Digital Impact Alliance

Advancing Digital Inclusion to Achieve the SDGs

2018 ANNUAL REPORT

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The Digital Impact Alliance (DIAL) advances an inclusive digital economy for the underserved in emerging markets.

An independent global alliance funded by leading development agencies and private foundations, DIAL was established in 2015 and is housed at the UN Foundation. We combine practical research with evidence-based advocacy to advance digital inclusion. DIAL seeks to identify barriers to digital inclusion; test ways to remove them; and collaborate with digital service providers, policymakers and funders on ways to institutionalize digital technology into development services.

OUR VISION IS

A world in which the underserved benefit from digital technology.

OUR MISSION IS

Overcome the barriers to using digital solutions in global development so that services can be delivered seamlessly to the underserved.

To achieve this, we work collaboratively with country governments leading technology initiatives, implementing NGOs delivering services to beneficiaries, private-sector tech companies with software and data businesses seeking new markets, and donors looking for higher ROI on their investments in development programs.

"To exist is to change, to change is to mature, to mature is to go on creating oneself endlessly."

HENRI-LOUIS BERGSON

2015
Shaping an idea

2016
Funding, hosting, hiring

2017
Hiring, building programs

2018
Refining, focusing, integrating

2019
Connecting digital technology

Letter from Kate Wilson, CEO

Digital technologies are at a tipping point. When reflecting on the last decade, the change has been staggering. Once captivated by the novelty of using a mobile phone to collect data in a sub-national country pilot, we have advanced to global discussions on how to create comprehensive software and data analytics platforms at a national scale. Questions about "on-prem" versus "cloud" servers have given way to debates about the promise of blockchain and the applicability of artificial intelligence.

At DIAL, we have actively reflected on these changes and are grappling with where we need to direct our efforts in order to have the greatest impact. We have watched the progress over the last year as development actors and donors have recognized that to achieve the promise of the Sustainable Development Goals to transform the world by 2030, they must institutionalize or embed digital technology solutions as routine practice and become "digital first." Long sidelined in development discussions as an issue relevant only to IT specialists, digital technology is now an area of intense interest among global leaders. The UN Secretary-General António Guterres and the World Bank's Jim Yong Kim have both recently announced high-profile digital efforts, setting up institutional units to lead this work and convening high-level panels representing the public and private sectors.

As part of this effort, the World Bank Group launched an initiative last spring, Digital Economy for Africa (DE4A), bringing together a diverse group of actors, including African finance and information and communications technology (ICT) ministers, central bank governors, global tech and telecom giants, local and regional internet platform providers, think tank and thought leaders, digital entrepreneurs, and development partners. The initial goal was to develop strategies for building a digital economy in a targeted group of countries. Moving forward, the group aims to increase connectivity across Africa and link the rural and urban poor to digital financial and government services, markets, and information. Ultimately, DE4A hopes to build a foundation for new digital entrepreneurship and raise the level of digital literacy and skills.

Similarly, UN Secretary-General Guterres launched a High-level Panel on Digital Cooperation at the September 2018 UN General Assembly. Chaired by Melinda Gates, co-chair of the Bill & Melinda Gates Foundation, and Jack Ma, executive chairman of Alibaba Group, the purpose of the panel is to strengthen cooperation in the digital space between governments, the private sector, civil society, international organizations, academia, the technical community and other stakeholders. The panel seeks to increase awareness of the transformative impact of digital technologies across societies and economies and contribute to the broader public debate on how to ensure a safe and inclusive digital future.[1]

Governments around the globe have also begun to institutionalize digital solutions across sectors and are seeing concrete results. In South Africa, mobile messaging that provides essential information to new or expectant mothers has now scaled to cover 95 percent of the market.[2] In India, Aadhaar, a national system that uses biometric and geographic data to generate a unique ID, has registered 1.21 billion subscribers and achieved an estimated $13 billion in reduced transaction overhead.[3] Rwanda is implementing

[1] http://www.un.org/en/digital-cooperation-panel/

[2] Recognizing the power of MNO data, in 2010 Johnson & Johnson committed to Every Woman Every Child, which aimed at working with local partners to use mobile phones to reach expectant and new mothers. Eight years later, South Africa's MomConnect reaches more than 60 percent of all eligible pregnant women in the country through more than 95 percent of public clinics. That's more than 1 million women. The program is managed by the South African National Department of Health, with a diverse range of funding, technology, health and research organizations at the table. It works because it is accessible through any mobile phone; designed to foster a relationship of trust with the service and health system; a collaboration of public and private leadership; flexible, with open architecture and standards that can adapt over time; and built on a two-way messaging platform, offering the perfect balance of addressing both supply and demand. Most recently, it once again proved its value when more than 1 million mothers learned of a Listeriosis outbreak in South Africa.

[3] https://www.foreignaffairs.com/articles/asia/2018-08-13/data-people

“We always overestimate the change in two years and tend to underestimate the change in 10. Don’t let yourself be lulled into inaction.”

– BILL GATES

its Vision 2020 strategy, modernizing its economy and empowering its middle class by moving to a cashless economy, which the government plans to achieve through ubiquitous phone penetration and high-speed internet access.[4] Senegal has set a target of generating 10 percent of its GDP from the digital economy by 2025, while Kenya, a pioneer in mobile money, is now actively exporting its model to other countries.[5] And the list goes on.

Similarly, development actors are investing more than ever before in digital solutions to support government-led strategies. And they are not alone. Governmental and donor consortiums are adding co-creation and funding strategies to their digital investments, such as ID4D, which works to scale national identification platforms; the Digital REACH (Regional East African Community Health) initiative, which will implement ICT across all dimensions of the health sector; and Mojaloop, an open source software platform for financial services companies, government regulators and others that takes on the challenges of interoperability and financial inclusion. These efforts have attracted pooled investment, and donors are increasingly looking to work together to make fewer, larger investments. An example of this is the 2018 launch of the Principles of Donor Alignment for Digital Health.[6]

But are digital tools really available, accessible and adopted by all? And if not, why? What changes are needed to connect existing sectoral digital initiatives? And are digital tools benefitting or harming those who need them most? These are just some of the questions we are grappling with as we pass the midpoint of our first five-year strategy.

To answer these questions, we considered data gathered from customer research with DIAL stakeholders this year,[7] and some key opportunities emerged:

- The SDGs represent a North Star metric for most development actors and can serve as a rallying point for their digital investment. Similarly, delivering services to meet the SDGs can potentially provide a large enough market to attract private-sector technology interest in designing new solutions.
- Across all technology types—software platforms, mobile channels and network data—there is a large capacity gap in general technology literacy and design skills, coupled with a lack of sustained capacity to collect, analyze and use network data to make operational, not just reporting, decisions.
- Open source software is used as a basis for many development projects' software platform and applications design, but funding and "product ownership" remain inadequate after the initial development and deployment phases.
- NGO investments in software platforms and data analytics are weighted more heavily toward internal process improvement (e.g., M&E reporting) rather than service delivery.

> "We must keep the promise of technology while avoiding its perils: the technological revolution must open up and be more inclusive for its own relevance"
>
> SECRETARY-GENERAL ANTÓNIO GUTERRES
> on announcing the High-level Panel on Digital Cooperation

[4] Lessons from Rwanda: Harnessing public-private partnerships to drive payment digitization, United Nations Capital Development Fund, Better Than Cash Alliance, by Oswell Kahonde and Juan Blanco, June 29, 2018, https://www.betterthancash.org/news/blogs-stories/lessons-from-rwanda-harnessing-public-private-partnerships-to-drive-person-to-government-payment-digitization
[5] https://www.economist.com/the-economist-explains/2015/03/02/why-does-kenya-lead-the-world-in-mobile-money
[6] http://digitalinvestmentprinciples.org/
[7] This is a synthesis of trends collected from research. It includes (1) primary research, conducted with donors regarding their needs for the Digital Principles; (2) landscape and pricing research with MNOs; (3) baseline ecosystem research, a synthesis of which is in Appendix 1; and (4) theory of change work conducted by independent consultant Ken Warman.

“The ICT4D space does not need more technology. Rather, there should be greater focus on scaling existing solutions and investing in the integration and interoperabliltiy of existing solutions.”

DIAL ecosystem baseline study

Some may provide a basis for reusable digital building blocks (e.g., unique identifiers).

- Funding for reusable digital building blocks (e.g., software platforms, data analytics tools) that are designed so they can be tailored to fit unique sectoral and geographical needs remains the exception rather than the rule, despite a clear appetite from the entire digital ecosystem for investment in fewer, more robust platforms.
- Our customers (governments, funders, private-sector technology firms and NGOs) need more persuasive proof points of the return on investment (ROI) and impact of making digital investments before they can shift their funding structures to collaboratively invest together.
- Our customers are excited to use digital data and understand that it can help improve their work and decision-making, but they are perplexed by the policy questions raised by the EU's General Data Protection Regulation (GDPR) and are ill-prepared to tackle it.

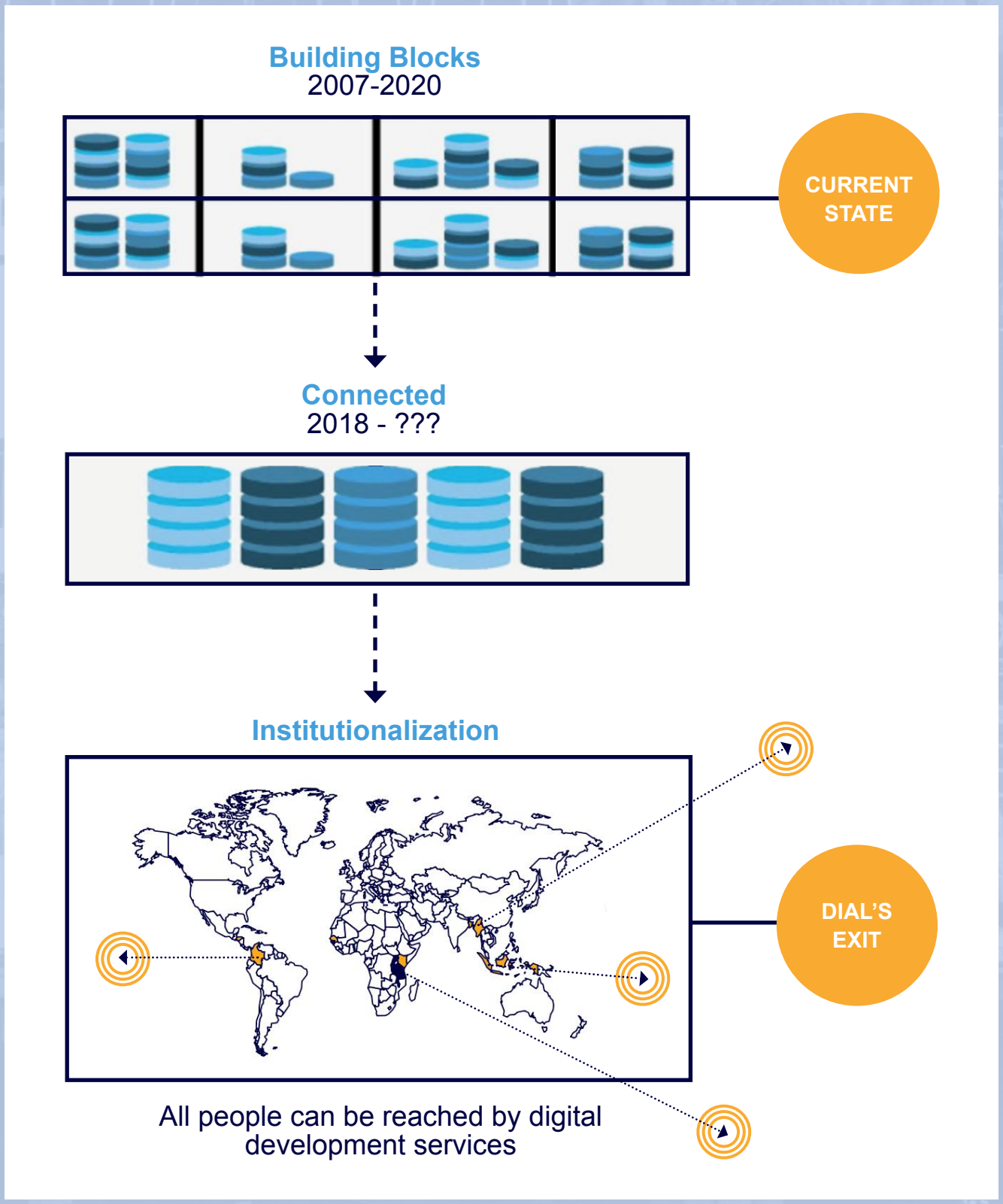
As part of our program design process for 2019, we considered which of these trends we should tackle and how (see Appendix 1). We considered our programmatic accomplishments outlined on the following pages, our overall program metrics, and our operational and financial health (see Appendix 2). While our 2019 plans are ambitious, we believe it is important that they address the needs of our customers, utilize DIAL's unique strengths, and reflect the pace at which the world—and digital technology—is transforming. Indeed, there has never been a more exciting time to be working toward creating a more inclusive digital economy for the underserved in emerging markets.

Reflecting on my 10 years working in digital development, I am amazed at the changes we've seen, excited by the groundswell of attention digital development is receiving and energized by my incredible colleagues working together to actualize our vision. We will chart a path that connects disparate digital technology efforts and institutionalizes them into routine service delivery so that our partners can reach anyone, anywhere, at any time with life-enhancing services.

– Kate Wilson

Roadmap

In order to achieve the SDGs, digital technology needs to become easier for development practitioners to incorporate into service delivery. DIAL's work focuses on **streamlining technology**, **unlocking markets** and **accelerating the rate** at which others can deploy digitally enabled services.



Looking Forward to 2019

Learning from the past—shaping the future

At DIAL, we are committed to supporting the digital development ecosystem as it moves from a world of disjointed technology building blocks to the institutionalized use of digital technology. Our team works with a range of actors, such as governments, private companies and global development organizations, to address challenges that impede services from becoming more accessible to people more quickly.

2018 marked DIAL's second full year of delivering against our early strategy. Over the past 12 months, we made strong progress organizationally and programmatically. At the board's request last October, we streamlined and reduced early program efforts; delivered foundational outputs in both software and data analytics platforms; conducted in-country research; and investigated capacity-building tools that support the digital ecosystem's ability to roll out new programs. Based on implications that emerged from DIAL's customer research, we are taking the following steps.

Aligning our efforts to the Sustainable Development Goals (SDGs): The SDGs have become a framework for action for many governments, multilateral groups and the private sector, and our strategy and communications now link to them explicitly.[8] This orientation serves a dual purpose. First, it ties our work to a tangible, shared commitment from both the public and private sectors to invest in expanded digital solutions.[9] Second, it increases awareness of the need to take a cross-sectoral approach and demand for the requisite infrastructure—or building blocks—and data tools to achieve the SDGs.

DIAL updated its strategy and communications in 2018 to reflect this viewpoint, building on our ICT4SDG work developed with the International Telecommunications Union (ITU) over the last two years. This framework, which advocates taking a whole-of-government approach (WGA) to ICT investment, prioritizes common building blocks. It also calls on the digital development ecosystem to take a collaborative approach when designing and developing reusable **products**; creating sustainable business models **(pricing)**; and investing in **policy** and the necessary human resource talent **(people)** to institutionalize digital technology in a way that delivers essential services to the underserved.

Deepening implementation research and product support to global and national stakeholders: DIAL's early investments provided the foundational research that formed our approach, and this year we will turn our focus

A sampling of ICT4SDG building blocks across SDGs 2, 3 and 6

Messaging Service
Scheduling Service
Shared Data Repository
Workflow Service Identification

[8] With Goal 9c specifying: "Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020," ICT infrastructure appears as an explicit goal of the SDGs in terms of implementing and achieving other SDGs that rely on or include the use of ICT. [Source: Digital Impact Alliance and Altai Consulting (2018). Leveraging Data for Development to Achieve Your Triple Bottom Line]. https://blogs.worldbank.org/opendata/2018-atlas-sustainable-development-goals-all-new-visual-guide-data-and-development

[9] GSMA has oriented efforts of its members to the SDGs. Countries as diverse as Mexico, India and Rwanda are placing achievement of the SDGs as the rationale for digital investment.

“Every SDG challenge is an opportunity to a developing world operator.”

SANDA OJIAMBO, Safaricom

“SDGs are a good business case for our company.”

ELISABETH BIERING, Telenor

to more direct support for identified programs. The Open Source Center team is incorporating the ICT4SDG framework into evaluations of platforms that often need technical, governance and/or business expertise. The team is also setting aside resources to support in-country implementations resulting from our ICT4SDGs call to action published on September 26, 2018. The first country adopting the methodology is Niger. The data team continues its efforts in Tanzania, Uganda and Malawi, working side by side with partners to develop actionable insights for governments using MNO data pulls. This year, we will begin looking for partners interested in taking a whole-of-government approach to data. Ideally, these efforts will coincide in one country to start a more comprehensive country demonstration that brings together all of DIAL's products in 2019.

Tackling ROI investment analysis: While the ICT4SDG program continues to identify and classify the digital building blocks, we know that global public- and private-sector investment remains a challenge.[10] This highlights the need to produce evidence demonstrating that digital investments can be parlayed into development proof points. While early trends are promising, they are neither pervasive nor fully embraced by all governments.[11] The lack of evidence for ROI, along with the complexity and cost to implement software and data platforms, often leads governments to invest in other development challenges, such as physical infrastructure and service delivery.

Furthermore, improved automation and technology may appear to worsen development outcomes in the short run, as some jobs are made obsolete and better data collection often corrects KPIs downward.[12] To address these concerns, we will expand efforts across our programs over the next two years with investment evaluation tools.[13] We will double down on promoting others' findings, including collecting, documenting and sharing parallel efforts such as the World Bank's recent analysis that demonstrates the benefits and ROI of national ID systems.[14] DIAL's work and unique point of view as a neutral actor provides the foundation for our emerging advocacy agenda.

Rethinking policy focus, including data privacy and security efforts: As bullish as we are on the promise of digital products, incidents in 2018 proved that we still have a long way to go to mitigate the risk of putting systems and data into the hands of a few. Serious security breaches made headlines, such as Facebook disclosing that the data of up to 87 million people was improperly shared with the political consultancy Cambridge Analytica, and the recent high-profile hack of Aadhaar's biometric database that exposed a billion people to data theft. These incidents reinforce our need to refocus our attention to policy[15] and have spurred an internal debate about what policy support is needed and how we—given our size, scope and mandate—can best address these problems. While our thinking here is nascent, DIAL is moving forward with plans to size and scope support for policymakers in this area, including the Department for International Development (DFID) and the African Development Bank (AFDB).

Increasing focus on pooled procurement and aggregate demand for mature platforms: In addition to focusing on product and policy issues, we believe that DIAL has a unique role to play in addressing business model (**pricing**) issues for software platforms, core mobile services and data. We are looking at aggregate service demand from purchasers (e.g., NGOs, governments) and how it maps to previously tested mechanisms for pooled procurement. In discussions with aggregators last year, we learned our early assumption that standards were the main barrier for them was incorrect. Instead, they told us that they were struggling with the unknowns related to demand for their services.

[10] DIAL's ecosystem baseline results revealed the need for DIAL to articulate the return on investment and social return on investment on digital development and suggested that publishing research on this could stimulate demand.
[11] http://www.worldbank.org/en/publication/wdr2016
[12] https://path.azureedge.net/media/documents/DHS_DUP_Theory_of_Change_rpt.pdf
[13] Source: Digital Impact Alliance and Altai Consulting (2018). Leveraging Data for Development to Achieve Your Triple Bottom Line
[14] https://unitednationsfoundation.sharepoint.com/:b:/s/DIAL/documents/ERzm8RD4ybdJnJmzkNikwQcB5TagaE6mYMGhaQ0xjRgvEw?e=PPELai
[15] https://gizmodo.com/simple-hack-turns-indias-massive-biometric-database-int-1828972521

“The average customer in our markets lives on less than $100 a month. Of that income, $5 is spent on mobile, representing a signficant portion of their income. Affordability must be tackled.”

ROB SHUTER, President and CEO, MTN Group

Strategic Goal and Primary Outcomes

DIAL’s primary outcomes measure how each focus area contributes to addressing some priority bottlenecks that impede efficiency and effectiveness of the ecosystem.

DIAL strategic goal	The digital ecosystem can more efficiently and effectively produce and adapt digital platforms and services, share data and insights targeted at accelerating the rate at which any developing country can achieve an inclusive digital society.
Primary outcomes	**Primary Outcome 1:** By FY 19, providers of digital development services can design and deploy their services faster, at a lower cost and to a wider audience in select countries. (Platforms and Services)
	Primary Outcome 2: By FY 19, in select countries, public service delivery and development programs have improved access to, understanding of and use of data for development. (Data for Development – D4D)
	Primary Outcome 3: By FY19, governments, funders and implementers adopt emerging good practices when they fund, design and deploy digital services.

Based on this and other 2018 learnings from our mobile integration landscape, we will conduct tests in core mobile services to identify a system for aggregating customer demand in a geographical area. To complement this work, we are also looking at supply-side mechanisms stemming from our research into Advanced Market Commitments, which recommended potential paths forward for pooled procurement in software, core mobile services and data. DIAL is already examining how to conduct the tests in a way that will bring these two concepts together in one location to produce more affordable solutions for the underserved.

Capacity, capacity and then more capacity: At DIAL, we believe that while **product, policy and pricing issues** present continuous challenges to institutionalizing the SDGs, upskilling the **people** who do the work presents the most persistent and pernicious roadblock to an effective and cost-efficient use of digital technology among development actors. In many low- and middle-income countries, donor agencies, and NGOs, there is simply not enough staff who are trained and sufficiently conversant in digital technology trends to guide policy. In short, we are not yet "digital first." While DIAL has dedicated much thought and some investment to support appropriate training programs, we can do more. We remain very much in the early stages of finding a solution to this complex issue, redirecting funds to initiatives that offer the most promise and discontinuing those for which we are not well suited.

For example, in 2018 we invested in research that explored human resource capacity in Africa and made recommendations on how it could potentially scale. While we uncovered some interesting findings, which we will publish this fall and share with groups specializing in digital entrepreneurship, DIAL will not pursue further investment in this research in 2019 because we don't believe we're best positioned to take it forward.

Regarding the Open Source Center (OSC), partners increasingly cite challenges to building robust, sustainable, customer-oriented open source communities. We will continue the catalytic and strategic grant programs and expand our technical support services. In 2019, the team aims to identify a long-term business model for the OSC and offer increased support and services to programs like Mojaloop, Mifos, OpenSRP, Primero, OpenLMIS, OpenCRVS and others, in addition to our work with the Open Data Kit (ODK) community.

The Principles for Digital Development continue to elicit positive feedback from the international community, and we will expand our efforts in this area. Thus far, 127 organizations have endorsed the Principles, with many donors and NGOs incorporating them as a key pillar of their digital transformation strategies and co-creation and collaboration becoming accepted norms. Partners such as NetHope are now championing transformative digital initiatives, and organizations like GIZ and DFID are incorporating them into their programming. In 2019, the team will increase its donor collaboration work anchored in the Digital Principles,[16] and we will continue to invest in select research projects, training and distribution efforts to enhance the overall ecosystem.

Our three main portfolios and their corresponding programs are designed to address the cross-cutting themes of **product**, **pricing, policy** and **people**. We are measuring our progress by the extent to which these programs accelerate the efficiency and the effectiveness of providers' ability to deliver development services enhanced by digital technology. On the pages that follow, we detail some of the challenges faced by the sector, how DIAL's work addresses them and our plans for 2019.

[16] digitalprinciples.org

Our three main portfolios and their corresponding programs are designed to change the cross-cutting themes of product, pricing, policy and people.

Portfolio	Enabling Skills	Supporting Programs
Proven Software Technology Expediting the deployment of proven technology through investments in software platforms and capacity development	Technology Solutions Business and Financing Models Research and Implementation Guidance Community Advocacy	• Identifying cross-sector ICT4SDG platform gaps • Supporting technology for development/open source software platforms • Building capacity through Principles for Digital Development, targeted research and how-to guidance
Distribution Channels Expanding the availability of mobile distribution channels primed to deliver SDG services at scale		• Building awareness for distribution channels and capabilities • Testing mechanisms for aggregate demand and pooled procurement
Responsible Data Ensuring responsible, widespread access and use of network data for SDG decision-making		• Demonstrating D4D analytics and data models • Developing and deploying a common data architecture • Strengthening the ecosystem's ability to deploy D4D programs

Proven Software & Technology:

Expediting the deployment of proven software & technology through investments in software platforms and capacity development

Building, implementing and maintaining software is a difficult and expensive business, even under the best conditions. For example, a for-profit company in need of a new system usually follows a well-tested path: refine their needs and budget; do a market analysis ("build vs. buy"); select a vendor and issue an enforceable contract; test the solution internally for bugs for some weeks, well before conducting the full external implementation and rollout; and include support and maintenance cost projections in future budgets.

Building, implementing and maintaining software for humanitarian and development projects is on another level. Aid organizations, which are graded on and rewarded for using as many cents of every dollar possible on their programmatic impact—not systems—often lack the time, resources and expertise to invest in and use technology that supports their programs smartly. They often reinvent and reinvest in solutions that already exist, and they don't have the time or resources to contribute back to a global common good. Governments and donors have long sought to use technology to simultaneously support existing business processes and implement new best practices, which can lead to an endless cycle of software development and training. And although billions of dollars have been invested in technology solutions during the past decade,[18] many have failed to achieve promise or become truly scalable and sustainable.

Here is a common development scenario: A donor releases a multimillion-dollar RFP to address a health, agricultural or educational problem that might span multiple countries. The awarded contractor, usually from the West or global north, and its subcontractors are tasked with rolling out a multipronged project across one or more countries to achieve the outcomes requested by the donor.

Despite having the necessary sector expertise, the winning teams often lack the knowledge of existing technologies that may be both cost-effective and sufficient for use, so they decide to build their own. They are time-crunched to respond to the RFP and lack contextual experience in the target locations, so they can't develop a realistic plan or budget. When it comes time to gather the functional and technical software requirements and implement the solutions, they don't have enough staff or partners with the needed skills to implement, support and maintain the solution. When the project ends, the governments are left with technology that may not work as designed, and so they eventually abandon it.

DIAL confronts these very large, systemic and seemingly intractable issues through three programs: 1) **identification of cross-sector ICT4SDG software and existing platform gaps**; 2) **support for the maturation of open source software platforms used in humanitarian and development programs through the Open Source Center**; and 3) **capacity improvement through stewardship of the Principles for Digital Development**.

The overall goal is to enable those who work on critical digital platforms and applications used in the international development and humanitarian sectors to develop and deploy more sustainable, robust and interoperable systems.

[17] "Journey to Scale", 2015 PATH, Wilson, Gertz, Arenth

[18] In 2015, DFID reported investments in more than 1,800 M4D apps and services that had been launched and was funding more than 160 programs with significant digital elements. The Bill & Melinda Gates Foundation reported investments conservatively at $500 million.

It is the things underneath the surface (siloed solutions, poorly designed software platforms and limited technical capacity) that can sink ICT4D projects.[17]

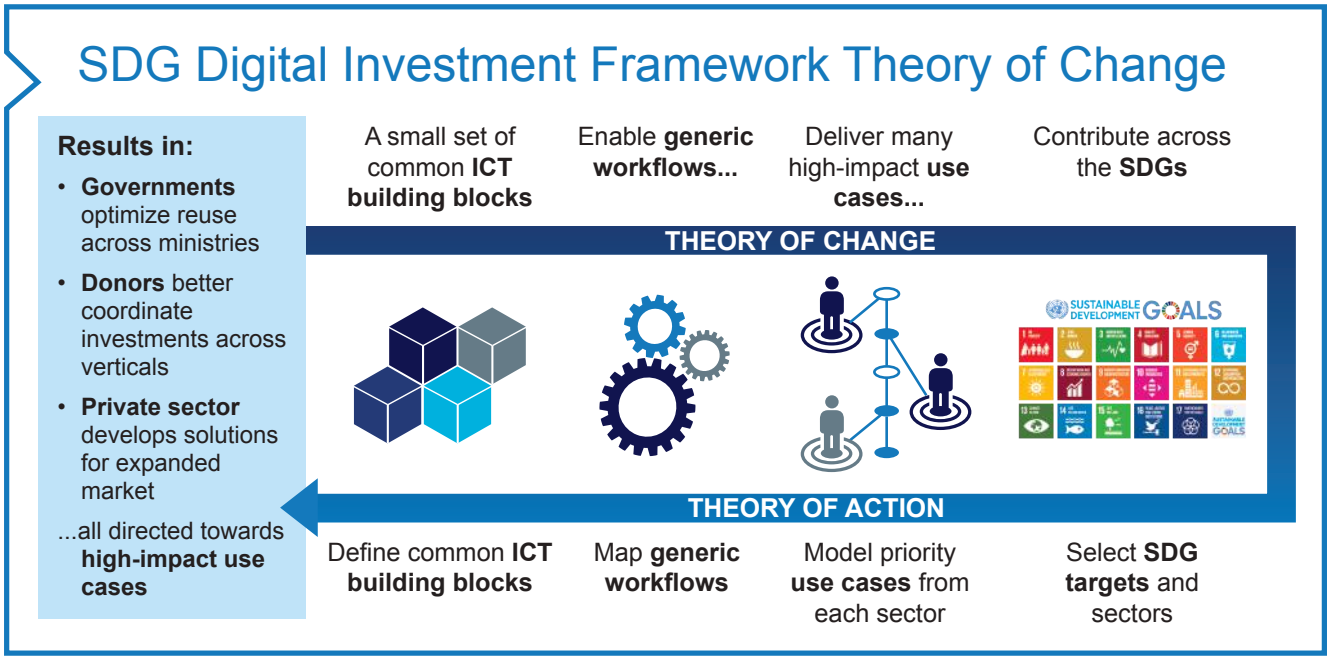
Identifying cross-sector ICT4SDG platform gaps

Challenge:
Prior to DIAL, there was no clear, comprehensive inventory of existing or needed software building blocks across the verticals found in development sectors. Governments and donors alike struggled to prioritize and develop enterprise architectures that can support multiple sectors, leading to duplicative investment and effort.

Progress:
The DIAL/ITU team worked with solution providers in health, agriculture and education, documenting their architectures, common use cases, workflows and technologies. They then deconstructed these into requirements and identified generic services that can be used across sectors and in both big and small systems. As part of this effort, we convened two large focus groups that included representatives from the public sector, private industry and development organizations to verify and add to our analysis. The completed landscape and methodology provide development professionals with information they can use to make informed investment decisions.

We tested our findings with the government of Niger in August and developed a "call to action," released September 26, 2018, during the UN General Assembly. The methodology, featured in the video link below, uses a building blocks approach to highlight commonalities, variabilities and gaps across verticals (health, agriculture and education so far), such as mobile payments, identification and data storage. This view encourages a reduction—and hopefully an elimination—of duplicate investment. The "call to action" asks governments, donors, NGOs and the private sector to work together to break the cycle of duplicative investment and take a whole-of-government approach.

Plans:
In 2019, DIAL will publish and promote its work to date, piloting the methodology with partners in one or more countries. Concurrently, we will continue our discussions with donors and sectoral colleagues (e.g., Digital Square, CGAP) to determine interest in extending the Principles for Donor Alignment in Digital Health and make them comprehensive across sectors.



To view this video on the SDG Framework: http://bit.ly/ICT4SDGV

Illustration of Savings Through a Reusable Digital Investment Approach

Imagine you are a head of state in a low-income country trying to justify committing to funding large-scale, sustainable ICT infrastructure capable of supporting a large number of programs across a wide variety of sectors. Your hypothetical arguments might look like this:

You have **14 digital pilot projects**

across three sectors
(health, agriculture and education)
in your country,

which **serve 7,000 people**.

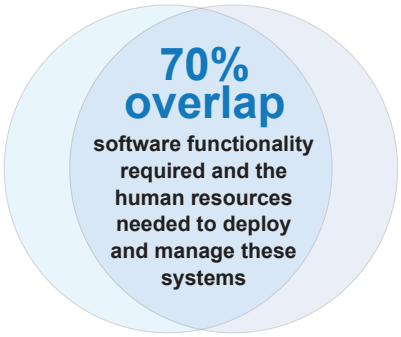
Total donor investment
$6,000,000

Average cost
$857/person

Total cohort, at scale
1,000,000 people

Cost of scaling projects
$857,000,000

12/14 projects:



Projects deployed using a
single set of shared ICT services:
Total investment required by donors
$2,000,000

vs.

Projects deployed using
12 distinct ICT systems:
Total investment required by donors
$6,000,000

This would bring the cost from
$857 to $285 per person.

The total cost of scaling these efforts to 1,000,000 people goes from
$857,000,000 to $285,000,000.

This common platform can also support many other SDG-related programs, so the total cohort it could serve could be
5,000,000 people,
bringing the cost per person down to
$57 from $857.

Through consolidation, using a common application architecture that is both scalable and more sustainable

$857,000,000
to service **one-half of your population**

vs.

$285,000,000
to service your **entire population**

Supporting open source software platforms

Challenge:
Building on the work developed under the ICT4SDG analysis, DIAL launched the Open Source Center (OSC) in October 2017 to provide technical support and guidance to the technology for development (T4D) community, support donors' existing software initiatives, and help coordinate efforts among all stakeholders that work on key open source software platforms.

Progress:
Last year, the DIAL team supported 15 open source projects that serve the international development and humanitarian sectors. DIAL operated two financing programs, Strategic Grants and Catalytic Grants, which encouraged smart improvements to existing open source efforts.

The team designed its Strategic Grants program to support projects that fell into one of the following themes:

- **Project Consolidation** – Includes less successful products that were being maintained but for which a better, open source project exists. The funds provided an opportunity to sunset the project and move its best features to the better open source option.
- **Project Verticals** – Includes expanding the footprint of a successful project in one vertical so that it could be adaptable to others.
- **Product Promotion** – Includes moving projects from single source.
- **Project Collaboration** – Includes reincorporating custom code into the core of a product.

Overall, $900,000 was awarded to five projects, the largest of which addresses ecosystem changes.

DIAL's Catalytic Grants awarded organizations small grants of $25,000 or less in two separate rounds. In round one, we focused on narrowly scoped projects that could shift behavior in the development sector. These initiatives are often referred to as "dirty jobs" because they represent activities for which an organization may have trouble getting funding, like improving documentation to enable strategic reuse. In the second round, the team included additional project themes, such as data security and privacy, as well as UI improvements to existing products. Recipients of Catalytic Grants in FY 2018 were selected in December 2017 and July 2018. Recipients for the Strategic Grants were selected in September 2018. A complete list of grantees is found on the right.

The OSC also experimented with building software capacity development this year. We contracted with the Dalberg Group to conduct a landscape analysis of existing training options currently available across the African continent and received a recommendation on how DIAL could start a new model. We are publishing a synthesis of the landscape in Q1 2019, but we have determined that the model proposed is too expensive to operate and not a good fit for DIAL's strategy going forward.

As part of our capacity-building efforts, the OSC also researched more inclusive open source development practices. Recognizing that most open source projects and teams are heavily weighted toward male leads, we are investing in building a more inclusive digital ecosystem starting with the people who build the software. We researched structural barriers to gender and inclusion within the open source community and developed a report that provides insights into experiences of women in the open source communities; a framework of action to improve their representation in these communities; and specific recommendations for different actors (e.g., NGOs, funders, OSS communities and employers). We will share this report with the open source community starting with MozFest in late October and disseminate it online and at conferences throughout 2019.

DIAL's Catalytic Grants

Name	Project	FY18 Amount	FY19 Budget
Enketo	Catalytic Grants & Strategic Grants	$12,090	$119,000
HOT	Catalytic Grants	$12,500	$12,500
InSTEDD	Catalytic Grants	$12,500	$12,500
LibreHealth	Catalytic Grants	$8,025	$8,025
MedicMobile	Catalytic Grants	$7,500	$12,000
Mifos	Catalytic Grants & Strategic Grants	$10,000	$15,000 + TBD
Nafundi (ODK)	Strategic Grants	$0	$149,000
Ona Systems Inc (OpenSRP)	Strategic Grants	$0	TBD
OpenLMIS	Catalytic Grants	$10,000	$15,000
PublicLab	Catalytic Grants	$10,000	$15,000
Trileet (RapidPro)	Catalytic Grants	$10,000	$25,000
University of Washington	ODK	$50,000	$0
Ushahidi	Catalytic Grants & Strategic Grants	$10,000	125,000

DIAL is also a high-level sponsor of Outreachy, the leading provider of remote internships for under-represented groups (e.g., women) in open source software development. Participation in Outreachy, Google Summer of Code and Google Code-in programs improves software projects' collaborative culture and processes, helps them build a pipeline of volunteer contributors from a variety of sources, and gets important work done in the process.

Plans: Next year, the team will develop a long-term business model for the OSC. This includes integration of the ICT4SDGs framework by providing funding and technical support for the prioritized building blocks identified in this analysis. We will also maintain the OSC grant and internship programs and continue our efforts to bring in more diverse developer perspectives.

Building capacity through the Principles for Digital Development, targeted research and how-to guidance

Challenge:
In addition to development practitioners' needing a solid understanding of what software options already exist and which are viable, they are also seeking practical guidance and best practices to incorporate them into their projects.

Progress:
This year, we invested in broadening the reach of the Digital Principles globally. In October 2017, DIAL launched an updated website, step-by-step instructions, case studies and videos; ran trainings and presentations on the Digital Principles in Africa, North America, Southeast Asia and Latin America; and presented materials on the Digital Principles in individual briefings to NGOs and donors. To make the materials more accessible to non-native English speakers, we translated the materials into French and Spanish. The team also migrated the Digital Principles community from a Google Group to a community-based forum to enable more peer-to-peer interaction. Working with partners, we expanded our 2017 training offerings and are testing new materials for donor agencies interested in incorporating the Digital Principles into their programming.

Our capacity strengthening efforts also included the development and launch of specific how-to guidance, such as our Beyond Scale e-book, which was launched in India in February 2018.[19] This guide offers detailed, step-by-step instructions on what to do when a project is ending and needs to be transitioned to a government, which is a critical time in a project life cycle and a moment when many fail. To broaden reach, the team translated the Beyond Scale e-book into French and held trainings and webinars in more than 24 countries. DIAL experimented with developing an accompanying financial modeling tool to support project efforts to accurately forecast for ICT revenues and costs ahead of large-scale deployments. This effort was not successful, and the team is synthesizing the learnings from that and publishing them as "a failure" to the Digital Principles community.

Plans:
Now that interest in the Digital Principles is reignited, the development community is more engaged and foundational tools are in place, the team plans to launch an Advisory Council, with nominations open from September 28 to November 9, 2018. The Council will provide guidance to DIAL regarding priorities for how the Digital Principles will evolve, new products and opportunities for evangelism globally. The team will also complete a range of new resources specifically for donors to use when applying the Digital Principles in their work. These materials will include training courses and in-depth resources, M&E tools, and project checklists. The team will test and disseminate these materials through events in multiple regions throughout the year.

The success of these activities and materials was reflected in the increase of endorsing organizations **61%**

74 endorsing organizations in **APRIL 2017**

127 endorsing organizations as of **SEPTEMBER 2018**

[19] http://digitalimpactalliance.org/beyondscale/

"Seeing the benefits of embedding the Principles in working practices has helped us with our decision to endorse them. It also means that the community of practitioners who support the Principles can produce guidance to help others put the Principles into practice."

UK Department for International Development (DFID)

Mobile Distribution Channels:

Expanding the availability of mobile distribution channels primed to deliver SDG services at scale

In the last five years, the world has faced multiple humanitarian crises, from Ebola and Zika to earthquakes and other natural disasters. However, the ability to respond to rapidly evolving events is often hampered by an inability to quickly set up communication channels to reach the citizens who need services.

Development actors experienced this challenge in Sierra Leone when Ebola struck in 2015, and in DRC in 2018. Other countries and development agencies wanted to leverage mobile services to help these countries and their citizens, but the myriad NGO requests almost immediately overwhelmed the local mobile network operator. NGOs spent months in negotiation, with each concluding its own, separate agreement, which delayed the provision of needed services and risked increased spread of the disease and loss of life.

This problem can also be seen in routine development projects that seek to provide information, such as health messages to expectant mothers or pricing alerts to smallholder farmers via mobile apps. Too often, NGOs can't leverage collective bargaining techniques when negotiating mobile network service agreements (e.g., minutes, customer support), which results in higher costs for all. Donors and NGOs need to establish a repeatable mechanism that will contractually, technically and financially let them leverage messaging services. Similarly, mobile network operators and social media platforms need assurance that they can recover costs and protect their customers' information when providing these services.

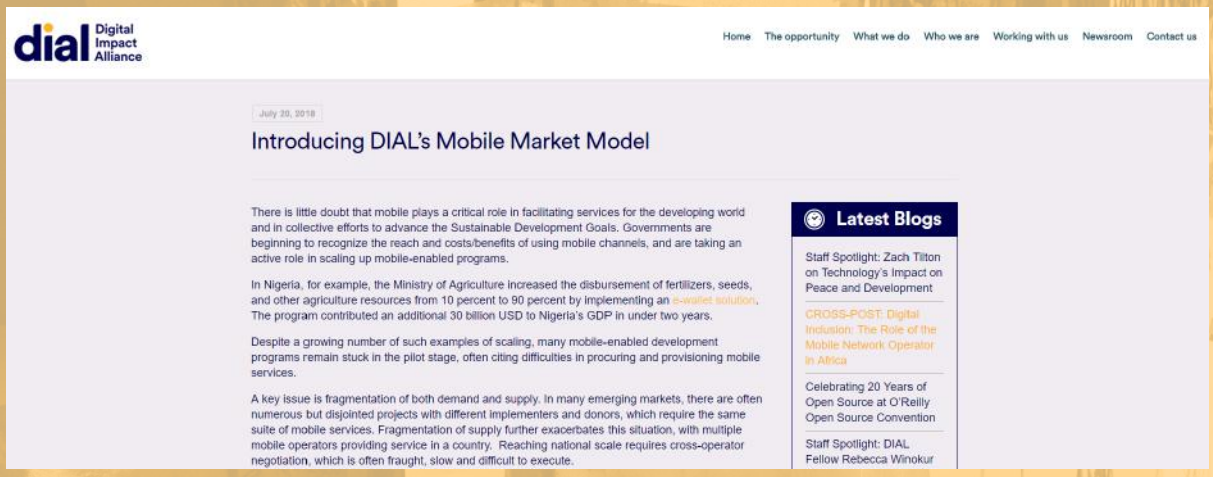
The result of not having a repeatable contractual mechanism is that many mobile-enabled development programs remain stuck in the pilot stage, experiencing difficulties in provisioning mobile channels that result in high transaction costs between the buyers and sellers.

DIAL's programs in 2018 primarily took a product-driven approach, driving common technical standards between mobile aggregator platforms and looking at messaging platform capabilities. After concluding a landscape analysis of different platform players and API specifications, however, we learned that for both technology providers and NGOs, financial and competitive implications are the true roadblocks.

Armed with this early information, DIAL refined its hypothesis to focus on three areas: 1) **Build awareness** among implementers of mobile distribution about channel capabilities (e.g., SMS, USSD, voice, internet-enabled messaging), the platforms that can integrate them (e.g., WhatsApp), and best practices on how they can be used to deliver development services. 2) **Increase visibility** among implementers of platform partners' capabilities and their respective abilities to deliver to channels and geographies at the national, regional and global levels. 3) **Test mechanisms** that aggregate demand for core mobile services, support collective bargaining and standardized contract language, and identify procurement options relevant to core mobile services.The goal is to expand the number and use of available mobile distribution channels to deliver SDG services.

BASELINE:

75% of NGOs and tech specialists that indicated that they had used a messenger platform for service delivery



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July 20, 2018

Introducing DIAL's Mobile Market Model

There is little doubt that mobile plays a critical role in facilitating services for the developing world and in collective efforts to advance the Sustainable Development Goals. Governments are beginning to recognize the reach and costs/benefits of using mobile channels, and are taking an active role in scaling up mobile-enabled programs.

In Nigeria, for example, the Ministry of Agriculture increased the disbursement of fertilizers, seeds, and other agriculture resources from 10 percent to 90 percent by implementing an e-wallet solution. The program contributed an additional 30 billion USD to Nigeria's GDP in under two years.

Despite a growing number of such examples of scaling, many mobile-enabled development programs remain stuck in the pilot stage, often citing difficulties in procuring and provisioning mobile services.

A key issue is fragmentation of both demand and supply. In many emerging markets, there are often numerous but disjointed projects with different implementers and donors, which require the same suite of mobile services. Fragmentation of supply further exacerbates this situation, with multiple mobile operators providing service in a country. Reaching national scale requires cross-operator negotiation, which is often fraught, slow and difficult to execute.

Latest Blogs

- Staff Spotlight: Zach Tilton on Technology's Impact on Peace and Development
- CROSS-POST: Digital Inclusion: The Role of the Mobile Network Operator in Africa
- Celebrating 20 Years of Open Source at O'Reilly Open Source Convention
- Staff Spotlight: DIAL Fellow Rebecca Winokur

Building awareness for distribution channels and platforms

Challenge:

A major operator in Africa with extensive experience working with NGOs indicated that every encounter with a new partner invariably resulted in multiple rounds of conversations to clarify core requirements. He expressed an interest in having a "cheat sheet" of common terms during such encounters. At the same time, an implementer in Africa reported his organization's lack of expertise in MNO business practices, which kept them from pursuing mobile-enabled SDG services more proactively. The DIAL team recognizes that NGOs and other development actors still lack a common understanding of the specific functionalities and capabilities of each other's business, leading to challenges in defining requirements that result in time wasted and cost overruns.

Progress:

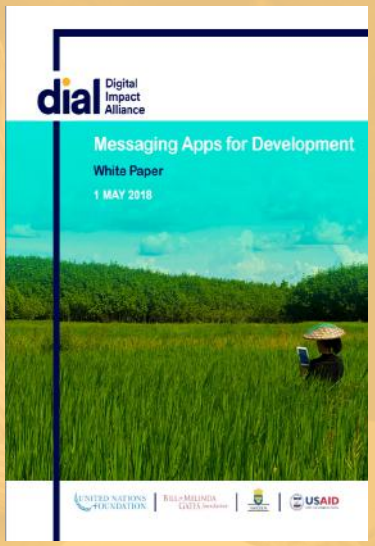
To tackle this issue and build awareness of existing available distribution channels and platforms, we developed the *Introduction to Mobile Capabilities* guide and published it in September 2018. This guide provides NGOs with a taxonomy of core mobile capabilities found in most SDG services, as well as standard terminology for development actors and suppliers to use to discuss mobile services with each other and MNOs. Both NGOs and mobile providers can refer to this new taxonomy when planning a new service (e.g., health tip services), asking for a specific capability at a specific level using language the supplier understands, which in turn eliminates rework and misunderstandings.

While mobile internet adoption is still relatively low in many developing markets, internet-enabled messenger platforms such as WhatsApp and Facebook are rapidly gaining acceptance.[20] To help development actors understand how these platforms are currently being used and what a successful program should look like—including features, security, programmatic concerns and lessons learned from other implementers—DIAL conducted in-depth interviews with organizations that are using messenger platforms extensively to determine how to optimize service delivery with these platforms and take advantage of new features. This included mapping different use cases, recommending the most relevant features, and considering the specific aspects of messengers that are best for each use case. DIAL launched the Messenger Platform Research publication at the ICT4D conference in Lusaka, Zambia, and has promoted it in public forums.[21]

Plans:

In FY19, the team will focus on advancing discussions with humanitarian and international development NGOs around new technical features and business opportunities with messenger platform providers. Questions concerning WhatsApp's API integration, the related business model and best practices for using messenger platforms will be explored.

[20] "Digital in 2017: Global Overview," We Are Social, January 24, 2017, https://www.slideshare.net/wearesocialsg/digital-in-2017-global-overview
[21] https://messengers.digitalimpactalliance.org/



We wrote and published

13 **one-pagers** providing a snapshot of how messengers are being used in development

6 **detailed case studies** providing a deep dive into messenger selection and deployments

1 **report** compiling insights, highlighting the most common use cases, and offering recommendations

Increased visibility of national delivery capabilities

Challenge:
While NGOs and MNOs often don't speak the same language, an equally vexing problem for NGOs is understanding what capabilities mobile providers can offer nationally and in which countries. Quite simply, there is no buyer's guide for mobile services in emerging markets.

Progress:
Once DIAL defined a common taxonomy of product offerings, the team curated a network of aggregators that can deliver across mobile operators, starting first in sub-Saharan Africa. A series of profiles matched aggregators with specific capabilities within the taxonomy, as well as the mobile operators in the country in which they work. Development actors wanting to avoid working with multiple operators can use these profiles to compare those who can potentially enable them to reach national scale faster and with less complexity. The Aggregate Supplier Mapping research will be published in October 2018 and covers aggregators operating in more than 20 countries in sub-Saharan Africa.

Plans:
In FY19, we plan to provide technical assistance in product development and partner selection to implementers in two markets (provisionally, Malawi and Sierra Leone). Leveraging DIAL tools and guidance, we plan to work with NGOs that are operating in these countries, such as WorldVision and VillageReach, to assess the tools' impact on implementation in terms of easing complexity and saving time.

We talked to about **53 organizational representatives and project personnel** using messengers in development and relief programs.

23

countries mapped
by DIAL

50+

operators

Alternatively:

3

aggregators would cover that
same geographical footprint,
though with varying capabilities
and not for mobile internet

Testing mechanisms for aggregate demand and pooled procurement

Challenge:
While there is now progress on the supply side, with aggregators such as Africa's Talking, Clickatell, Nexmo and Twilio delivering core mobile services nationally, similar progress has not been made on the demand side, outside of development efforts in specific countries. To date, there has not been a comprehensive effort to estimate the total size of demand coming from the NGO sector for core mobile services and secure financing.

Progress:
DIAL plans to change this by developing a model to provide both development actors and mobile providers with an overview of aggregate mobile demand by country and sector, and across all use cases. The model will inform a value proposition for development actors that are coordinating the procurement of mobile services and providers of mobile services.

To scope this model, DIAL investigated similar efforts in demand aggregation and financing mechanisms that have been previously developed to learn approaches to take and avoid. With additional funding from the Tableau Foundation, DIAL and PATH researched lessons from the vaccine market that could inform core mobile services, data and software procurement. The research was completed in June and shared with partners at a Wilton Park forum to gauge community interest in taking it forward. The research shares research and learnings from the success of the vaccine market, which saved hundreds of millions of children's lives by aggregating demand and developing new procurement models, convincing private-sector companies to fundamentally shift their product lines for the underserved. The Innovative Financing Models for Digital Markets publication will be released in October 2018.

Plans:
DIAL will produce the first version of the Aggregate Demand Model by February 2019 and use the results to assess the feasibility and partnerships required to pilot a multi-channel financing mechanism for mobile services. The team will then explore how this approach can be applied in software and data commodities. Building on the Innovative Financing Models for Digital Markets research, DIAL is exploring with Tableau the viability of running a pooled procurement pilot at the country level. We are considering how to run this in parallel with ICT4SDG country-level support.

Demand-Side Challenges in LMIC Markets - Software

MARKET CHARACTERISTIC	DEMAND-SIDE MARKET CHALLENGES	$	i	!
AFFORDABILITY	Decentralized purchasing (donors, cross-ministry, district-level) increases transaction costs and loses economies of scale (e.g., in post-sale support).	✓		
	One-off buyers are less price sensitive and distort the market.		✓	
	Different buyers are incentivized toward different pricing structures: • Donors struggle to justify and afford a product with high capital expenditure for a two- to five-year project, incentivizing purchases of products with low capital expenditure or high operating expenditure. • Governments struggle to fund recurrent high operating expenditures, which creates financial dependency on two-to five-year donor projects.	✓		✓
AVAILABILITY	Mistrust of the cloud leads to low cloud adoption, resulting in low local capacity to support cloud-dependent solutions.		✓	
	There is a lack of local capacity for post-sale support and implementation.	✓		
	Frequent government leadership changes negatively influence budget availability and procurement.	✓		
ASSURED QUALITY	Lack of a robust digital workforce in government results in: • Lack of enforcement of existing standards • Lack of a digital blueprint/framework to guide decisions • Lack of a streamlined, rigorous (e.g., value-based) approach to evaluate vendors and solutions • Lack of clarity on what is monetizable and what is not within a given regulatory, policy environment	✓	✓	
	There is a large black market for pirated products (e.g., Microsoft Office), which carries parasitic software that drives poor user experience and mistrust.	✓		
APPROPRIATE DESIGN	Financing is often sector or subsector specific, creating narrow technical requirements and vendor selection processes.	✓		
	Donors and governments are pressured to satisfy political (e.g., "buy local") and financial (e.g., "buy cheapest") requirements, distorting markets.	✓	✓	
	Governments and donors set highly customized requirements in each geography, losing economies of scale in product development.	✓	✓	
AWARENESS	Lack of continuous training and support results in buyer misinformation and unmet expectations, and leads to mistrust of vendors.		✓	
	Governments may lose essential programmatic funding if they do not endorse a donor decision about software, creating a "false demand" that ultimately reduces post-project sustainability.	✓		

KEY

$ **HIGH TRANSACTION COSTS**
high structural hurdles to interact with the market

i **LIMITED MARKET INFORMATION**
lack of available data, analytical capabilities and visibility of existing data, leading to information asymmetries

! **RISK IMBALANCES BETWEEN BUYERS AND SELLERS**
one side is exposed to and bears significantly higher financial/nonfinancial risk

Responsible Data Use:

Ensuring responsible, widespread access and use of network data for SDG decision-making

The ability to access and use mobile network operator data from call detail records (CDRs) and other network data elements to improve the delivery of services to the underserved has been a goal of the development sector for more than a decade, and numerous pilots show its promise. Research across hundreds of data projects demonstrates that telco information can meaningfully inform development decisions at a fraction of the cost of each organization building its own information systems.[22] Despite these findings, there is no standardized and privacy-protected method for private-sector and development actors to routinely share or leverage data, and the development sector has not yet seen MNO and service-level program (e.g., health, agriculture) data combined at scale in a production environment.

While country governments and development practitioners are eager to access these new forms of data, they often don't know how to collaborate with MNOs or network service providers. There is limited to no understanding of what data is readily available and the costs involved in extraction, and there is rarely in-house technical expertise to conduct data cleaning and analysis. At the same time, MNOs are reluctant to work with groups that are unwilling to pay and do not have the technical and operational capacity to use MNO data on an ongoing basis. Commercially viable models need to be established to engage the private sector, especially MNOs concerned about potential data leaks to competitors or third parties. MNOs seek assurances that this data will not threaten their relationship with their local telecoms regulator and that the data will be used in a safe, secure and private manner. These legitimate concerns from all sides must be addressed, and a trust model must be built among the MNO, NGO and government communities. Only then will organizations be able to work together to use data safely, meet the SDGs and ensure a reliable return on MNO investment. In this scenario, everyone wins.

To overcome these obstacles, DIAL is investing in three mutually reinforcing programs, including 1) **demonstrating D4D analytics and data models**, 2) **developing and deploying a common data architecture**, and 3) **strengthening the ecosystem's ability to deploy D4D programs**. The goal is to improve access to network data, empower the ecosystem to use such data in decision support, and promote responsible and transparent use in a sustainable manner.

BASELINE:

92% of NGO survey respondents agreed with the phrase "digital data, like mobile, geo-spatial or app usage data, can add value to my programming."

[22] http://piranpartners.com/wp-content/uploads/2014/12/Mobile_Big_Data_and_Analytics_April_014.pdf (Section 6.2)
http://humnetlab.mit.edu/wordpress/wp-content/uploads/2010/10/TRB_finaldraft.pdf

"Even if we could access that type of data, I'm not sure we have the skills necessary to analyze it."

Small NGO

Demonstrating D4D analytics and data models

Challenge:
Building a repeatable framework that can enable access to MNO data in any country in the world requires stakeholders to understand the necessary partnership models and operational and governance processes. Partnerships are required with the donor-funded project, the country government (e.g., sectoral ministry, regulator), the MNO, and the data analytics platform providers or technology support organization that can run the data analytics in case of capacity challenges. Negotiations of data sharing agreements take time, and last year was a particularly difficult environment, with the frequent scandals related to its unsafe use and the advent of GDPR increasing operator concerns globally. There were also challenges coordinating among partners, vendors and other parties that do not usually interact, which was made more difficult by the operational challenges associated with low technical capacity at some MNOs.

Progress:
Despite these obstacles, DIAL made substantial progress forging partnerships for launching demonstration projects in Malawi, Tanzania and Uganda. To share its D4D learnings to date, the team published two guidance papers: the first, *Unlocking MNO Data to Enhance Public Service and Humanitarian Efforts*, and the second, *Leveraging Data for Development to Achieve Your Triple Bottom Line*. DIAL was able to solidify its role as a thought leader by presenting multiple times at Mobile World Congress events in Europe and Africa, ITU events in Africa, World Economic Forum events, and briefings at the World Bank. Our partnership with the GSMA and the World Bank has deepened this year, with both regularly seeking to collaborate with DIAL and share our expertise.

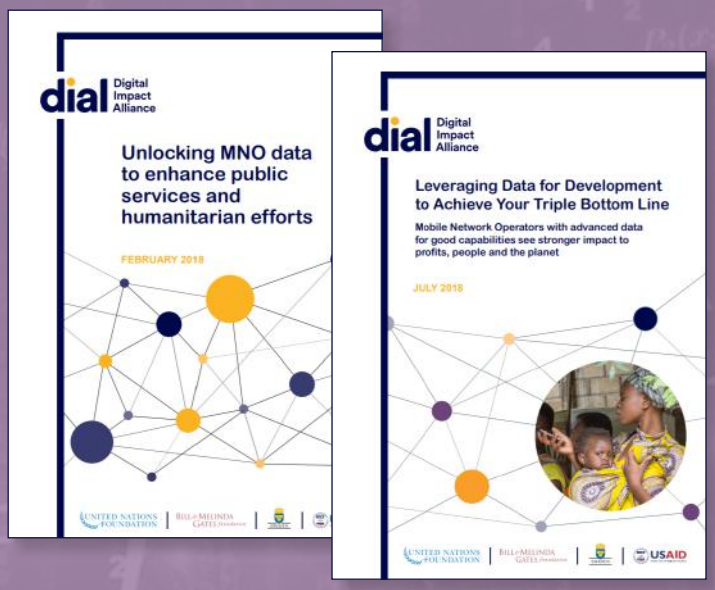
A notable highlight of 2019 will be DIAL's headway in testing operating models in Malawi, Tanzania and Uganda for data extraction, analysis and use. The tests are focused on working with these governments to extract and use health and agricultural sector data as a starting point to understand what insights matter and what contractual processes are required so that in future tests, any donor, country government or NGO implementer will be able to replicate this process without DIAL's involvement. The pilots place development project partners in the lead, working with their respective government partners to identify common questions that telco data can answer or help validate, such as: "What is the denominator?" "Where should we locate a health facility?" and "How can we predict food insecurity in a region utilizing digital datasets?"

DIAL currently supports the project partner by brokering conversations between the regulator and the MNO to get approval for the supply of network data, making it available at a fair price, and bringing in analytics and solutions delivery options to combine this data safely and securely with the projects' routine datasets to inform decision-making.

Plans:
DIAL is running these tests now, with potentially one or two more planned next year. We are considering expanding our sectoral or geographical reach based on findings from our current investment and partner projects. This work will inform how-to steps that will be shared with the community to provide end-to-end operational guidance; a template for developing an MNO contract and/or partnership, including guidance on inclusive business models; and DIAL's take on data privacy and security considerations that would ensure acquired data is not misused.

The guidance will be packaged as part of the team's research series and disseminated through established learning networks, including the Digital Principles forum and our data partnership with the GSMA and World Economic Forum.

D4D Paper Series



Paper 1 Insights

Five priority MNO data insight categories

- (I) Location snapshot
- (II) Location over time
- (III) Usage/spend over time by profile and location
- (IV) Location snapshot by profile
- (V) Location over time by profile

Paper 2 Insights

HOW TO SET THE PRICE?

- Value-based
- Cost-based
- Market-based

Developing and deploying a common data architecture

Challenge:
In addition to needing help shaping new operating and market models, development actors also need options for turnkey software tools to use. Today, there are no end-to-end software tools offering easy-to-access and easy-to-use open source platforms for managing the data pipeline. However, some promising models have been developed and can be expanded. A corresponding challenge in developing these tools is to ensure these platforms embed data sharing solutions in their design to reduce risk around privacy and usage, as well as ownership and access rights.

Progress:
DIAL is investing in a few projects to address these issues with the purpose of taking nascent, early-stage teams and technology stacks and creating common, open data analytics and governance platforms that any development actor can access and utilize. We started our partnership with Flowminder in 2018, with the goal of creating a library of open source mobile data analysis tools, which will be made available to NGO implementers and donors to aid in the rapid rollout of MNO data-driven insights. We are launching a similar test[23] investment in OPAL (Open Algorithms Project) in collaboration with the French aid agency, AFD, this fall. This is a state-of-the-art, privacy-preserving open source technology and a co-designed participatory governance system with an ethical oversight body and capacity-building activities. The solution will unlock the potential of trustworthy and accountable data to foster local development through concrete use cases.

Plans:
By the end of 2019, DIAL expects to deliver a freely available, easy-to-use and install, best-in-class toolkit for the large-scale analysis of CDR data for development, humanitarian and, potentially, MNO commercial purposes. It will gather the accumulated analytical insights of Flowminder into an open-IP, end-user friendly package that can be used by development stakeholders. This project seeks to further operationalize and scale the use of de-identified mobile data by:

- Standardizing the analysis methods that are used to generate mobile data insights
- Releasing Flowminder code as open source
- Developing protocols for enabling MNOs to use the analytics toolkit independently
- Ensuring that the design of the platform conforms to the needs of end users
- Standardizing and automating the data processing pipeline
- Providing a quality assurance framework and procedures for operators to correct data errors
- Supporting the development of sustainable models for mobile data insights production and sharing to foster local development through concrete use cases

[23] Note that we are making a first grant in October 2018 as part of a co-investment strategy with AFD.

D4D Portfolio Progress

4

demonstration projects launched

2

data sharing agreements signed

2

papers published

7

blog posts written

6

telecommunications regulators engaged

12

months of CDR data analyzed

3

innovation challenges hosted by key partners judged

Strengthening the ecosystem's ability to deploy D4D programs

Challenge:

As highlighted above, complex and interconnected ethical, institutional, legal, technical and commercial challenges continue to impede our sector's ability to leverage the full potential of private-sector data for public good. Although a number of efforts have gone into solving these issues, the ecosystem still lacks a coordinated learning framework with clear definitions of roles of data controllers, data custodians and data fiduciaries in a sustainable model. Results of case studies, research questions and other work are often uncoordinated or maintained in silos. Development actors can't compare insights because they aren't structured in the same way, thereby reducing the value of the findings. Furthermore, regulators that must oversee this change struggle to address the rising number of issues regarding data privacy and protection. They have consistently requested tools and information to help them understand how other countries safeguard citizen data and the tradeoffs that are required related to the social benefit of D4D projects. The success of our data portfolio will require us to intentionally build this capacity to support.

Progress:

This year, DIAL proposed a "common learning framework" with our partners for the D4D sector to leverage collective efforts in identifying which market, operating and governance models will deliver the most impact in humanitarian and development efforts to utilize data for good. The common learning framework provides a set of questions that all development actors, no matter their approach, can answer to identify what is working or not in their D4D implementations. Taking this approach to collaborating with sector colleagues enables us all to compare approaches to identify best practices no matter which group (e.g., DIAL, GSMA) is leading the project.

Plans:

In 2019, DIAL will invest in answering research questions around the common learning framework, working with our partners to identify best practices and incorporate them into operating model guidance produced as part of our paper series. We will continue to collaborate with D4D ecosystem players, such as GSMA, to help drive operator participation, and we are scoping how we can develop regulator training.

"We are all for ICT for development. But we recognize that ICT can be as destructive as it is beneficial. We want to understand the impact of the use of these data in other countries so that we can appropriately appreciate and mitigate the risks so that we can ensure its full benefits."

THOKOZANI CHIMBE
Malawi Communications Regulatory Authority

"Rachel Sibande from DIAL gave a talk on how her organization is now using data from mobile network providers to anticipate how a disease outbreak will spread, based on the movement patterns of the network's subscribers. Using this data, they can advise ministries to run campaigns in certain areas and increase medical supplies in another. Rachel's talk really showed me how easy it is to create an effective solution, once you fully understand the problem."

KATLEGO MAAKANE
Project Manager, MERLTech Jozi

Conclusion

DIAL has made great progress in FY18 against the objectives in our first five-year strategy, but as Bill Gates said, “Don’t let yourself be lulled into inaction.” DIAL has learned from the early successes and failures outlined in this paper. Armed with this knowledge, we have prioritized our investments in programs and the production of public goods that address persistent product, pricing, people and policy barriers preventing our sector from using digital technology more efficiently and effectively. We are applying our technical expertise to foster the development of simplified, turnkey, digital platforms and analytics solutions that can be deployed with many development programs. We work to increase the knowledge of providers’ digital service delivery best practices and their capacity to use them. Finally, we are developing the necessary aggregate demand models and ROI calculations they need to quantify how investing in digital technology and data achieves profitable development outcomes and inspires new entrants. If our 2019 efforts are successful, we will all be one step closer to the institutionalization of digital technology to deliver the SDGs.

Communications

ANNUAL MEMO: October 2017 – September 2018
*All information is organized from most recent to oldest

Publications to Date:

1. SDG Digital Investment Framework (in collaboration with International Telecommunication Union)
Provides a global call to action, inviting governments, donors, technology vendors and other stakeholders to adopt a whole-of-government approach to investing in digital technology.
https://bit.ly/ITUDIAL

2. The Role of Digital Identification for Healthcare (in collaboration with the World Bank)
Provides insights and an analysis on the importance of identification in the effective delivery of health services and public health management.
https://bit.ly/2NY4BUi

3. Leveraging Data for Development to Achieve Your Triple Bottom Line
Provides insights from one-on-one, in-depth interviews across the data for development value chain, which help inform how operators can tap into shared value creation opportunities to achieve the SDGs.
https://bit.ly/2NtZnwm

4. Unlocking MNO Data to Enhance Public Services and Humanitarian Efforts
Provides insights to governments, humanitarian organizations and MNOs on the shared value proposition of using MNO data for development.
https://bit.ly/2t3LKhr

5. Messaging Applications for International Development
An online resource launched to help development practitioners and application developers with findings, insights and tips on how messengers can be best utilized in daily development and relief work.
https://bit.ly/2IY3BNJ

6. Technology Landscape for Digital Identification (in collaboration with the World Bank)
Provides an overview of current and emerging technology trends in digital identity. Developed in conjunction with the World Bank supporting the the Bill & Melinda Gates Foundation's investments in identity systems.
https://bit.ly/2Du7PWy

7. Beyond Scale: How to Make Your Digital Development Program Sustainable (eBook)
Provides detailed how-to knowledge to NGO practitioners and governments that are transitioning/sustaining digital programs. Developed with BBC Media Action, it provides significant global lessons drawn from the Bill & Melinda Gates Foundation's India work.
https://bit.ly/2rhpWy4

8. Closing the Access Gap
Shares recent and ongoing efforts to test business model innovations.
https://bit.ly/2pQQFMS

Public Events

UNGA: How to Advance an Inclusive Digital Society and Scale ICTs for the SDGs (USA, September 2018)

Bloomberg Data for Good Exchange (USA, September 2018)

ITU World Telecom Conference (South Africa, September 2018)

MERLTech DC (USA, August 2018)

MERL Tech Jozi (South Africa, August 2018)

Tech Tuesday at UNF (USA, July 2018)

Oscon Conference and Community Leadership Summit (USA, July 2018)

GSMA Mobile 360 Africa (Rwanda, July 2018)

2018 Corporate Impact Summit: Impact through innovation and venture (USA, June 2018)

Devex World (USA, June 2018)

AWS Public Sector Summit (USA, June 2018)

AI for Good Summit (Switzerland, May 2018)

ICT4D Conference (Zambia, March 2018)

FOSSASIA (Singapore, March 2018)

MAKAIA "Girls in Tech" Event: Principles Presentation (World Data Tour) (Colombia, March 2018)

MERLTech London (United Kingdom, March 2018)

Digital Development: The Next 10 Years (USA, March 2018)

International Women's Day Forum (USA, March 2018)

Tech Salon DC (USA, March 2018)

Beyond Scale Launch and Partner Meetings (India, February 2018)

Mobile World Congress (Spain, February 2018)

GrimoireCon+FOSDEM conferences (Belgium, January 2018)

DFAT secondment / Principles for Digital Development Convening (Australia, January/February 2018)

Global Digital Health Forum (USA, December 2017)

Digital Technologies for Resilience Workshop (Thailand, November 2017)

Agrico Conference (South Africa, November 2017)

NetHope Summit: Promoting new principles content and website (Canada, October 2017)

UN Data Forum (South Africa, October 2017)

Digital Principles Launch Event (Tanzania, October 2017)

DIAL Board Meeting (Tanzania, October 2017)

Blogs since October 2017

Cross-Post: Digital Inclusion: The Role of the Mobile Network Operator in Africa
https://digitalimpactalliance.org/cross-post-digital-inclusion-the-role-of-the-mobile-network-operator-in-africa/

Celebrating 20 Years of Open Source at O'Reilly Open Source Convention
https://digitalimpactalliance.org/celebrating-20-years-of-open-source-at-oscon-2018/

Staff Spotlight: DIAL Fellow Rebecca Winokur
https://digitalimpactalliance.org/staff-spotlight-dial-fellow-rebecca-winokur/

FlowKit – An open source tool to support communities through mobile phone data (CDR) analysis
https://digitalimpactalliance.org/flowkit-an-open-source-tool-to-support-communities-through-mobile-phone-data-cdr-analysis/

Introducing DIAL's Mobile Market Model
https://digitalimpactalliance.org/introducing-dials-mobile-market-model/

New Research Points to How Mobile Network Operators Can Help Achieve the Sustainable Development Goals Profitably
https://digitalimpactalliance.org/new-research-points-to-how-mobile-network-operators-can-help-achieve-the-sustainable-development-goals-profitably/

The Power of Community: 23 summer interns bring impact & support to DIAL Open Source Center projects
https://digitalimpactalliance.org/the-power-of-community-23-summer-interns-bring-impact-support-to-dial-open-source-center-projects/

Cross-Post: Beyond Proof of Concept: Do we have the right structure to take disruptive technologies to production?
https://digitalimpactalliance.org/cross-post-beyond-proof-of-concept-do-we-have-the-right-structure-to-take-disruptive-technologies-to-production/

Cross-Post: MomConnect: Fostering a long-term, supportive dialogue with mothers in South Africa
https://digitalimpactalliance.org/cross-post-trust-and-transparency-are-key-for-effective-global-health-collaboration/

Open for Public Comment: DIAL Shares Internet Messaging Case Studies and Research
https://digitalimpactalliance.org/open-for-public-comment-dial-shares-internet-messaging-case-studies-and-research/

Cross-Post: DFID endorses the Principles for Digital Development, How the Principles lead to better designed development programmes
https://digitalimpactalliance.org/cross-post-dfid-endorses-the-principles-for-digital-development-how-the-principles-lead-to-better-designed-development-programmes/

#TBT: Bringing the Digital Principles to Life in Jakarta
https://digitalimpactalliance.org/tbt-bringing-the-digital-principles-to-life-in-jakarta/

DIAL's Open Source Center on the Road
https://digitalimpactalliance.org/dials-open-source-center-on-the-road/

Guest Blog: Evaluating ICT4D projects against the Digital Principles
https://digitalimpactalliance.org/guest-blog-evaluating-ict4d-projects-against-the-digital-principles/

A Critical Time for Digital Development: DIAL Launches the Digital Ecosystem Survey
https://digitalimpactalliance.org/critical-time-digital-development-dial-launches-digital-ecosystem-survey/

What did Mobile World Congress 2018 show us about Creating a Better Future?
https://digitalimpactalliance.org/mobile-world-congress-2018-show-us-creating-better-future/

Cross-Post: Leveraging Mobile Data to Achieve the SDGs
https://digitalimpactalliance.org/cross-post-leveraging-mobile-data-achieve-sdgs/

Cross-Post: Demystifying Technologies for Digital Identification
https://digitalimpactalliance.org/cross-post-demystifying-technologies-digital-identification/

New Paper From the Digital Impact Alliance Aims to Help Governments, Humanitarian Groups and Mobile Network Operators Find Shared Value in Unlocking Data for Social Good
https://digitalimpactalliance.org/new-paper-digital-impact-alliance-aims-help-governments-humanitarian-groups-mobile-network-operators-find-shared-value-unlocking-data-social-good/

Guest Blog: From Pen to Principle: The Evolution of the Digital Principles Community
https://digitalimpactalliance.org/guest-blog-capturing-actionable-insights-principles-digital-development/

Program Strategy: How to Pivot Your Digital Development Project to Scale and Sustain Beyond the "Valley of Death"
https://digitalimpactalliance.org/program-strategy-pivot-project-scale-sustain-beyond-valley-death/

Register Now: Practicing the Principles for Digital Development in Jakarta, Indonesia
https://digitalimpactalliance.org/register-now-practicing-principles-digital-development-jakarta-indonesia/

Mobile Money: Increasing Use by Addressing Trust
https://digitalimpactalliance.org/mobile-money-increasing-use-addressing-trust/

Open Source in the Field: Two Case Studies from Open Data Kit (ODK)
https://digitalimpactalliance.org/open-source-field-two-case-studies-open-data-kit-odk/

Guest Blog: Gender, Gender-Based Violence and Information Communication Technologies: A Hippocratic Approach
https://digitalimpactalliance.org/guest-blog-gender-gender-based-violence-information-communication-technologies-hippocratic-approach/

Cross-Post: Why Are Women Less Likely to Own a Phone?
https://digitalimpactalliance.org/cross-post-women-less-likely-phone/

Taking the Next Step to Implement Data4Development in Malawi
https://digitalimpactalliance.org/taking-next-step-implement-data4development-malawi/

Practicing the Principles of Digital Development in East Africa: Dar es Salaam 2017
https://digitalimpactalliance.org/practicing-the-principles-of-digital-development-in-east-africa/

Is Open Source Overrated?
https://digitalimpactalliance.org/open-source-overrated/

Announcing the Launch of the Digital Principles Forum
https://digitalimpactalliance.org/announcing-launch-digital-principles-forum/

The Digital Impact Alliance (DIAL) Hosts "Practicing the Principles for Digital Development" Event in Tanzania
https://digitalimpactalliance.org/digital-impact-alliance-dial-hosts-practicing-principles-digital-development-event-tanzania/

31 TOTAL BLOGS since October 2017

Videos to Date

DIAL/ITU SDG Digital Investment Framework
http://bit.ly/ICT4SDGV

Leveraging Data for Development to Achieve Your Triple Bottom Line
https://vimeo.com/280603021

DIAL at Mobile World Congress
https://vimeo.com/261552023

Principles for Digital Development Event Video
https://vimeo.com/261552532

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List of Abbreviations

AI: Artificial intelligence

API: Application program interface

CDR: Call detail record

CGAP: Consultative Group to Assist the Poor

D4D: Data for development

DFID: Department for International Development

ICT: Information and communications technology

ICT4SDG: Information and communication technology for for the Sustainable Development Goals

ITU: International Telecommunication Union

KPI: Key performance indicator

LMIC: Low- and middle-income countries

M360: Mobile360

MNO: Mobile network operator

MWC: Mobile World Congress

OPENCRVS: Open civil registration and vital statistics

OpenLMIS: Open logistics management information system

OpenSRP: Open smart registration platform

OSC: Open Source Center

RFP: Request for proposal

ROI: Return on investment

SDG: Sustainable Development Goal

WGA: Whole-of-government approach

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