency & integrated water resource management
	Illegal, unreported & unregulated fishing
	Habitats & biodiversity
TRANSPORT, INFRASTRUCTURE & LOGISTICS	Safe & affordable housing
	Accessible & sustainable transport
	Climate change adaptation
	Clean & efficient energy
	Sustainable use of resources
	Resilient infrastructure
	Skills & innovation for sustainable growth
	Effective & accountable institutions
HEALTH	Social protection systems
	Maternal & infant mortality
	Infectious & non-communicable disease
	Safe water & sanitation
	Road traffic accidents
	Sexual & reproductive health
	Violence, exploitation & trafficking
	Empowerment & inclusion
	Access to medicines

THE BUSINESS IMPERATIVE FOR ADDRESSING THE GLOBAL GOALS

The Business and Sustainable Development Commission estimates a potential economic benefit of US$12 trillion per year by 2030 for the private sector across four economic sectors: food and agriculture, cities, energy and materials, and health and well-being[1].

Market opportunities such as electric vehicles, telehealth and circular business models could generate work for more than 10% of the labor force in 2030. Businesses which work towards an environmentally stable and socially inclusive future will be less vulnerable to risks and better positioned to attract and retain talent, strengthen customer relations, secure investment and drive innovation.

COMMERCIAL, SOCIAL AND ENVIRONMENTAL 'HOT SPOTS' IN FOUR ECONOMIC SYSTEMS BY 2030

FOOD & AGRICULTURE

Potential economic opportunity:

US$2.3tn[1]

Hot Spots:
Reducing food waste
(US$155-405 billion)
Forest ecosystem services
(US$140-365 billion)
Low income food markets
(US$155-265 billion)

Social impact:

Increase incomes of smallholder farmers by

30%[1]

Environmental Impact:

Reduce water use by (liters)

300tn[16]

HEALTH & WELL-BEING

Potential economic opportunity:

US$1.8tn[1]

Hot Spots:
Risk pooling
(US$350-500 billion)
Remote patient monitoring
(US$300-440 billion)
Telehealth
(US$130-320 billion)

Social impact:

Prevent

5m

premature deaths from noncommunicable diseases[12]

ENERGY & MATERIALS

Potential economic opportunity:

US$4.3tn[1]

Hot Spots:
Circular models – automotive
(US$475-810 billion)
Expansion of renewables
(US$165-605 billion)
Circular models – appliances and machinery
(US$305-525 billion)

Social impact:

Provide

1.2bn

people with access to electricity[1]

Environmental Impact:

Abate

5GtCO$_2$

through smart manufacturing and energy management[16]

CITIES

Potential economic opportunity:

US$3.7tn[1]

Hot Spots:
Affordable housing
(US$650-1,080 billion)
Energy efficiency–buildings
(US$555-770 billion)
Electric and hybrid vehicles
(US$310-320 billion)

Social impact:

Provide

440m

households with access to safe housing[1]
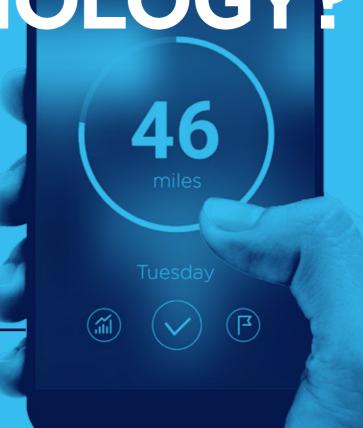
Environmental Impact:

Abate

5.8GtCO$_2$

through smart mobility and building[16]

THE GLOBAL GOALS

WHY DIGITAL TECHNOLOGY?

Digital technology describes the increasing information intensity and connectedness of physical resources.

It includes the tools, systems and services that support the generation, collection, storage, sharing and analysis of data.

Digital technology encompasses a range of 'enabling levers' including big data, data analytics, robotics, Internet of Things (IoT), artificial intelligence (AI), sensors, mobile, 3D printing, cloud computing, web-based platforms, social media, blockchain, augmented reality, virtual reality and satellite imaging. These levers are essential to a wide range of applications which are explored in this report.

The following case study of mFish illustrates how digital technology (for example, communication software) builds on information and communication technology (for example, mobile phones and tablets) to provide solutions.

CASE STUDY: mFISH

Launched in 2014 by the US Department of State and powered by EcoHub, mFish is a mobile application that provides fishers in developing nations with market and weather information and allows them to digitally log their catch for the purpose of traceability and fisheries management[17]. To minimize barriers to access, mFish is available free of data charges through Facebook's Free Basics and accessible on both smartphones and feature phones even in low bandwidth environments. The goal of mFish is not only to improve the livelihoods of fishers through better information and market access, but also to be the first link in a series of data feeds throughout seafood supply chains allowing them to be more traceable, sustainable and responsible. In this case, the digital technology is the suite of mobile services and the software that enables connectivity, while the ICT is the mobile phones used by the fishers.

Digital technology has several unique advantages over earlier forms of infrastructure:

ACCESS AND PARTICIPATION:

The rapid and widespread deployment of digital technology to some of the poorest parts of the world has radically improved access and participation. In 2015, there were 271 mobile money services across 93 countries and 411 million registered mobile money accounts, providing a pathway to financial access for many previously unbanked people[18].

DELIVERING ESSENTIAL SERVICES:

Connectivity provides platforms to deliver services such as health, education, e-governance and energy in new ways. Mobile phones have improved food security by giving farmers access to market information, harvesting, irrigation and logistics support, helping to increase yield, reduce waste and improve productivity. Connectivity is an important tool for strengthening governance, for example, in Mozambique, SMS messages increased voter turnout and enabled citizens to report electoral irregularities[19].

REDUCING COSTS AND EXPANDING SERVICES:

Digital technology can reduce the cost of deploying and expanding services. Digital can expand access to low-cost community health workers, enabling diagnoses and treatments at local level rather than high-cost facilities[20]. 1.6 billion people could be connected to e-health services in 2030[2] moving the world closer to universal health coverage. Critically, digital technology enables the collection and analysis of vast amounts of rich data, which facilitates the expansion of services to better serve core societal needs.

271m
mobile money services across 93 countries in 2015

411m
registered mobile accounts

1.6bn
people could be connected to e-health services in 2030

RISKS AND CHALLENGES

2030VISION AIMS TO PROVIDE A PLATFORM FOR COLLABORATION ACROSS THE PRIVATE AND PUBLIC SECTORS TO HELP MANAGE THESE RISKS AND EXPLORE HOW TECHNOLOGY CAN PLAY A ROLE IN MITIGATING SUCH CHALLENGES.

Digital technology will have profound implications for business and society in the coming decades; if channeled mindfully, it will help achieve the Global Goals. However, there are a number of risks and challenges to consider:

HAVES VS. HAVE NOTS:

Technology has ushered in a host of new products, services and business models, many of which target wealthier consumers such as drone delivery or car sharing. These cases have developed where market needs can be met profitably by the private sector. We need to consider how to enable profitable business cases for underserved populations where they do not yet exist, such as real-time monitoring of ecosystem health.

ECONOMIC AND LABOR DISRUPTION:

Much has been written about the impact that technology, particularly robotics and automation, has on labor markets. The Center for Business and Economic Research found that technological change was responsible for 85% of the 5.6 million manufacturing jobs lost in the US between 2000 and 2010[21]. Technology could have particular consequences for

SECURITY, PRIVACY, AND CONTROL:

With the rise of digital connectivity, cybersecurity concerns will increase. Hacking of critical infrastructure has already happened in Ukraine[23], and as vehicles evolve to become fully autonomous, we need to ensure they are secure. It will be important to consider the security, ownership and usage of the massive amount of personal data which is created and shared.

countries which rely on sectors like apparel and employ large numbers of unskilled workers. For example, China-based Tianyuan Garments Company, the largest apparel supplier to Adidas, recently announced plans to produce t-shirts in the United States using automation to allow customization and faster speed to market[22]. It is critical to provide training and resources to support those impacted and develop alternate quality employment opportunities.

E-WASTE:

The world already has an electronic waste problem – 41.8 million tonnes were created in 2014, 7% from personal devices such as laptops and phones[24]. We risk exacerbating this problem as sensors, chips, and other electronic components are deployed across more products and as higher incomes allow more people to access these technologies.

ACCOUNTABILITY:

As digital technology companies advance, power may be concentrated in ways that current legal and regulatory frameworks are unable to address. Governments and regulators often struggle to understand the pace of change, let alone formulate relevant policies, prompting the question of what technology companies are accountable for and to whom. Such questions raise varying level of concerns in different regions across the world.

OVERRELIANCE ON TECHNOLOGY:

Progress towards the Global Goals will be accelerated by technology, but it is important to acknowledge that technology is not the silver bullet in all cases. While tools such as IoT can make farmers more productive and resilient, many regions in the world have surpluses of food and still face hunger due to political unrest and poor distribution.

DIGITAL TECHNOLOGY FOR THE GLOBAL GOALS

We have explored the most promising opportunities for digital technology to speed the delivery of the Global Goals – areas where commercial interests and global societal needs are aligned.

2030Vision 2017 Themes

Relevent SDGs

FOOD & AGRICULTURE

Digital technology opportunities

EMPOWERING SMALL-SCALE FARMERS
REDUCING FOOD WASTE
SMART RESOURCE ALLOCATION
FOOD TRACEABILITY
BUILDING CLIMATE-RESILIENT AGRICULTURE
CREATING RESILIENT CROPS

TRANSPORT, INFRASTRUCTURE & LOGISTICS

Digital technology opportunities

SMART MOBILITY
CIRCULAR LIFECYCLE OF MATERIALS
EFFICIENT ENERGY & INFRASTRUCTURE
SYSTEMS ENERGY STORAGE
TRANSPARENT SUPPLY CHAINS
FINANCING SUSTAINABLE INFRASTRUCTURE
SKILLS FOR THE JOBS OF THE FUTURE

HEALTH

Digital technology opportunities

PERSONALISED MEDICINE & EDUCATION
SUPPORTING VULNERABLE POPULATIONS
PREDICTING AND MANAGING SHOCKS &
DISASTERS SOCIAL & POLITICAL INCLUSION
FINANCIAL ACCESS
IMPROVING SANITATION
IDENTITY FOR UNREGISTERED PEOPLE
TARGETED MEDICINE
REDUCING ENVIRONMENTAL TOXICITY

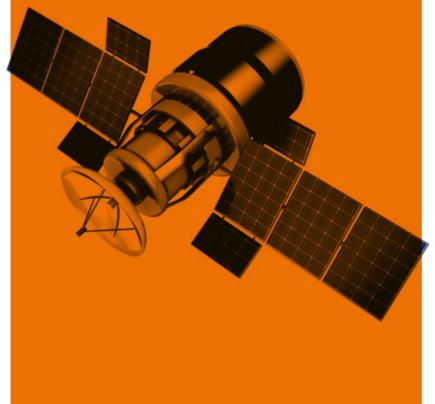# FOOD & AGRICULTURE

OPPORTUNITIES

BUILDING CLIMATE-RESILIENT AGRICULTURE

Modeling and predicting environmental patterns helps build resilience to climate-related impacts and reduces food insecurity. Data from satellites and sensors can be analyzed to forecast drivers of extreme weather, famine and food insecurity to guide agricultural decisions.

AWHERE DEVELOPED A GLOBAL AGRONOMIC WEATHER DATABASE WITH

1.6m

VIRTUAL WEATHER STATIONS TO MONITOR WEATHER EVENTS AND HIGHLIGHT TARGET RELIEF AREAS[25].

FOOD TRACEABILITY

As demand for food grows, so will the importance of efficient supply chain management from farm to plate. Tracking systems, sensors and blockchain allow food to be produced based on demand and allocated where needed, as well as guaranteeing sustainable ingredients sourcing.

A group of companies including IBM, Unilever, Nestlé and Walmart are collaborating to use blockchain to establish traceable food supply chains, focusing on food safety and contamination[30].

CREATING RESILIENT CROPS

Big data can be used to make genetic or molecular improvements, such as gene editing through CRISPR or TALEN to create more resilient crops.

REDUCING FOOD WASTE

Roughly one third of food is wasted each year[27], accounting for 8% of global GHG emissions[28]. Sensors, data analysis and RFID monitoring can reduce food waste from field to fork through smart harvesting, shipping, distribution and inventory management.

SMART SENSORS CAN REDUCE WASTE BY

25% to 40%

ACROSS THE VALUE CHAIN[29]
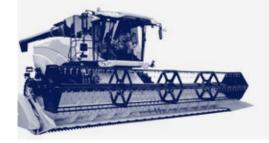
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ROUGHLY OF FOOD IS WASTED EACH YEAR

SMART RESOURCE ALLOCATION

Precision agriculture, including the use of robotics, big data, IoT, smart equipment and farm management software, enables efficient food production for growing populations within resource constraints and without environmental degradation.

For large food companies to leverage big data analytics instead of piloting discrete projects, we will need strategic partnerships with technology companies and investment in solutions. Breaking down silos and creating partnerships with new sectors can accelerate success.

Dave Stangis,
Campbell Soup Company

EMPOWERING SMALL-SCALE FARMERS

Improving agricultural productivity of small-scale farms, which produce over 70% of the world's food[26], is essential for food security. Mobile and farm management software can provide small-scale farmers with agronomy and market information to improve yields and economic returns.

Smallholder farmers are going to need support from capital and technology to help facilitate a whole generation to change behaviors in crop agriculture in the Global South.

Marc Diaz,
The Nature Conservancy

TRANSPORT, INFRASTRUCTURE & LOGISTICS

OPPORTUNITIES

SMART MOBILITY

Intelligent transport, shipping and distribution systems including autonomous vehicles and vessels, car sharing and drones can lower emissions and costs whilst improving efficiency and safety.

BY 2050, AUTONOMOUS VEHICLES COULD REDUCE FUEL CONSUMPTION BY

44%

FOR PASSENGER VEHICLES AND

18%

FOR TRUCKS[31]

CIRCULAR LIFECYCLE OF MATERIALS

3D printing avoids waste through local, tailored runs and production of replacement parts. Sensors and smart software can track materials to optimize the planning process and disposal stage. Precision recycling powered by AI enabled robotics allows for disassembly and sophisticated waste sorting.

HP's Multi Jet Fusion 3D printing platform improves product development through production of individual replacement parts locally, quickly and inexpensively[32].

EFFICIENT ENERGY AND INFRASTRUCTURE SYSTEMS

Connected sensors in infrastructure, industry, cities and homes promote smart allocation of resources such as energy, water and raw materials. Combined with data analysis tools such as AI, this end to end management increases productivity whilst reducing consumption, cost, waste and environmental impact.

Digital technology, through smart manufacturing, agriculture, buildings and transportation, could abate over

12GtCO$_2$

BY 2030[16]

ENERGY STORAGE

The ability to store large amounts of energy is critical to the proliferation of renewables and is facilitated by systems modeling, open source data sharing platforms, funding tools and research aggregators.

TRANSPARENT SUPPLY CHAINS

IoT and blockchain can enable the traceability and monitoring of complex, global supply chains to expose risks of human rights abuses or unsustainable natural capital management.

Provenance uses blockchain to work towards an open traceability protocol that can be used to track anything from coffee beans to a roll of fabric[33].

FINANCING SUSTAINABLE INFRASTRUCTURE PROJECTS

Investment algorithms and crowdfunding platforms can unlock financing streams to address funding gaps in sustainable infrastructure.

SKILLS FOR JOBS OF THE FUTURE

The rapidly changing human capital needs of industries requires employees (particularly youth) to be equipped with the requisite skills to secure quality work. Mobile devices can connect people to education, training, and employment opportunities. AI, AR and VR can upskill workers, catalyze innovation and boost productivity.

THE POWER OF YOUNG PEOPLE IS CONTINGENT ON DIGITAL EDUCATION, TRAINING AND UPSKILLING TO OVERCOME THE UNEMPLOYMENT RISK – WE ARE FACING A 'RACE AGAINST TIME' TO EDUCATE THE MASSES.

Jaideep Prabhu,
Judge Business School

HEALTH

OPPORTUNITIES

PERSONALIZED MEDICINE

Sensors and wearable devices combined with AI enable the collection and utilization of vast amounts of health data, empowering patients to manage their care and assisting healthcare workers in monitoring patients remotely.

THE WEARABLE MEDICAL DEVICE MARKET IS ALREADY WORTH

US$13bn

AND IS FORECAST TO GROW TO

US$34bn

BY 2020[37].

Distance: 6.3 mi
Duration: 58:13 min
Calories: 395 cals

SUPPORTING VULNERABLE POPULATIONS

Digital technology provides advice and assistance to vulnerable and marginalized groups: extending healthcare to remote areas, facilitating safe migration for refugees and providing women with sexual health information.

Technology (with access and connectivity) has the potential to open up new employment opportunities for marginalized young people, including refugees.

Katherine Crisp,
UNICEF

REDUCING ENVIRONMENTAL TOXICITY

Tracking data on environmental health and utilizing digital to build efficient infrastructure can reduce pollutants and reduce the risk of disease.

The biggest healthcare challenge which technology will need to tackle by 2030 is the interaction between climate change and health.

Jody Ranck,
RAM Group

SOCIAL AND POLITICAL INCLUSION

Digital platforms can support access to social services, encourage transparency and accountability of governments and corporations, reduce corruption and bring citizens closer to social and political decision making.

TECHNOLOGY OFFERS THE CHANCE TO OPEN THE BLACK BOX OF GOVERNMENT AND PROMOTES GREATER DEMOCRATIZATION VIA PUBLIC PARTICIPATION IN AND CO-CREATION OF PUBLIC SERVICES.

Mark Thompson,
Judge Business School

IDENTITY FOR UNREGISTERED PEOPLE

One fifth of the world's population is without proper identification[34], which is a barrier to accessing basic services for health and well-being. Digital technology can provide secure identification for unregistered people.

Microsoft is partnering with Blockstack Labs and ConsenSys on a blockchain-based identity system for developing nations[35].

FINANCIAL ACCESS

Mobile money can provide low-income families with access to financial services. Digital currencies such as bitcoin can accelerate financial inclusion by enabling direct transfers, reducing fees, speeding up transactions and increasing security.

IMPROVING SANITATION

Nanotechnology used in water purification filters can provide a low-cost solution to safe drinking water globally.
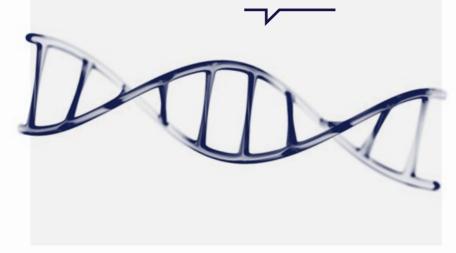
TARGETED MEDICINE

Precision medicine uses genetic and cellular information to predict health conditions to enable more effective treatment and care. Gene editing allows cost efficient and reliable targeted modifications to DNA.

The amount of information we now have at a molecular level is changing the way we look at medicine.

Dr Maria Freire,
Foundation for the National Institutes of Health

PREDICTING AND MANAGING SHOCKS AND DISASTERS

Digital data collection and analysis can help manage the human impact of disasters by predicting crises, optimizing response and recovery tactics, and enabling efficient resource deployment.

Following the 2015 Nepal earthquake, N-Cell and Flowminder analyzed mobile data to track and estimate population movements, enabling targeted relief efforts[36].

CONCLUSION

The global community's agreement of the 2030 Agenda and the Global Goals was a remarkable achievement. However, by far the greater challenge will be to achieve the Global Goals. Doing so will require an unprecedented deployment of human ingenuity and technical capability.

We will need to deploy all our resources collaboratively and wisely. The scale of the challenges ahead and the potential rewards demand nothing less.

Technology is only relevant and viable in the long term insofar as it can combine purpose with commercial outcomes. We believe that more can and will be done to apply technology for positive progress as needs and opportunities are better understood.

As members of the 2030Vision Steering Committee, we recognize that the Global Goals are wholly interconnected. We believe that technology must play a pivotal role in every Goal and that innovative partnerships and collaborations will be essential. No sector on its own can achieve the progress we need. For example health, agriculture, logistics and infrastructure are all interconnected.

That is why we support a new era in which civil society, governments, the scientific community, policy makers and business work together in a relentless drive towards a more equitable, prosperous and sustainable world. We can achieve the Global Goals, but only by finding new ways to channel the power of technology to help realize them. This report is a crucial step in framing a new dialogue urgently needed to stimulate action.

2030Vision Steering Committee members

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