



THE UNITED NATIONS SECRETARY-GENERAL'S  
TASK FORCE ON DIGITAL FINANCING  
OF THE SUSTAINABLE DEVELOPMENT GOALS

# Harnessing Digitalization in Financing of the Sustainable Development Goals

Co-Chairs' Progress Report to the Secretary-General  
of the Task Force on Digital Financing of the  
Sustainable Development Goals



26 September 2019

## ABOUT THE TASK FORCE

The Secretary-General launched the Task Force on Digital Financing of the Sustainable Development Goals on 29 November 2018 with a mandate to recommend and catalyze ways to harness digitalization for the acceleration of financing of the SDGs. The Task Force commenced its work in January 2019, meeting again in June 2019 to discuss progress. It has been advancing its mandate through engagement and dialogue with thousands of experts and is guiding and commissioning research. It launched a landscape study conducted by the Task Force Secretariat on Harnessing the Digitalization of Finance for the Sustainable Development Goals in June and has gathered over a hundred documents through a Call for Contributions that is open until the end of October 2019.

To subscribe the Task Force newsletter and see other Task Force materials, go to [www.digitalfinancingtaskforce.org](http://www.digitalfinancingtaskforce.org) or contact the Task Force Secretariat at [dfff.secretariat@uncdf.org](mailto:dfff.secretariat@uncdf.org)

## ABOUT THIS REPORT

This Progress Report is presented to the Secretary-General by the Task Force Co-Chairs. Although still at an exploratory stage, it points to progress in harnessing digitalization for the acceleration of financing of the SDGs and to a small number of areas that offer scope for opportunities at scale. The Task Force will publish the final report in early 2020.

The Progress Report has been prepared by Simon Zadek, Sherpa to the Task Force Co-Chairs, with the support of Tillman Bruett, Director of the Task Force Secretariat. Particular thanks go to colleagues from UNCDF, UNDP and the Executive Office of the Secretary-General for their contributions, including Azeema Adam, Amil Aneja, Deena Austin, Fiona Bayat-Renoux, Christina Carlson, Duygu Celik, Anne Folan, Joe Hooper, Judith Karl, Helene Molinier, Marcos Neto, Imelda Panguito and Arti Singh. Any errors and omissions in the Progress Report are the responsibility of the authors.



**Acknowledged also is the financial support to the Task Force provided by the Government of Germany and the Government of Italy.**

[www.DigitalFinancingTaskForce.org](http://www.DigitalFinancingTaskForce.org)

@UNDFTaskForce #DigitalFinancingTF

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# Co-Chairs' Letter to the Secretary-General

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We are pleased to present the Co-Chairs' Progress Report of the Task Force on Digital Financing of the Sustainable Development Goals, which was established in late-November 2018 as part of your broader strategy on financing the 2030 Agenda.

Our main goal in issuing this report is to inform you, Member States and the broader stakeholder community of our progress and findings to date. The final deliberations of the Task Force, along with its recommendations, will be released in early 2020.

Building on our initial findings, the Progress Report points to emerging aspects of the topic of digital financing that we believe warrant further exploration. We hope that this report will complement and strengthen your broader strategy, and the actions of many others, in accelerating the financing of the Sustainable Development Goals.

The efforts of the Task Force have already benefited from the contributions of many policymakers, regulators, business leaders, experts and other stakeholders, as well as the wealth of experience from across the United Nations itself. We hope that this report will encourage others to help ensure the success of the Task Force by contributing their experience, expertise and insights.



*Maria Ramos*  
MARIA  
RAMOS  
Co-Chair



*Achim Steiner*  
ACHIM  
STEINER  
Co-Chair

# **The United Nations Secretary-General's Task Force on Digital Financing of the Sustainable Development Goals**

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### Co-Chair



**Maria Ramos,**  
Former Chief  
Executive Officer,  
Absa Group  
Limited



**Achim Steiner,**  
Administrator,  
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# Task Force in Brief

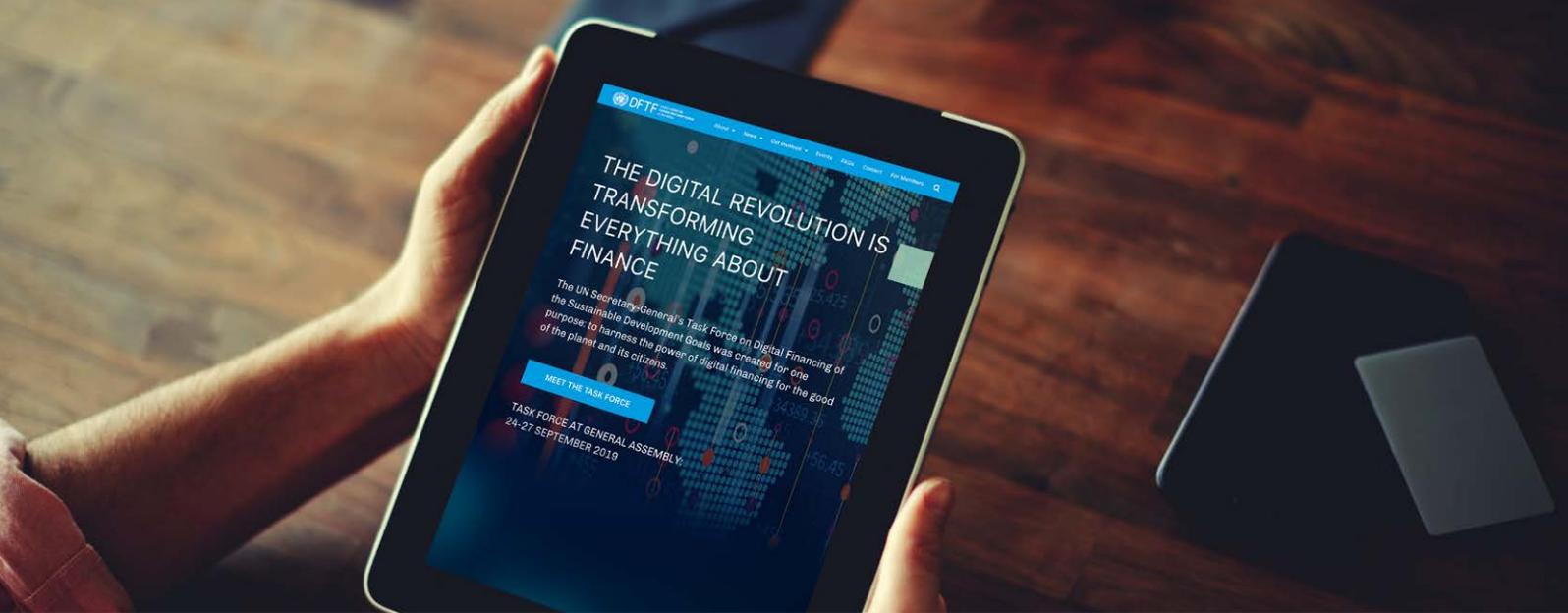
The Secretary-General launched the Task Force on Digital Financing of the Sustainable Development Goals on 29 November 2018 with a mandate to recommend and catalyse ways to harness digitalization for the acceleration of financing of the SDGs. The Task Force seeks to answer four core questions:

1. How will the digitalization of financing reshape the financial and monetary systems?
2. How has the digitalization of financing already contributed to financing of the SDGs?
3. What are the digital-finance-enabled opportunities for financing the SDGs and the digital-finance-associated barriers and risks?
4. How best, and by whom, can the opportunities be realized and risks mitigated?

The Task Force comprises 17 members. Members include heads of fintech companies, commercial and development banks, business associations and United Nations agencies, as well as central bank governors and ministers. It is co-chaired by Maria Ramos, the former Chief Executive Officer of Absa Group Limited of South Africa, and Achim Steiner, the Administrator of the United Nations Development Programme (UNDP) and Chair of the United Nations Sustainable Development Group. The Secretariat of the Task Force is being led by the United Nations Capital Development Fund (UNCDF).

Emerging from its first meeting in January 2019, the Task Force issued its [Framework Document](#) that laid out its core approach, including scope, definitions, conceptual framework, crosscutting lenses and focus themes. Notably, the Task Force determined to do the following:

- **Focus on the impacts of digitalization on finance and money** while recognizing the broader technological transformations across communities and economies, and so taking note of the findings and recommendations of the Secretary-General's High-Level Panel on Digital Cooperation.
- **Focus on the short to medium term** (1–5 years) in the context of a broader, longer-term disruption to the financial and monetary systems, noting the urgency to act and the difficulties in casting forward too far with so many uncertainties and unknowns.
- **Develop practical recommendations while actively catalysing ambitious initiatives**, the latter both through its membership and as an outcome of its convenings, and by building collaborative, international initiatives.



**The Task Force is advancing its mandate by marshalling knowledge and insights through engagement and dialogue as well as technical and policy research.** To date, there have been interactions with thousands of stakeholders, including practitioners, experts, business leaders, community and trade union representatives, regulators and policymakers, as well as many others concerned with specific aspects of the SDGs. Dialogues have taken place in Amsterdam, Bangalore, Beijing, Brussels, Kuala Lumpur, London, Milan, Mumbai, Nairobi, New Delhi, New York, Paris, San Francisco, Singapore and Toronto and through hosted engagements at the United Nations Economic and Social Council as part of Financing for Development and the High-Level Political Forum on Sustainable Development.

Ongoing **research contributions** have come from diverse sources. Individuals and groups of Task Force members are advancing research on specific topics, including UN Women on gender aspects of digital financing, DBS Bank on digital financing and sustainable development in Southeast Asia, IEX Group and the World Economic Forum on capital markets, and Ant Financial on digital financing of micro, small and medium enterprises.

A **Call for Contributions** has received over 100 submissions to date from around the world. In addition, the Task Force is collaborating with several expert institutions, including Accenture, Refinitiv and the non-profit Sustainable Digital Finance Alliance. Task Force members have helped launch a hackathon on fintech and sustainable development at the pan-African event 'Fintech and the Savannah' in Nairobi, hosted by the Central Bank of Kenya and the Monetary Authority of Singapore. Moreover, several members have launched their own in-house challenges on how their respective organizations can take this issue forward.

The Task Force, with support from Accenture Development Partnerships, has prepared the white paper '**Harnessing the Digitalization of Finance for the Sustainable Development Goals**,' which summarizes analyses of the effect of digitalization on the financial and monetary systems and links to SDG financing.

Going forward, the Task Force will continue to solicit contributions from experts and other stakeholders and extend its dialogue series to identify more use cases, perspectives, insights and suggested actions.

This Progress Report to the Secretary-General presents highlights of the work to date. Although still at an exploratory stage, it points to progress in harnessing digitalization for the acceleration of financing of the SDGs and to a small number of areas that offer scope for opportunities at scale. The Task Force will publish the final report in early 2020.

Funding for the Task Force is provided by the Multi-Partner Trust Fund Office of UNDP, with the generous support of the Governments of Germany and Italy.

**Note:** Go to [www.digitalfinancingtaskforce.org](http://www.digitalfinancingtaskforce.org) for more information.

# Executive Summary





## Digitalization changes everything and can accelerate the transition to sustainable development.

Ninety percent of today's available data has been produced in just the last two years. The 'new oil' of the global economy—more, cheaper and faster data—is driving a new generation of products and services, with dramatic changes in how they are created, delivered and consumed. Digitalization can contribute to sustainable development, but its net impact will depend on societal choices as to its application and governance. On the one hand, it can deliver new livelihood opportunities, provide better access to public services, lessen the carbon footprint, and enhance accountability and good governance. On the other hand, it can reinforce existing patterns of exclusion and discrimination, drive new forms of inequality and encourage unsustainable practices, including the environmental effects of digitalization.

**Digitalization can help channel citizens' money to finance sustainable development.** Financing needs to support the transition to an inclusive, environmentally sustainable pathway, represented by the Sustainable Development Goals (SDGs). Financial resources exist, in the form of savings and financial assets that belong to citizens around the world. The need is to channel these resources effectively through public and private means to finance the SDGs. Digitalization can help overcome key barriers to the alignment of financial flows with the SDGs, including a lack of awareness and capabilities, misaligned policies and broader incentives, and shortfalls in governance and accountability.

**Digitalization is already supporting the financing of the SDGs.** The issuance of over half a trillion dollars of green and sustainable development bonds, made possible by the availability of cheap and credible data, attests to the use of the





**Empowering people is ultimately how digitalization will help to finance the SDGs. So the Task Force is not concerned with digital innovation for its own sake, but in how it can empower people in making payments, borrowing, saving, lending and investing, and in how they can hold those accountable who manage and spend money on their behalf.”**

MARIA RAMOS,  
Task Force Co-Chair and former  
Chief Executive Officer of Absa  
Group Limited

monies raised. Satellite imagery is increasing information flows to investors about climate risks and impacts, and it can identify emerging food security challenges. Governments are raising and saving money through digitalized tax collection and social welfare programmes. Millions of small businesses and citizens, including women and other historically disadvantaged groups, have better access to financial services through digital identification, big data and artificial intelligence. Solar energy units, financed through crowdsourcing and pay-as-you-go business models powered by mobile payment platforms, are now in the hands of millions of low-income households, improving household health, livelihood and educational opportunities.

Going forward, digitalization offers significant opportunities for accelerating the financing of the SDGs by supporting, for example, the following:

- **Increased mobilization of funds** by improving how domestic savings are channelled into long-term investment; reducing poverty by increasing savings through the access and use of digital savings accounts; enhancing government revenue by making it harder to evade the payment of taxes; and increasing the mobilization of international finance at a lower cost through improved measurement and management of risks and impacts.
- **Enhanced use of funds** by improving the performance of public financing through better impact targeting and tracking, as well as strengthened public accountability; augmenting the performance of impact-conscious investors by raising the quality and reducing the costs of tracking; achieving greater alignment of private financing with the SDGs through better and cheaper assessments of SDG-relevant financing risks and opportunities; and increasing overall alignment by strengthening data-supported policies, including fiscal incentives, regulations and standards.

**Digitalization could support three disruptive waves of change that could dramatically shift the centre of gravity of the financial system towards the citizen.** Simply better, cheaper and more accessible information could support the first wave of opportunities to empower citizens in their financing decisions, from their roles as savers and borrowers to consumers and pension policyholders. Disruptions caused by digitalization that disintermediate incumbent financial intermediaries, such as banks, could provide a second wave as new data-fuelled actors find fresh ways to customize and deliver finance. Finally, digitalization could offer citizens the means to act collectively, providing a potential third wave of opportunities for citizens to take more control over their financial lives.

**However, the potential sustainable development dividends from digital financing are not guaranteed by the technology or market innovation alone.**

Notably, the dividends are not available to those people without access to affordable digital infrastructure, those lacking the necessary digital capabilities or those deliberately excluded from access to digital opportunities. For those with access, digitalization can deliver benefits but also bring uncertainties, risks and negative consequences. Unchecked, artificial intelligence could lead to exclusionary profiling and more opportunities for the channeling of illicit financial flows. Ever faster, hyper-liquid financial markets could reduce financing for the SDGs by increasing the profitability of short-term trading. Digital currencies could take away countries' ability to manage their own monetary and economic affairs, just as easily as they could smoothen and cheapen payments. Today's digital disruption of incumbent financial institutions does not alone prevent the emergence of new, digitally powered forms of market concentration.

**Robust governance innovations are needed to ensure that digitalization supports the alignment of finance and money with citizens' interests and sustainable development.**

Shaping digital financing in the public interest is one of the governance challenges of this time. Approaches siloed by jurisdiction, governance domain and impact area are unlikely to be sufficient. There is a need for governance innovations that are underpinned by strengthened mandates, capabilities and instruments of central banks, financial regulators and standard-setters, as well as enhanced collaboration among all of those bodies and members of the broader policy community. Attention will need to be paid to how digitalization itself is expressed in new forms of governance, embedded in technical standards, protocols and algorithms, and deployed through new business models. It will be critical to ensure that there is an inclusive approach to the evolution of such new rules of the road, to maximize the potential benefits of governance and associated market innovations while avoiding the possible negative effects of a new generation of exclusionary, institutional arrangements.

**Findings to date point to some high-potential areas on which the future work, initiatives and recommendations of the Task Force will focus:**

- 1. Identifying major areas of opportunities** for advancing digital approaches to the mobilization and effective use of finance in support of the SDGs, both to address supply (including the public and private use of domestic savings and international capital flows) and to address specific aspects of sustainable development (such as gender, climate and displaced people).



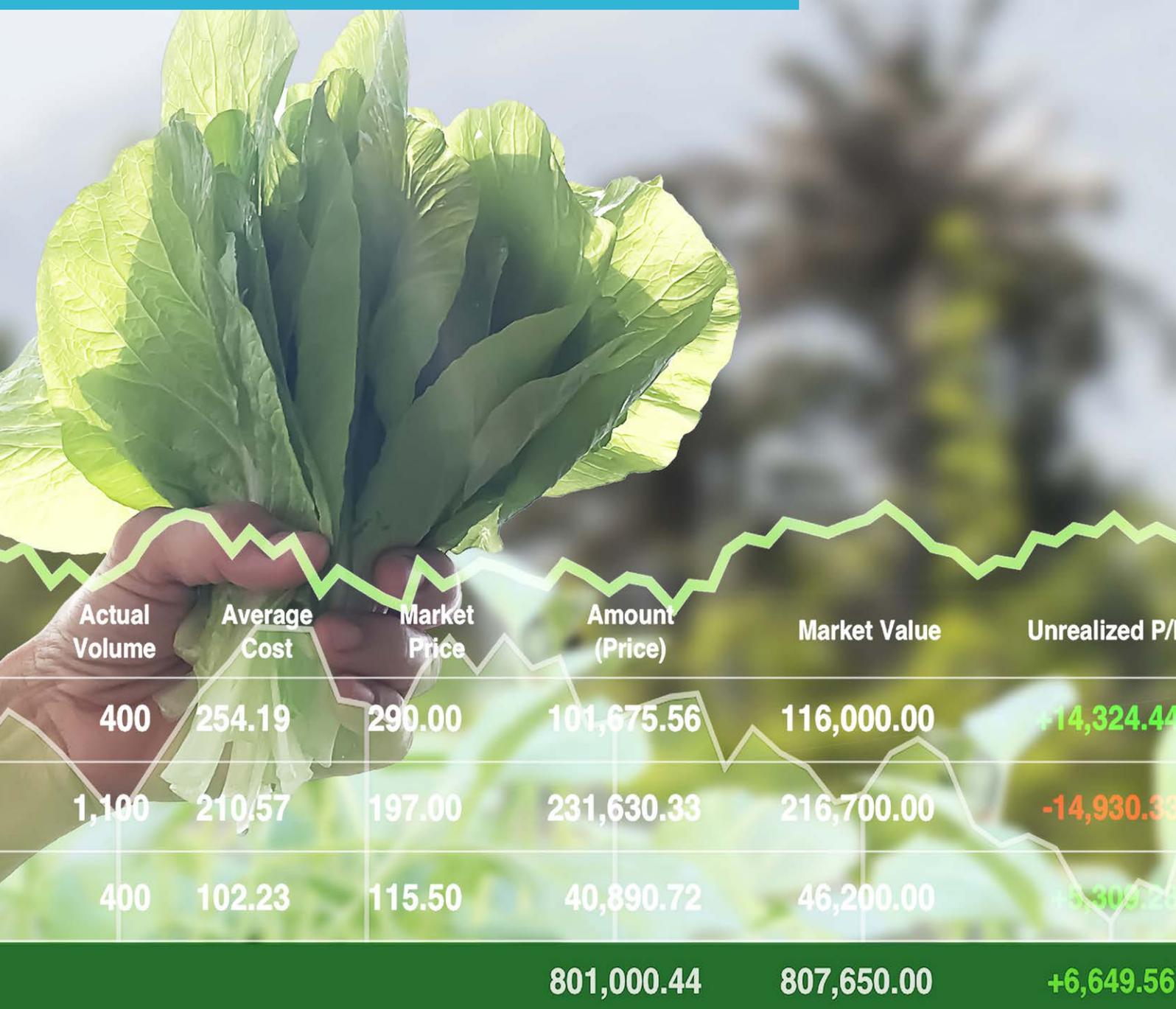
**The Task Force is not looking to write up what is happening today but rather is mandated by the Secretary-General to understand and anticipate how the profound changes at the intersection of finance, technology and sustainability are going to determine the actions of both governments and of market actors.”**

ACHIM STEINER,  
Task Force Co-Chair and  
Administrator of the United  
Nations Development Programme

- 2. Supporting the governance innovations** necessary to overcome barriers in harnessing digitalization for the financing of the SDGs while mitigating risks arising through digitalization (including the consideration of roles for policymakers and corporate governance as well as non-traditional approaches to governing finance and money involving state and non-state actors).
- 3. Building national and regional capabilities** to accelerate the local development of SDG-aligned digital financing and to better align international developments in digital financing and money with domestic priorities (including ways to stimulate and shape market innovations to support SDG-aligned financing).
- 4. Pinpointing needs and occasions for international cooperation** (including the United Nations) to realize opportunities, overcome barriers and risks (including through investments in key infrastructure and access enablers for women and other disadvantaged groups) and develop critical capabilities (including those of developing countries to engage in broader developments in digital financing).
- 5. Measuring progress** in harnessing digital financing of the SDGs and supporting more systematic international, national and regional planning and policy development as well as coordination with business and other non-state actors.

**This Progress Report is an open invitation for contributions by policymakers, experts, market practitioners and consumer advocates in addressing these focus areas.** The mandate of the Task Force is to provide recommendations and catalyse initiatives that will result in the more effective harnessing of digitalization for the financing of the SDGs. Its work to date has benefited from many contributions of analyses and insights, as well as broad recommendations and proposed initiatives. While building on the progress made to date and delivering its final report in the first half of 2020, the Task Force hopes to benefit further from such inputs. It, therefore, invites analyses and proposals for recommendations and specific partnership initiatives. As part of its ongoing outreach efforts, it will continue to engage in dialogue with policymakers, experts and practitioners, while drawing from major reports and ongoing initiatives such as the Secretary-General's High-Level Panel on Digital Cooperation and the United Nations initiative Financing for Development.

# 1. Financing Sustainability





## Transitioning to a sustainable development pathway is a historic challenge.

The 17 Sustainable Development Goals (SDGs) have been adopted through the United Nations as the collective ambition and approach to achieving an inclusive, environmentally sustainable society.<sup>1</sup> Collectively, there is more than enough information and knowledge, technology, innovation capacity and finance to get the job done. The challenge is to deploy these capabilities, which are unevenly distributed and often poorly used, in ways that ensure that **no one is left behind**. Doing so requires solutions that can overcome barriers that today prevent, for example, a nation from moving beyond a fossil-fuel-intensive economy, overcoming exclusion and discrimination, including the marginalization of women, and ridding the world of illicit financial flows that drain much-needed resources for development.

**Financing is a case in point, which is plentiful but not aligned with the SDGs. Trillions of dollars are needed to finance the SDGs annually.** There is, however, no shortage of finance as such. Both governments and private financial institutions can draw from the many trillions of dollars deposited in people's savings each year and from hundreds of trillions of dollars created and managed by the world's financial and capital markets. Indeed, finance today is not only plentiful but also cheap, with US\$12.5 trillion of savings and private capital currently earning negative interest rates.<sup>2</sup>

There is, then, a historic opportunity to channel available finance away from unproductive and, at times, destructive uses to fund what is most needed where it is most needed, particularly in the least developed countries. One need is to overcome barriers in order to channel a greater percentage of the US\$350 trillion in equities, bonds and bank loans towards realizing the SDGs.

The barriers to overcome in accelerating the financing of the SDGs are well understood, through endeavours such as the United Nations initiative Financing for Development<sup>4</sup> and the work by the Group of 20 on financial inclusion,<sup>5</sup> climate risk,<sup>6</sup> and green and sustainable financing.<sup>7</sup> Topping many lists of key barriers are insufficient and poorly used public finance, as well as comparatively low risk-adjusted returns for sustainability aligned private financing, with underlying problems including a lack of adequate metrics and low-cost data, weaknesses in financial and capital markets, and policy shortfalls in catalysing the transition to sustainable development.

#### EXHIBIT 1

##### **Barriers to Financing the Sustainable Development Goals**

- Public funds can be insufficient or poorly used.
- Financial returns can be lower than other investment options.
- Maturity mismatches face banks that are constrained in financing long-term investments.
- Metrics and data are lacking for sustainability-related risks and outcomes.
- Short-termism incentivizes financial market actors to disregard longer-term social and environmental impacts.
- Policy weaknesses can create misaligned incentives for private capital.
- Capital concentration in a few wealthy countries fails to reach needed projects.

**Source:** Secretary-General's Task Force on Digital Financing of the Sustainable Development Goals, 'Framework Document' (New York, 2019).

**Note:** Barriers are illustrative and do not apply to all financing of the SDGs.

##### **Progress is being made in aligning finance with sustainable development.**

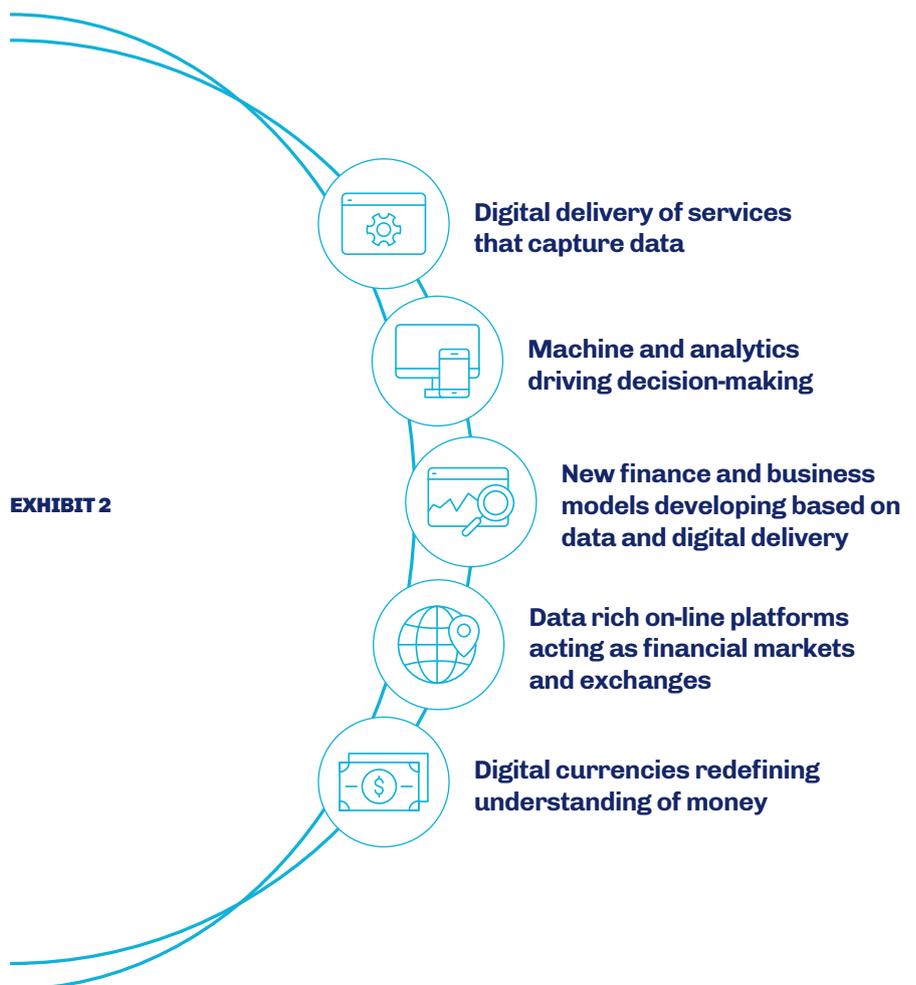
A growing number of initiatives is making a difference across diverse countries and contexts, aspects of financing and parts of the SDGs, as summarized, for example, by the work of the United Nations Inter-agency Task Force on Financing for Development.<sup>8</sup> Such progress is being driven by a broadening range of actors that now includes many of those responsible for governing finance, notably central banks and financial regulators, as well as many market coalitions, such as the Climate Action 100+ group of investors<sup>9</sup> and the Principles for Responsible Investment network.<sup>10</sup>



**The impact [of digitalization] is apparent in a multitude of ways, such as digital payment systems or the emerging gig economy, leading to remarkable success stories. But just as technology is improving the lives of millions around the world, it is also changing the nature of work, doing away with existing jobs and launching entirely new fields of employment that didn't exist a few years ago. Investment in human capital can help drive inclusive, sustainable economic growth."**

HENRIETTA H. FORE,  
Task Force Member and Executive  
Director of United Nations Children's Fund,  
Remarks from 'How can we help young  
people build a better future?'  
TED talk, 24 October 2018

**Progress nevertheless remains wholly inadequate and uneven.** Investment in low-carbon, climate-resilient infrastructure languishes by an order of magnitude below what is needed, despite the historically low cost of capital and the fact that investment in fossil-fuel-intensive assets continues to outstrip clean-energy investments.<sup>11</sup> Despite significant progress in the area of financial inclusion, over 1.7 billion people remain unbanked,<sup>12</sup> with another 4 billion people offline and unable to participate in the digital economy.<sup>13</sup> As of 2018, African companies receive only 0.3 percent of total global fintech investment.<sup>14,15</sup> Women remain 10 percent less likely to own a mobile phone than men and 26 percent less likely to use mobile Internet,<sup>16</sup> and digital finance has had little impact on the global gender gap in finance. Despite efforts to stem money laundering and other illegal financial flows, it is widely accepted that such flows annually amount to hundreds of billions of dollars, reducing resources available to invest in long-term development.<sup>17</sup>



### EXHIBIT 3

#### Key Definitions Used by the Task Force

Digital is the shift from paper to digital format.

Digitalization is the shift from manual to automated processes. Furthermore, it is the integration of digital technologies into everyday life by the digitalization of everything that can be digitalized.

Fintech is the range of technologies within the scope of 'digital financing,' including mobile payment platforms, artificial intelligence, big data, Internet of things, blockchains and cryptocurrencies.

Financing concerns the activities, flows and institutions of the entire financial system, including investment, lending, insurance and payments, as well as diverse functions such as payment systems, intermediation, asset creation, insurance and the related monetary system.

Digitalization of finance comprises the systemic changes to the financial ecosystem, aided by fintech, that lead not only to the digitalization of finance-related activities, as well as the broader associated changes in business models, products and services, but also to changes in the real economy, monetary systems, governance models, and citizens' relationships with finance and the real economy.

Sustainable Development Goals (SDGs) are the 17 goals to which world leaders agreed in 2015 to achieve a better world by 2030 and, through SDG 13 (Climate Action), include the goals established through the Paris Agreement on climate. These are Global Goals and apply to all Member States.



**One of the least disrupted industries of all time is financial services. There are various valid reasons for that, and ultimately, it's going to be about working and collaborating together."**

AMBAREEN MUSA,  
Task Force Member and  
Founder and Chief Executive  
Officer of Souqalmaal,  
Remarks during Davos 2019

## EXHIBIT 4

### How the Digitalization of Finance is Achieving the Sustainable Development Goals



**BIMA**, through its mobile health service, provides mobile prepaid subscribers and their families with unlimited access to medical consultations and health programmes over the phone, paid via phone credit. Since its inception, mHealth from BIMA has launched in Bangladesh, Cambodia, Ghana, Pakistan and Paraguay and has reached over 2.2 million customers.

**Source:** <http://www.bimamobile.com/our-services/mobile-health/>

#### Betterment

**Betterment** is among the top investment robo-advisers in the United States of America. It has included a socially responsible option, with a detailed explanation of how it uses MSCI indexes to automate investment decisions for its customers.

**Source:** <https://www.betterment.com/resources/research/socially-responsible-investing-portfolio/>



**The Government of Canada** set up the Pakistan Relief Fund in 2010, which raised US\$47 million from individual citizens through online donations. The Canadian International Development Agency matched those funds, resulting in US\$94 million raised.

**Source:** Eytan Bensoussan, Radha Ruparell and Lynn Taliento, 'Innovative development financing,' August 2013.



ETHIS VENTURES

**Ethis Ventures** partners with, develops and operates ethical and Islamic crowdfunding platforms in Malaysia and Singapore for micro, small and medium enterprises and real estate, helping over 8,000 families crowdfund funds for new homes.

**Source:** JD Alois, 'Malaysia Updates Crowdfunding Framework, Securities Commission Malaysia Affirms its Support of Fintech,' 19 May 2019.



**Hello Tractor** provides online booking and payment services for farmers to rent farm equipment while providing GPS data to allow owners to track the equipment's location and use. It is working with John Deere to import 10,000 tractors to Africa, which are estimated to bring 9 million hectares of land into production, create 37 million metric tons of additional food and add over 2 million direct and indirect jobs.

**Source:** Adele Peters, 'This startup lets African farmers hire an on-demand tractor to boost their harvests,' 29 August 2018.



**DBS Bank** and Halcyon Agri Corporation recently developed HeveaConnect, a digital-trade marketplace for sustainable rubber. The marketplace enables stakeholders to track pricing and supply information and transact directly, as well as to access other value-added services.

**Source:** [https://www.dbs.com/newsroom/DBS\\_partners\\_Halcyon\\_to\\_set\\_up\\_HeveaConnect\\_a\\_digital\\_trading\\_marketplace\\_for\\_sustainable\\_rubber](https://www.dbs.com/newsroom/DBS_partners_Halcyon_to_set_up_HeveaConnect_a_digital_trading_marketplace_for_sustainable_rubber)



**Unified Payments Interface** links 143 banks in India to a simple, secure fund routing and merchant payment platform, offering immediate, low-cost money transfers for individuals or businesses with a bank account or mobile wallet. After three years, it now processes over 800 million payments worth US\$20 billion per month. It is also used to process over 450 government social payment schemes.

**Source:** <https://www.npci.org.in/product-statistics/upi-product-statistics>



**X-Road** in Estonia digitalized income-tax declarations by linking citizens' employment and tax records, saving the equivalent of 820 years of work in 2016 or one workweek per person.

**Source:** Heiko Vainsalu, 'How do Estonians save annually 820 years of work without much effort?' December 2017.

# 2. Potential of Digital Financing





**Technology is a basic right, not a luxury. We need to change that mindset if we are to address the chronic underinvestment in women and girls and achieve their equal access to technology as a norm. This can be accelerated by embedding people from the development sector within the worlds of technology and finance, and by governments enlarging their concept of necessities beyond water, food, shelter and energy.”**

PHUMZILE MLAMBO-NGCUKA,  
Task Force Member and  
Executive Director of UN Women,  
Remarks during a discovery interview  
with the Task Force secretariat  
and Accenture research team,  
January 2019

## **Data-driven innovations are reshaping the world of finance.**

Data has been dubbed the ‘new oil’ of the 21st Century digital economy. Extraordinarily, 90 percent of the available data that exists in the world today has been created in the past two years.<sup>18</sup> Digital financing, or so-called ‘financial technologies’ (fintech), include mobile payment systems, artificial intelligence, big data, Internet of things, blockchains and digital currencies. Global financing of fintechs has grown to US\$111.8 billion, up 120 percent from US\$50.8 billion in 2017.<sup>19</sup> Global spending on artificial intelligence is already near US\$20 billion and projected to grow to US\$52 billion by 2021, with the financial market industry accounting for US\$3.3 billion in 2018 alone.<sup>20</sup>

**Digitalization takes the world beyond the effects of efficiency and cost savings in shaping new financial products, enterprises and markets.** Digitalization can create tremendous efficiency gains, which can lead to greater access, lower prices and more choice. Digitalization fills a system with data and connections, leading to new business models, alternative data for analysis and risk assessment, as well as more and different products, while opening the system to new actors and new approaches with their own risks and rewards. Digitalization goes further in harnessing the digital revolution in shaping new products, enterprises, markets, investment opportunities and related governance and institutional arrangements. It changes how and what people consume, how and where individuals and companies access finance, and how investments are structured and sold. It is also beginning to change how and by whom financing is done, as new data and technology drive how decisions are made, financial assets are created and traded, and Internet-based social, e-commerce and financial platforms become clearing houses and originators of finance.

## EXHIBIT 5

### Trends and Insights that Relate to Digitalization

#### Trends

**Core infrastructure is undergoing substantive changes** as legacy institutions invest in the overhaul of core systems and keep up with new market entrants that exploit niches with newer technology.

**Front-office innovations are being implemented to engage customers and collect data**, both helping to decrease costs and provide the data needed for better product design, services and choices.

**There is a proliferation of digital business models**, both within finance and in the real economy, built on digital finance (e.g., e-commerce and pay-as-you-go models).

**The rise of platforms based on all-to-all models**, through social and e-commerce platforms as well as trading platforms, is democratizing finance and commerce.

**Global monetary systems face new questions and challenges**, as new models mature and cryptocurrencies emerge and seem poised to go mainstream.

**Source:** Secretary-General's Task Force on Digital Financing of the Sustainable Development Goals and Accenture Development Partners, 'Harnessing the Digitalization of Finance for the Sustainable Development Goals' (New York, 2019).

#### Insights

**Retail innovations are leading the pack**, as tech-based models proliferate across finance and the real economy, primarily as a force for greater inclusion and choice.

**Public finance lags behind**, as governments are slow to adapt and unlock the potential that digitalization provides in the mobilization and utilization of finance and the possible innovations for financing public infrastructure and goods.

**Technology solutions are still developing and finding valuable uses**, with artificial intelligence making great leaps in recent years and blockchains and the Internet of things still in search of the best applications to finance.

**The private sector is increasingly funding the SDGs**, because of the growth of reliable financial and alternative data, but demand for sustainable investments is now outstripping supply.

**There will be a period of competition of ideas and business models and a race for data**, but companies with existing or possible future datasets, which fuel the growing digital economy, that can absorb the best ideas will have the advantage.



**Digitalization ... holds many promises for deciphering the interconnections of social and environmental issues ... Digitalization also holds significant opportunities to resolve environmental issues, not least by helping redirect financing towards more environmentally efficient users of capital. New abilities for obtaining and analysing data at scale and at speed vastly enhance opportunities to incorporate environmentally relevant information into risk analysis and asset pricing. This, in turn, changes the cost of capital for companies in the real economy.**

PIYUSH GUPTA,  
Task Force Member and  
Chief Executive Officer and  
Director of DBS Group,  
Remarks in an article for  
Davos 2019



**585 of the largest public pension plans and sovereign wealth funds have an estimated \$22 trillion of assets. As long-term investors, these funds are well placed to weigh the impact of their investments towards a future world in which their citizens can thrive. Positively meeting the sustainable development goals (SDGs) is part of that future. In an increasingly digitalized era with a challenging investment landscape, these investors could begin to tilt the balance of investment patterns to mobilize more capital towards projects and ideas that mitigate climate change, alleviate poverty or provide stability to displaced people in the most vulnerable regions. These goals can still be achieved in our lifetime.”**

POOMA KIMIS,  
quote from the Second Meeting  
of the Task Force, June 10 2019

**Digitalization can make a meaningful difference if it helps to overcome today's barriers to the financing of the SDGs.** By reducing the cost of financing, for example, digitalization can accelerate financial inclusion and improve the achievement of broader social and environmental impacts of financing decisions. For instance, today 1.2 billion Indian citizens have a digital identity that connects them to banks, credit bureaus and a wide range of payment options.<sup>21</sup>

More, cheaper and faster data have supported the issuance over the last five years of half a trillion dollars of green and sustainable development bonds.<sup>22</sup> An ever-greater proportion of the now US\$689 billion in remittances to low- and middle-income countries reaches the intended destination,<sup>23</sup> with digital remittances costing about half of the global average of 7 to 8 percent.<sup>24</sup> The success of the world's carbon trading markets and the growing practice of climate risk assessments depend on cheap, accurate and plentiful data, increasingly drawn from such diverse sources as satellite imagery, weather data and Google searches. Governments have untapped potential to assess tax at the source of income or sale to help bolster the public financing that is critical to economic development. It is estimated that 90 percent of the developed world's trades are executed by computer investment algorithms,<sup>25</sup> creating the opportunity for the right data, policies and incentives for SDG-related investing to be included in investment algorithms to shift trillions of dollars towards more beneficial (or less harmful) real-world outcomes.

**Digitalization drives new financing ecosystems that involve multiple market and policy actors.** Inspired by the Kenyan experience, pay-as-you-go solar units powered by mobile payment platforms are now in the hands of millions of African households and are inspiring similar models around water, sanitation and education.

Financing clean energy and action on climate can be accelerated through digitalization, demonstrating both top-down and bottom-up approaches linking retail and capital markets:

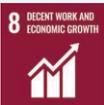
- At the local level, digital innovations such as remote sensors combined with digital payments and pay-as-you-go business models have driven distributed energy growth up and costs down.<sup>26</sup>
- At a global level, the growing set of reliable data sources on 'greenness' or carbon intensity of investments, including satellite data from companies such as Planet Labs,<sup>27</sup> combined with policy mandates, is driving growth in both carbon markets and climate-related liability claims.

Public and private investors have responded to these evolving financing ecosystems by funding 40 percent of green bonds and providing 90 percent of renewable energy investment globally.<sup>28</sup>

**EXHIBIT 6**

**Analysis of the Current Application of Digital Finance to the Sustainable Development Goals**

SDG	Current sources of funds	Relative level of digital finance	Areas of innovation				Illustrative digital solutions	Examples and notes
			Cap Mkts.	Retail	Govt.	ODAs		
	(In order of significance)	(Relatively graded across SDGs)					(Non-exhaustive)	(Sample)
	<ul style="list-style-type: none"> <li>• Most through domestic social protection programmes and consumer spending</li> <li>• ODAs and grants for development agenda</li> </ul>						<ul style="list-style-type: none"> <li>• Digital wallets and platforms for access to/ payment of services</li> <li>• E-transfer of public aid and disbursement</li> </ul>	Ending poverty is linked to many other SDGs and their sources of funds; the most clearly linked DoF application is through direct transfers and financial inclusion
	<ul style="list-style-type: none"> <li>• Almost 50 percent from 'private investment' of farmers</li> <li>• Government funds, donors and ODAs</li> </ul>						<ul style="list-style-type: none"> <li>• Mobile banking for access to agri-inputs</li> <li>• Predictive analytics for crop insurance</li> <li>• Digital platforms for e-marketplaces</li> </ul>	<i>Kartu Keluarga Sejahtera</i> card: Using a mobile-linked digital card and e-portal for social payments and distribution by the Indonesian Government ( <a href="#">link</a> )
	<ul style="list-style-type: none"> <li>• Domestic public finance, followed by ODAs and grants from foundations</li> <li>• Out-of-pocket expenditures by households</li> </ul>						<ul style="list-style-type: none"> <li>• Mobile money for P2P and G2P transfers as well as microinsurance</li> <li>• Digital credit for instant health loans as well as worker incentives</li> </ul>	Fearless Health product by MicroEnsure: Offering telemedicine, mobile-linked microinsurance and on-demand loans in Kenya ( <a href="#">link</a> )
	<ul style="list-style-type: none"> <li>• Major flows from government expenditures, followed by ODAs</li> <li>• Out-of-pocket expenditures by households</li> </ul>						<ul style="list-style-type: none"> <li>• Mobile money for fee payments and education loans</li> <li>• AI to incentivize student loan payments</li> <li>• Digital wallets for teacher salaries</li> </ul>	Finix International: Using customer repayment data from solar loans to approve education loans in Uganda ( <a href="#">link</a> )
	<ul style="list-style-type: none"> <li>• Majorly driven by public finance to implement policies</li> <li>• ODAs and some private gender-lens investments</li> </ul>						<ul style="list-style-type: none"> <li>• Mobile money and digital platforms for more secure selling, e-commerce and knowledge-sharing</li> </ul>	Mastercard Mercy Corps programme: Linking an e-ID card to mobile savings account for financial inclusion in Nigeria ( <a href="#">link</a> )

SDG	Current sources of funds (In order of significance)	Relative level of digital finance (Relatively graded across SDGs)	Areas of innovation				Illustrative digital solutions (Non-exhaustive)	Examples and notes (Sample)
			Cap Mkts.	Retail	Govt.	ODAs		
 6 CLEAN WATER AND SANITATION	<ul style="list-style-type: none"> <li>Government funding, followed by ODAs (ODA loans, ODA grants and other official flows)</li> </ul>					<ul style="list-style-type: none"> <li>Metering technology for innovative billing</li> <li>Smart cards for beneficiaries' water access</li> </ul>	Safe Water Network and CGAP: Coupling digital payments with prepaid metering technology for a pay-as-you-drink model in Ghana ( <a href="#">link</a> )	
 7 AFFORDABLE AND CLEAN ENERGY	<ul style="list-style-type: none"> <li>Greatest investment from the private sector (direct and through capital markets), followed by domestic public funds</li> </ul>					<ul style="list-style-type: none"> <li>Data-backed monitoring of green securities</li> <li>E-trading using mobile wallets for energy credits</li> </ul>	Brooklyn Microgrid: Buying and selling power by owners using blockchain technology in the United States of America ( <a href="#">link</a> )	
 8 DECENT WORK AND ECONOMIC GROWTH	<ul style="list-style-type: none"> <li>Driven by governments through transfers and ease-of-business policies</li> <li>ODAs, including bilateral</li> <li>Commercial lenders and investors in micro, small and medium enterprises</li> </ul>					<ul style="list-style-type: none"> <li>Big data analytics for lending and risk monitoring</li> <li>AI and machine learning for recruitment and workplace matching</li> </ul>	MYbank by Ant Financial: Offering big data based digital credit and insurance in China ( <a href="#">link</a> )	
 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	<ul style="list-style-type: none"> <li>Split across three major sources (private, public and ODAs/IFIs)</li> <li>Nearly half from the private sector</li> </ul>					<ul style="list-style-type: none"> <li>Cryptocurrency for initial coin offerings</li> <li>Digital investment planning tools for cross-border investments</li> </ul>	Payapps (formerly Progressclaim): Using a digital platform for payment settlements in the Australian construction industry ( <a href="#">link</a> )	
 10 REDUCED INEQUALITIES	<ul style="list-style-type: none"> <li>Financing interlinked with that of the other SDGs that impact equal access to opportunities and services</li> </ul>					<ul style="list-style-type: none"> <li>Digital wallets and platforms for equal access to services</li> <li>E-transfers of public aid and disbursement</li> </ul>	Insofar as DoF contributes to greater and more equitable access to finance and basic services, it helps achieve greater equality	
 11 SUSTAINABLE CITIES AND COMMUNITIES	<ul style="list-style-type: none"> <li>Majorly driven by governments</li> <li>Moderate private-sector investments</li> <li>Minimal ODAs</li> </ul>					<ul style="list-style-type: none"> <li>Online platforms for bond purchase and asset securitization</li> <li>Smart cards for access to transit payments</li> </ul>	Municipal governments: Using blockchain-based platforms to track assets, payments and administrative processes in land investments in Ghana and Honduras ( <a href="#">link</a> )	

SDG	Current sources of funds (In order of significance)	Relative level of digital finance (Relatively graded across SDGs)	Areas of innovation				Illustrative digital solutions (Non-exhaustive)	Examples and notes (Sample)
			Cap Mkts.	Retail	Govt.	ODAs		
 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	<ul style="list-style-type: none"> <li>Domestic public finances (for solid waste)</li> <li>Private sector (for food and industrial waste)</li> </ul>						<ul style="list-style-type: none"> <li>Digital platforms for crowdsourcing of funds</li> </ul>	Indian Railways and Paytm: Providing cashback (Rs 5) to passengers in their Paytm wallet for dropping a plastic bottle into the crushing machine ( <a href="#">link</a> )
 13 CLIMATE ACTION	<ul style="list-style-type: none"> <li>Close to half through public finance (government and ODAs)</li> <li>Significant private-sector contributions</li> </ul>						<ul style="list-style-type: none"> <li>Blockchain-based investment platforms</li> <li>Digital currency for climate action</li> <li>Mobile payments for energy access</li> </ul>	Green Assets Wallet: Using a blockchain platform to help accelerate the market for green investments ( <a href="#">link</a> )
 14 LIFE BELOW WATER	<ul style="list-style-type: none"> <li>Mostly through ODAs</li> <li>Some by private companies</li> </ul>						<ul style="list-style-type: none"> <li>Digital platforms for blue financing</li> <li>Big data analytics as well as intelligent and interactive platforms</li> </ul>	PACÍFICO: Using a regional funding platform to mobilize, manage and increase funds for sustainable management of the Tropical Eastern Pacific ( <a href="#">link</a> )
 15 LIFE ON LAND	<ul style="list-style-type: none"> <li>ODAs, mostly bilateral</li> <li>Government budgets</li> </ul>						<ul style="list-style-type: none"> <li>E-trading of credits for biodiversity offsets</li> </ul>	Using biodiversity offsets to compensate for biodiversity losses from infrastructure development projects in the European Union and Mexico ( <a href="#">link</a> )
 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	<ul style="list-style-type: none"> <li>Major flows through grants and ODAs</li> <li>Public financing in conflict areas</li> </ul>						<ul style="list-style-type: none"> <li>E-vouchers to replace cash transfers</li> <li>Digital platforms for disbursement</li> </ul>	Cash Learning Partnership and Electronic Cash Transfer Learning Action Network: Using digital payments for cash transfers for a humanitarian response ( <a href="#">link</a> )

**Acronyms:** AI, artificial intelligence; DoF, digitalization of finance; G2P, government to person; IFI, international financial institution; ODA, overseas development assistance; P2P, person to person



**The fundamental economic behaviour remains payments. If payments can be made easier, more convenient and lower cost, that alone can unlock growth.”**

ERIC XIANDONG JING,  
Task Force Member and  
Executive Chairman and Chief  
Executive Officer of Ant Financial,  
Remarks during Davos 2019

**Connectivity, as well as the collection and creative use of data, is driving SDG financing.** For example, using data on rainfall or drought has led to global innovations in agricultural finance and insurance. Alternative data are increasing in size and scope with the proliferation of Internet-of-things devices, making it likely that sources and uses of data linked to other SDGs are coming as it is possible to verify anything from home energy use and waste management to school attendance. The combination of smartphones, digital payments, data analytics and Internet of things can be exploited further to create and expand pay-as-you-go infrastructure as well as access to basic services, insurance and small-asset finance. Health and education solutions can be supplied from and to remote locations because of the security and low-cost of paying for such services. Fintech can also be used to shape citizen behaviour. For example, Ant Financial deployed an app on its payment platform that has engaged over 500 million Chinese citizens in carbon-saving consumer activities.<sup>29</sup>

**Digitalization of financing underpins a broader reconfiguration of economies.** Economic sectors are being disaggregated and recombined in new forms as technology firms, particularly e-commerce and social platforms with massive amounts of data, compete with financial service firms by offering payment, credit, savings and even wealth advisory products and services directly on their platforms. The largest mortgage lender in the United States of America, for instance, is not a bank; rather, it grew out of a subsidiary of a software company.<sup>30</sup> As an example of technology that offers the possibility to leapfrog stages of financial market development, robo-advisers are expected to grow to US\$783 billion of assets under management by 2020 in China, compared to US\$1 trillion in the much larger market of the United States.<sup>31</sup> Tomorrow's mobility infrastructure may well be a core part of the global energy system, with digital financing being one of its most critical ingredients.

## EXHIBIT 7

### Potential of Digital Financing

**Digitalization can accelerate progress in realizing the SDGs through both the improved mobilization and use of financing.**

#### MOBILIZATION

- Digitalization can enable private savings to be channelled more efficiently into long-term financing vehicles, for example unlocking opportunities for citizens through fractional ownership and use of their assets (e.g., real estate).
- Access to a digital savings account can increase individual savings, which combined with access to money transfers, has a proven effect on the reduction of poverty.
- Digitalization can enhance government revenue-raising, by making it harder for citizens to evade the payment of taxes and offering cheaper and easier ways to make payments.
- Digitalization can reduce the cost of remittance transfer, which has been halved by digitalization and is edging closer to the SDG target of 3 percent.
- Digitalization can play a major role in mobilizing greater international finance at a lower cost, enhancing the measurement of returns to impact investors as well as enabling more effective risk assessment and management.

#### USE

- Digitalization can improve the performance of public financing, by targeting and tracking impacts and strengthening the public accountability of funds raised.
- Digitalization can improve the performance of impact-conscious investors, for example by improving the quality of and reducing the costs for tracking.
- Digitalization can improve the alignment of traditional private financing with the SDGs, by enabling improved assessments of SDG-relevant risks and opportunities.
- Digitalization can improve the overall alignment of all finance with the SDGs, by strengthening the role of data-based policies, regulations, standards and public support.



**Digital financing of the SDGs is already underway in some countries, but there are enormous gaps across countries, with many developing nations lacking access altogether, and also a big divide between the global North and the global South in terms of investment flows. There is huge demand from Southern countries for financing solutions for energy, water, climate change response—an international solution is needed to provide access to basic services to billions of people to achieve the SDGs. We see the role of digital financing as a tool to be developed to complement existing financial models to finance the SDGs in the next few years.”**

LIU ZHENMIN,  
Task Force Member and  
Under-Secretary General for  
Economic and Social Affairs,  
Remarks during a discovery interview  
with the Task Force secretariat and  
Accenture research team,  
December 2018

“

“When you don’t see ‘digital giants’ in a market, it’s less an issue of connectivity or cyber-security than a lack of synergies between the sectors. You need a holistic, coordinated approach. Take Estonia, for example: in the past 20 years, it’s been home to four fast-growing tech company unicorns despite being a tiny place relative to, for example, the United States. It happened in part because the Government wanted it to happen and put the necessary requirements and incentives in place. The public sector is responsible for how the private sector succeeds—not just in financial services but other sectors also—and we need to think hard about how we facilitate that success.”

AURÉLIE ADAM SOULE  
ZOUMAROU,  
Task Force Member and  
Minister of Digital Economy and  
Communications of Benin,  
Remarks during a discovery interview  
with the Task Force secretariat  
and Accenture research team,  
December 2018



# 3. Digital Challenges





Consumer behaviours are changing. The political landscape is uncertain. And technology is entering a new era, the 5G era. These three components are converging to create a sort of perfect storm where the decisions we make are going to have serious consequences. Leaving people behind is going to be a huge crime.”

MATS GRANRYD,  
Task Force Member and  
Director General of GSM Association,  
Remarks during Davos 2019

## Digitalization can accelerate the financing of the SDGs, but there are significant barriers and risks.

The most immediate barrier is the continued lack of enabling digital infrastructure for an estimated 800 million people, largely in less developed countries.<sup>32</sup> Beyond that, another 3 billion people have digital coverage but either cannot afford to use it or do not have the context or capabilities to derive benefits from going digital.<sup>33</sup>

**Much is being done to overcome the physical, access and capability aspects of the digital divide.** Yet, despite progress on all three fronts, the leading edge of digitalization continues to drive forward. The accelerating pace in deploying such innovations in technology and usage is creating new sources of exclusion that need to be addressed. There are emerging inequalities from digitalization for communities that have largely been excluded. Women, notably, have much to gain from securing digital access, but they are too often still excluded from the payment for, access to and use of digital technologies and associated services and benefits.<sup>34</sup>

**Digital financing carries risks closely linked to its potential for financing the SDGs.** Big data and artificial intelligence provide remarkable opportunities to reduce the cost and increase the speed of lending to small- and medium-sized businesses. It is no coincidence that big-data, fintech-enabled companies like Amazon and Alibaba-linked Ant Financial have emerged as some of the world's largest lenders to small- and medium-sized enterprises. Ant has taken a step further in using its data-driven knowledge to provide a de facto consumer credit rating, the Sesame Credit system, for hundreds of millions of Chinese customers. This development is similar to those elsewhere, such as the use of data by M-Kopa from the M-Pesa payment system to create credit pro-

## EXHIBIT 8

### Key Foundational Issues to Address for Digitalization to Bridge the Gender Gap

On behalf of the Task Force, UN Women commissioned the white paper 'Leveraging Digital Finance for Gender Equality and Women's Empowerment,' which highlights that the digital revolution represents one of the biggest opportunities and threats to women and girls. All of the main concerns described in the report around discrimination, bias and greater exclusion are more pressing for women than men. The fact is that digitalization and digital finance tend to reflect multiple societal and cultural barriers rather than bridge them. A few simple facts speak for themselves.

The global Internet gender gap is growing wider and is the largest in the world's least developed countries:  
**31%**

**US\$1.3 BILLION** were invested in gender bonds in 2017, much less than the US\$187 billion invested in climate finance bonds

The global gender gap in financial inclusion has not changed since 2011 and, in developing countries, this gap reaches  
**9**  
**PERCENTAGE POINTS**

**LESS THAN 2%** of banks' CEOs are women and less than 20% of board seats at banks are held by women

The challenges faced by women are linked to their control over money, decision-making and decision-makers in the household, office and boardroom. The key is to address the foundational issues, which requires political and business leaders to move beyond a 'gender-neutral' policy to one that actively promotes digitalization as a tool to achieve gender parity.

- Infrastructure: On average, women are 10 percent less likely to own a mobile phone and 26 percent less likely to use mobile Internet than men are.
- Cost: The high price of Internet access is one of the greatest barriers for women. It results in inequitable gains from technology access and leads to more investments that benefit men, as they are the largest group of customers.
- Laws: In too many countries, laws still discriminate against women and prevent them from accessing credit, having property rights or obtaining official identification documents.
- Education: The lack of knowledge and digital skills deters new female users from accessing mobile Internet and inhibit existing users from using mobile Internet on their own. Low financial knowledge is an important barrier, with the younger generation of women showing even less interest in making their own financial decisions.
- Social norms: Owning a phone or exchanging information online can increase risks for women to endure gender-based violence. Gender stereotypes have a profound impact on the digitalization of finance, and women worldwide are systemically underrepresented in fintech jobs.

**Source:** UN Women, 'Leveraging Digital Finance for Gender Equality and Women's Empowerment,' white paper (publication forthcoming).



**Digitalization has major implications for monetary policy and financial regulators because it moves us towards a much more decentralized and disaggregated ecosystem. This will make regulators' jobs much more difficult. They will have to manage many more small and unknown intermediaries versus the current few large intermediaries. They will even have to decide: How do you define 'a bank'?"**

RICHARD SAMANS,  
Task Force Member and Managing  
Director of World Economic Forum,  
Remarks during a discovery interview  
with the Task Force secretariat and  
Accenture research team,  
January 2019

files for Kenyan citizens, thereby providing greater access to consumer and small business loans.<sup>35</sup> Yet, such enhanced financial services come at a price, most obviously from citizens' loss of control over their own data. In turn, they expose citizens to greater e-fraud and lead to undue influence in economic and political matters more broadly, in some instances to state-based assessments of citizens' behaviours with associated incentives and penalties.

**The impact of digitalization on illicit financial flows highlights the breadth of both the opportunities for and risks in advancing digital financing.** Financial crime, including bribery, corruption, money laundering, fraud, theft, cybercrime, human trafficking and slavery, is unfortunately pervasive. In financial terms, these crimes have led to an estimated US\$1.45 trillion in lost revenue and diverted funds from legitimate investments in a 12-month period.<sup>36</sup> More broadly, illicit financial flows enable environmental crimes, which hasten global biodiversity loss and underpin the estimated 40 million people trapped in some form of modern-day slavery.<sup>37</sup> Globally, 97 percent of respondents to a 2019 survey of over 3,000 managers with compliance-related responsibilities said that they believe technology can significantly help with financial crime prevention and 60 percent indicated that they are prioritizing automation and digitalization for investment.<sup>38</sup> Yet, digital technologies can also facilitate crime. They can allow the easy creation of online criminal networks that transcend traditional boundaries and can facilitate the frictionless transfer of illicit funds via digital currencies. Anonymous online activity can facilitate crimes such as tax evasion as well.

**The emergence of new forms of money illustrates the rapidly widening range of risks as well as the development potential of digital financing.** The digitalization of payment systems has rightly been seen as delivering a development dividend in addressing many aspects of financial inclusion, as well as in triggering a new generation of financial services that can support small business development and crowd in funds for longer-term investment. From this formative development, a first generation of digital currencies such as Bitcoin has not significantly affected the financing of sustainable development, although there have been considerable negative environmental effects associated with the production and the use value chain of these currencies.<sup>39</sup> A next generation of digital currencies, now largely in design, is likely to have far wider development implications. Positively, they could further ease and reduce the costs of payments, particularly across currency jurisdictions; however, their effects on financial and monetary stability, as well as the autonomy of smaller, developing countries to control their monetary and broader macroeconomic circumstances, will be less certain.<sup>40</sup>





**Digital technology has improved service delivery to customers. But with increasing connectivity and interoperability, one cyberattack may be all it takes to cause the entire financial sector to come under strain. Cybersecurity must be a priority, not an afterthought. With each new product, institutions must ensure cybersecurity and must take care not to introduce new products whose risks outweigh their benefits.”**

PATRICK NJORGE,  
Task Force Member and  
Governor of the Central Bank of Kenya,  
Remarks during a keynote address  
to launch Kaa Chonjo! (Be Alert!)  
campaign, 3 May 2019

#### EXHIBIT 8

##### Digitalization Challenges

- Digitalization can reinforce and deepen the digital divide created by a lack of digital infrastructure, affordability of handsets and data, and context and capabilities to derive value from use.
- Digitalization can lead to systematic exclusion through the growing practice of private- and state-sponsored profiling that can reinforce historical patterns of discrimination, such as gender biases in algorithms that underlie online lending.
- Digitalization can enable fraud by those that use the anonymity of digital technologies to mislead investors or cybercriminals.
- Digitalization can increase transparency and accountability but can equally support increased money laundering and illicit financial flows more broadly.

# 4. Citizens as the World's Financiers





**Financial globalization has been one of the key drivers of what Theodore Roosevelt called the ‘swollen fortunes for the few.’ ... No wonder that growing concerns about finance can be heard across the political spectrum—and not just about the issues of the day but about the fundamental purpose of this [financial] industry. In too many cases, the financial sector has strayed from its original, noble purpose. And too often, it has worked hard to serve itself rather than serve people and the economy at large.”**

CHRISTINE LAGARDE,  
Managing Director of the International  
Monetary Fund  
Remarks during Tacitus Lecture  
‘The Financial Sector: Redefining a  
Broader Sense of Purpose,’ presentation  
at the 32nd World Traders,  
London, 28 February 2019

## **Whether citizens are empowered by the digitalization of finance will significantly determine the balance between positive and negative outcomes.**

Citizens, as savers, investors and taxpayers, are the world’s financiers, just as they shape the global economy through their purchasing patterns. Despite that fact, most people view the financial system as something separate from themselves, as an unintelligible ‘black box’ into which they put their savings, investments and taxes with very little ability to control the use or misuse of the funds. In the main, actors across the financial system are not trusted by their customers. Customers may well have access, but they make decisions with incomplete information, inadequate capabilities, and a weak sense of their rights and how they can be exercised. While ‘choice’ is increasingly marketed by financial service providers, it means little in practice for most people. Indeed, many citizens view financial institutions as profiting beyond any reasonable level, being dominated mostly by large, powerful and unapproachable intermediaries, and standing at the centre of the financialization of the global economy that has exacerbated inequality and exclusion. The truth that financial capital is owned by citizens, albeit distributed unequally, does not prevent their sense of powerlessness.

**The potential of digitalization in financing the SDGs depends on whether it can empower citizens in making the financial decisions that affect their lives.** There is a multitude of ways that digitalization might empower citizens in the matter of financing. Crucially, it can provide affordable access to the many citizens around the world who have to date been excluded from accessing financial services. The enabling of such access by digital innovation is vital to individuals saving, borrowing and investing to secure the things they need to improve their lives, to the financing and growth prospects of micro, small and

medium enterprises, and to the securing of financial stability and inclusive, sustainable economic growth. Such innovation is not just a matter of data provision; it is an issue of facilitating individual identity and the safe sharing of data between institutions. Sierra Leone, for example, has collaborated with the non-profit Kiva, UNCDF and UNDP to create a digital financial identity for its 7 million citizens. Linked to the national identification system, it allows citizens to build and control the use of their financial identity. The digital identification system uses distributed ledger technology so that each individual has a unique identifier, giving the individual control over when that information is shared with another institution.

**Digitalization could support three disruptive waves of change that could dramatically shift the centre of gravity of the financial system towards the citizen.**

Simply better, cheaper and more accessible information could support the first wave of opportunities to empower citizens in their financing decisions, from their roles as savers and borrowers to consumers and pension policyholders. Most obviously, more easily accessible information about both products and suppliers could allow citizens as consumers to take greater account of SDG impacts in their purchasing decisions. Beyond this ability, digitalization could provide citizens, as consumers, with pathways to secure the ownership or use of beneficial consumer products, particularly durable items that have historically been unavailable to people with no credit history, regular income or banking arrangements. Digitalization of finance has fuelled new pay-as-you-go business models that are facilitated by a combination of digital payments and remote-sensor technologies, most notably clean-energy finance, that enable households to acquire assets and then use those assets as collateral to finance other household needs, such as loans for education or emergencies.

**Disruptions caused by digitalization that disintermediate incumbent financial intermediaries,**

such as banks, could provide a second wave of opportunities as new data-fuelled actors find fresh ways to customize and deliver finance. As took place in the music industry, citizens can obtain consumer goods, financial products or investments almost instantly, in the quantities and combinations that they prefer and with few intermediaries. Part of this development concerns the straightforward value for money, with new entrants offering better, faster and cheaper deals. Beyond this benefit, however, are new opportunities to consider citizens' broader concerns. Investing in green or sustainable development aligned long-term savings vehicles, buying from female-owned businesses or lending directly to socially oriented companies becomes a simple option for all, rather than the privilege of the wealthier few with access to specialized advisers.



**Young people are 25 percent of the world's population. But, they are 100 percent of our future. Every month, 10 million young people reach working age. Some will go on for higher education, but many will enter the workforce. And, our world is not creating 10 million new jobs each month. Young people are worried about getting the skills they need. They want to learn business and entrepreneurship; they want all of the skills for the professions their countries need, as well as the professions that have not been invented yet.”**

KRISTALINA GEORGIEVA,  
Task Force Member and  
Chief Executive of the World Bank,  
Remarks in the article 'The Right  
Investments to Address the Human  
Capital Crisis,' Project Syndicate,  
22 January 2019

#### EXHIBIT 10

### **Empowering Citizens Through Fintech in Support of Climate-Smart Infrastructure**

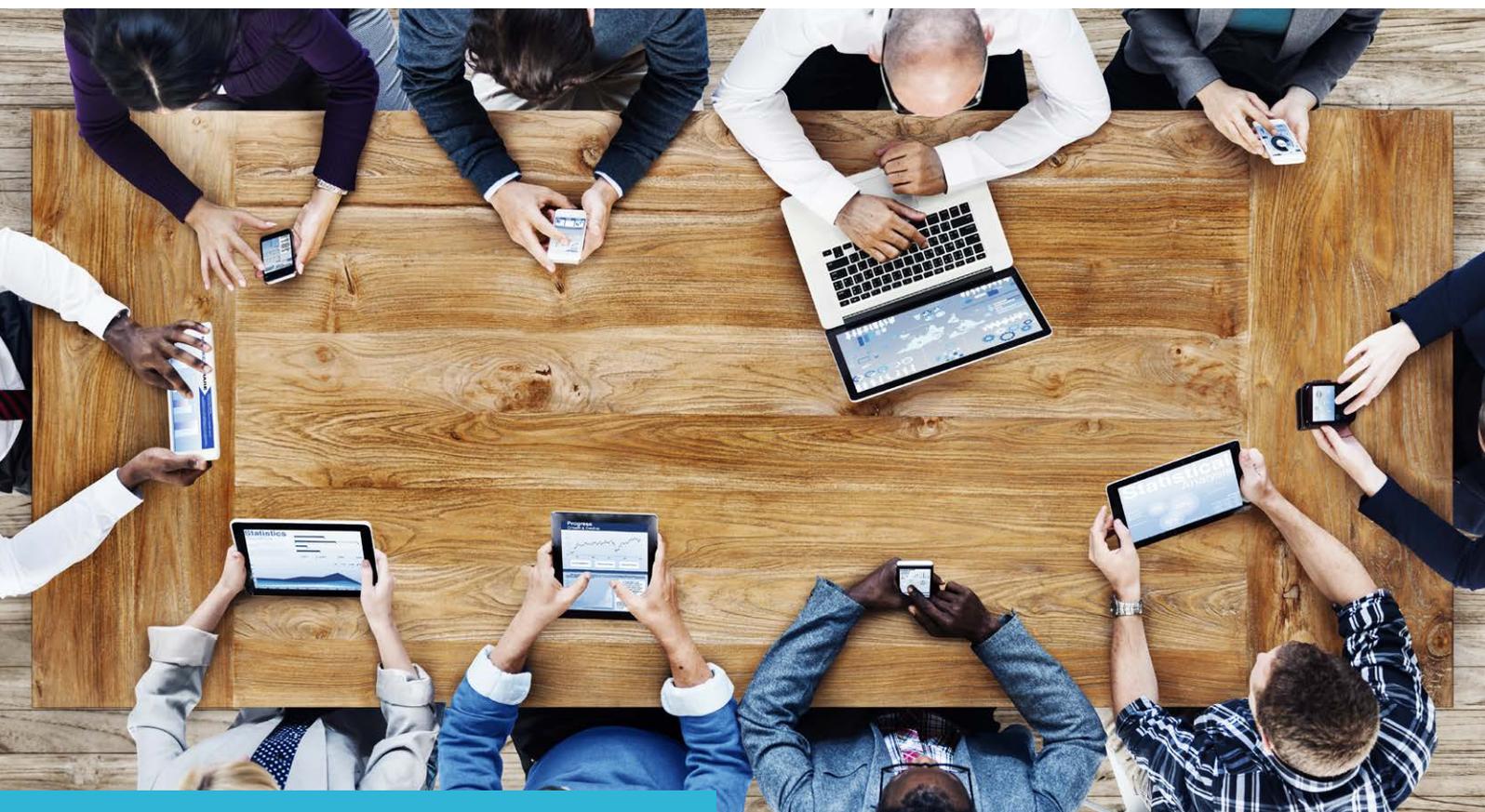
Fintech-enabled, sharing, circular and service-intensive business models can place citizens at the centre of decisions that impact, for example, the energy efficiency of buildings and the use of sustainable urban mobility, including bicycle infrastructure and affordable mass transport systems. Product or energy-as-service models allow customers to use products through lease or pay-for-use arrangements. They support the adjustment of payments to the cash profile of low-income groups, while smart technologies (including the Internet of things) within 'cleantech' products make it easy to remotely regulate the use of devices.

Wide-ranging options for applying digital finance lie in unlocking new sources of finance for climate-smart infrastructure. New markets in distributed clean energy systems provide powerful examples of citizen engagement, such as micro-grids in urban neighbourhoods and pay-as-you-go solar models in rural communities. In Germany, Lumenaza targets micro-producers (e.g., owners of rooftop solar devices) and aims to connect all of the 1.4 million small power producers in the country. In Rwanda, 600,000 households in remote areas are accessing the Internet, charging mobile phones and lighting their homes for the first time thanks to off-grid solar energy.

Fintech innovations are also helping to offer consumers a wider range of choices in areas such as household insurance, water, sanitation, waste management, agri-food supplies and urban mobility. Since 2017, the free mobile app Cataki in Brazil links those disposing of rubbish with those collecting it in São Paulo. A similar app, I Got Garbage, is used by Indian raddiwallahs in Bangalore. While managing waste nationally and globally is influenced by trade restrictions, platforms such as Scrapo and merQbiz facilitate the exchange of recyclables across borders, supporting circular-economy approaches transnationally.

**Source:** Cornis van der Lugt, Senior Lecturer, University of Stellenbosch Business School, South Africa, and author of 'Digital Finance and Citizen Action in Financing the Future of Climate-smart Infrastructure,' UN Environment Inquiry (n.p., United Nations Environment Programme, 2018).

**Finally, digitalization could offer citizens the means to act collectively,** providing a potential third wave of opportunities for citizens to take more control over their financial lives. Digital financing lets citizens bypass financial institutions altogether, as demonstrated by the growth of crowdfunding to over US\$35 billion annually that allows people to directly choose in whom or to whom they invest or lend.<sup>42</sup> Moreover, improved data, which link finance to both business performance and sustainable development impacts, enable citizens to influence business behaviour through consumer, employee and shareholder actions. Digitalization is helping to give a voice to investors in search of better environmental, social and governance performance; launches of sustainable funds and investment applications that identify investments that provide a social or environmental benefit are growing quickly in both number and performance.<sup>43</sup> Similarly, in the sphere of public financing and associated services, tracking the use of funds and the assessment of their impacts can empower citizens, as taxpayers and the users of public services, and the basis on which governments are legitimized and sustained. For instance, Ant Financial hosts an innovative application, Ant Forest, on its payment platform that has encouraged 500 million people in China to engage in more climate-friendly consumption.<sup>44</sup>



## EXHIBIT 11

### Behavioural dimensions of digital finance

Ant Forest has become the largest green fintech innovation in China, perhaps in the world, aimed at reducing carbon emissions, promoting reforestation and advancing poverty alleviation efforts. Through an interactive interface embedded in Alipay, the company's mobile banking platform, users gain 'green points' by opting for 'green behaviours' that avoid carbon emissions. Users plant and nurture a virtual tree with earned green points, which Ant Financial in turn plants in real life. In the last three years that the app has been online, it has reached 500 million users.

The case of Ant Forest illustrates how fintech can be used to foster behavioural changes at a large scale by providing an easy, fun and transparent means for people to individually and collectively measure the impact of their actions on the climate. It takes between 16,930 and 215,680 grams of avoided carbon to grow a tree, equivalent to the same amount of green points, making the overwhelming abstract nature of climate change personal. Ant estimates that the collective green actions by millions monitored through the app add up to 3.08 million tons of carbon dioxide that were not added to the atmosphere in the last 36 months.

Globally, fintech start-ups are leveraging behavioural data to raise awareness and nudge new behaviours to deliver on larger SDG-related issues. Doconomy, for instance, issues credit cards with a built-in carbon limit: once a card owner reaches the carbon dioxide limit on the card, it is automatically blocked. It raises the awareness of the carbon footprint of different purchasing behaviours. Behavioural coins (e.g., climate coin, tree coin, ECO coin and impakt coin) are tokens that can be exchanged for a specific value, such as to buy green products. On the horizon is the integration of 'green scoring' as part of automated credit scoring of small- and medium-sized enterprises, which can impact their overall credit score and cost of funding.

**Note:** Content of this exhibit was provided by the Sustainable Digital Finance Alliance.

# 5. The Governance Imperative





**Technology alone won't restore trust in the financial markets ecosystem—it can also obscure traders' activities and underpin unfair markets that disadvantage the very long-term investors that we need to finance sustainable development. At IEX, we have seen first-hand how better disclosure helps investors make better decisions.”**

BRAD KATSUYAMA,  
Task Force Member and Co-Founder  
and Chief Executive Officer of IEX Group  
Remarks during the second meeting of  
the Task Force, 10 June 2019

## **Digitalization will not automatically empower citizens in their financing decisions.**

Realizing the potential of financial inclusion is not just a matter of providing digital infrastructure or even making it affordably accessible. Much more is needed to move from availability to accessibility and then to value, including capabilities, valued opportunities and the protection of citizens from possible pitfalls, from straightforward financial crimes to the profit-seeking behaviour of a new generation of digitally empowered financing institutions.

The early boom period of peer-to-peer lending in China is a case in point, where widespread mismanagement and fraud resulted in lost personal savings and the collapse of many unregulated financing businesses.<sup>45</sup> In the world's largest and deepest capital market, the United States of America, high-frequency trading, so-called 'dark pools' and stock exchanges that profit from data sales and incentivize brokers to place orders have led to reduced transparency, increased market volatility and lower returns for long-term investors.<sup>46</sup>

**The need for smart financial policies, regulations and standards has never been greater.** Yet, the power of digitalization itself, which drives the speed and volume of transactions and the pace of product and enterprise innovation, makes rule-making harder than ever. Even the most sophisticated financial regulators often lack the capabilities to keep up with these dynamics. Unregulated, Big Tech companies are becoming major providers of financial services, leaving struggling policymakers to find ways to ensure that the companies using personal data and algorithms are transparent and clear about how they are making decisions and can be held accountable for the outcomes. The danger is that the disruption that unlocks new possibilities is subsequently overwhelmed by new forms of market consolidation and concentration.

**Governance innovations will be needed to secure the role of digitalization in empowering citizens and financing the SDGs.**

Traditional institutions mandated to govern finance—central banks, financial regulators and their international counterparts—have a critical role to play. Indeed, these actors have begun to acknowledge the relevance of the broader sustainable development agenda in their decisions and actions that is witnessed, for example, through the establishment of the Central Banks and Supervisors Network for Greening the Financial System.<sup>47</sup> Governments and regulators are investing in national strategies for fintech; yet, limits to their mandates and capabilities mean that other actors will need to be involved, particularly to realize the potential for empowering citizens, aligning financing with the SDGs and ensuring that no one is left behind. This need is all the more the case for central banks and regulators from smaller, developing countries, which will be profoundly impacted by these developments but largely are ‘rule-takers’ from others. Better technology and more analysts will be required to strengthen the capacity of financial regulators in developing countries to monitor changes, new institutions and their services to ensure that both positive and negative as well as unintended consequences are quickly identified and managed.

Regulating cross-border movements of data is a critical piece of the puzzle. It will entail the involvement of those institutions regulating trade, such as the World Trade Organization, as well as the national and regional bodies regulating data privacy, such as the European Commission - Competition. Policy and consumer protection will be essential pillars of any effective governance of digital financing, involving a completely different group of public institutions.

**Principles of responsible digital financing could provide one basis for required governance innovations.**

With such complexity of contexts and varied interests and circumstances, it would be a challenge to advance a unitary or even common institutional approach to effective governance of digital financing. The Bali Fintech Agenda provides one basis for applying a principle-based, normative approach to such diversity; launched by the International Monetary Fund and the World Bank in 2018, the Agenda sets out 12 principles for ‘good fintech,’ with a strong emphasis on financial inclusion, financial market development, and competitive and orderly markets.<sup>48</sup> The Secretary-General’s High-Level Panel on Digital Cooperation has also provided both a set of governance options for the digital landscape and a set of Principles and Functions of Digital Cooperation, placing emphasis on the inclusiveness of any design process and the need for equitable, accountable outcomes.<sup>49</sup>



**We regulators have two jobs. On the one hand, we are responsible for safeguarding our nations’ financial systems and the best interests of our citizens. But we are also responsible for creating space for innovation that can advance those very same interests.”**

MAIAVA ATALINA EMMA  
AINUU-ENARI,  
Task Force Member and  
Governor of the Central Bank of Samoa,  
Address to the United Nations  
Economic and Social Council,  
April 2019

**Collaborative corporate governance innovations could provide other avenues for the development of inventive governance arrangements.**

For example, it is proposed that the new currency by Facebook, called Libra, will be governed in the first instance by a coalition of commercial and public interest partners. With the right vision and will, such arrangements in principle could be designed to be transparent and inclusive, while performing an important function alongside more classical regulatory oversight. Corporate governance provides yet another lens to consider in realizing the potential of digital financing in the face of emerging risks. Large-scale digital infrastructure, including key products and services, and data management could be conceived as requiring governance akin to that of public utilities (e.g., with options that include public interest 'golden shares' and external oversight boards).



# 6. Catalysing Change





**A lot of people, including some in leadership positions, don't understand what is going on. Even those who know one sector deeply—who really understand technology, for example—don't understand finance, or don't think very deeply about sustainability. If our work is going to succeed, we have a big responsibility to educate the market and all the players, first and foremost."**

NATALIE JABANGWE,  
Task Force Member and  
Chief Executive Officer of EcoCash,  
Remarks during an interview published  
in *The Friday Reader*, March 2019

**The Secretary-General's Task Force on Digital Financing of the Sustainable Development Goals** seeks to accelerate the financing of the SDGs by (a) building knowledge and awareness of the potential of harnessing digitalization for this purpose, (b) pointing to where action is needed to overcome barriers and to mitigate the risks of negative unintended consequences, and (c) highlighting what needs to be done and by whom in realizing this goal.

**Digitalization is transforming many aspects of people's lives, but how this transformation will happen remains an open question, with many unknowns, uncertainties and risks.** The experience examined today, and any conclusions drawn therefrom, will inform but only be one part of what could, or does in reality, happen tomorrow. The work of the Task Force is just one piece of the puzzle, seeking to nudge aspects of this complex transformation towards sustainable development. Its success is partly dependent on the knowledge and insights that it can convene and crystallize in making recommendations for action. Yet, in the light of the change dynamic as it is experienced in practice, equally important will be how it engages in the very system it is seeking to change.

**This Progress Report to the Secretary-General is therefore intended as a call for insight and action.** Digital financing, without a doubt, offers major opportunities to accelerate the financing of the SDGs, powered principally by citizens taking more control across the value chains of financial decision-making. There is much to do to stimulate collaborative innovations in the market and to advance such opportunities at scale. In practice, however, a great deal will emerge organically if the conditions are right. Ensuring such conditions are present to support innovations at the nexus of digital financing and the SDGs is, then, at the core of the challenge that the Task Force faces. Innovation is, again, critical to designing suitable governing and broader institutional arrangements that ensure the much-needed opportunities can be realized by overcoming barriers and mitigating risks.

**Findings to date point to some high-potential areas on which the future work, initiatives and recommendations of the Task Force will focus.** This Progress Report arises midway in the life cycle of the Task Force. Certainly, it is too early to know what recommendations may emerge, or what initiatives might be catalysed, as a result of the existence of the Task Force—whether directly or indirectly. That said, the progress to date points to a small number of areas that the Task Force believes warrant particular consideration in the months to come:

- 1. Identifying major areas of opportunities** for advancing digital approaches to the mobilization and effective use of finance in support of the SDGs, both to address supply (including the public and private use of domestic savings and international capital flows) and to address specific aspects of sustainable development (such as gender, climate and displaced people).
- 2. Supporting the governance innovations** necessary to overcome barriers in harnessing digitalization for the financing of the SDGs while mitigating risks arising through digitalization (including the consideration of roles for policymakers and corporate governance as well as non-traditional approaches to governing finance and money involving state and non-state actors).
- 3. Building national and regional capabilities** to accelerate the local development of SDG-aligned digital financing and to better align international developments in digital financing and money with domestic priorities (including ways to stimulate and shape market innovations to support SDG-aligned financing).
- 4. Pinpointing needs and occasions for international cooperation** (including the United Nations) to realize opportunities, overcome barriers and risks (including through investments in key infrastructure and access enablers for women and other disadvantaged groups) and develop critical capabilities (including those of developing countries to engage in broader developments in digital financing).
- 5. Measuring progress** in harnessing digital financing of the SDGs and supporting more systematic international, national and regional planning and policy development as well as coordination with business and other non-state actors.

**This Progress Report is an open invitation for contributions by policymakers, experts, market practitioners and consumer advocates in addressing these focus areas.** The mandate of the Task Force is to provide recommendations and catalyse initiatives that will result in the more effective harnessing of digitalization for the financing of the SDGs. Its work to date has benefited from many contributions of analyses and insights, as well as broad recommendations and proposed initiatives. While building on the progress made to date and delivering its final report in the first half of 2020, the Task Force hopes to benefit further from such inputs. It, therefore, invites analyses and proposals for recommendations and specific partnership initiatives. As part of its ongoing outreach efforts, it will continue to engage in dialogue with policymakers, experts and practitioners, while drawing from major reports and ongoing initiatives such as the Secretary-General's High-Level Panel on Digital Cooperation and the United Nations initiative Financing for Development.



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<sup>6</sup> In 2015, the Group of 20 asked the Financial Stability Board to consider climate risk, which resulted in the launch of the industry-led Task Force on Climate-related Financial Disclosures. That Task Force aimed to develop recommendations for climate-related financial disclosures and published its final recommendations in June 2017. More information is available from <https://www.fsb-tcfd.org/>

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**THE UNITED NATIONS SECRETARY-GENERAL'S  
TASK FORCE ON DIGITAL FINANCING  
OF THE SUSTAINABLE DEVELOPMENT GOALS**



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