

2019 Annual Memo
SEPTEMBER 2019



**A new era of
digital cooperation**

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The Digital Impact Alliance (DIAL) advances digital inclusion to achieve the Sustainable Development Goals (SDGs), so that all women, men and children can benefit from life-enhancing, mobile-based digital services.

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.

A partnership among USAID, the Bill & Melinda Gates Foundation, the Swedish government and the United Nations Foundation, DIAL's efforts help accelerate the collective efforts of government, industry and development organizations to realize this vision.

DIAL is staffed by a global team and is guided by a board of leading emerging market entrepreneurs, technologists and development experts. With this leadership, DIAL is uniquely positioned to serve as a neutral broker, bringing together government, industry and other development stakeholders to promote new solutions to old problems.

The DIAL fiscal year runs from October to September. This report covers the period from October 2018 to September 2019 (FY19) and outlines our priorities for the next fiscal year.

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Letter from Kate Wilson, CEO

Digital technologies can help everyone, everywhere, access the services they need more quickly and cheaply. They can provide identities to people seeking services; anticipate where disaster-affected communities will need assistance; and communicate with people in remote areas. Done well, digital systems can make tasks and data analysis easy and routine, making algorithmic predictions and instant communication with millions as simple as sending an email or placing a phone call. And done right, these technology systems should empower and protect people, making it easier for them to connect with others, get access to services, educate and feed their families, and exercise their civil liberties.

Five years ago, DIAL was created because the transformative promise of easy-to-use technology had not yet been fulfilled. Since then, exciting progress has been made. Governments are adopting e-governance frameworks and exploring whole-of-government approaches to ICT architecture and procurement.¹ New donor alignment is building in digital health, finance, education, and ID systems. A focus on digital public goods for ICT development is becoming mainstream,² in particular through momentum from the United Nations High-level Panel for Digital Cooperation.³ Governments are beginning to embrace a whole-of-government approach to ICT procurement, and the digital ecosystem is awakening to the exciting potential of data for policymaking.⁴

But our ecosystem remains fragmented, and many problems cited in our design documents still hold true. Digital product and policy development continue to be stuck in sector siloes and early-stage prototypes, rather than transitioning to a more holistic strategy to invest in transformative market enablers like cross-cutting platforms, common data standards, and sustainable business models. Investment in foundational infrastructure is lacking, particularly in local institutions in the Global South. Basic telecommunications and energy infrastructure remain key challenges to rolling out digital services in rural areas and making them accessible to the most vulnerable. Technology solutions used within humanitarian and development markets still don't consider the true cost of scaling.⁵

We urgently need collective action to make this leap. Investing in the “institutionalization of digital” will make or break our achievement of the Sustainable Development Goals (SDGs) and will be vital to our ability to meet the mounting challenges of the coming decades. Almost 1 billion people throughout the world lack any form of legally recognized identification,⁶ and about 1.7 billion adults remain unbanked.⁷ The next five years will see unprecedented heat emergencies, intense storms, and unpredictable meteorological cycles. These changes will fuel climate displacement and conflict, of which vulnerable people and low-income countries (LICs) will bear the brunt. Multilateralism



How the global community invests in digital technology will make or break our achievement of the Sustainable Development Goals and will be vital to our ability to meet the mounting challenges of the coming decades.

¹ ITU, DIAL, *SDG Digital Investment Framework: A Whole-of-Government Approach to Investing in Digital Technologies to Achieve the SDGs*, (Geneva: ITU, 2019).

² Ibid

³ United Nations, UN Secretary-General's High-level Panel on Digital Cooperation, *The Age of Digital Interdependence*, (New York: United Nations, 2019).

⁴ DIAL, Cooper/Smith, *Using Mobile Phone Data to Make Policy Decisions: A study in how new data sources optimized health facility placement in Malawi*, (Washington, DC: DIAL, 2019).

⁵ DIAL, Genesis Analytics, *DIAL Baseline Ecosystem Study*, (Washington, DC: DIAL, 2018).

⁶ Olivia White, Anu Madgavkar, James Manyika, Deepa Mahajan, Jacques Bughin, Michael McCarthy, Owen Sperling, *Digital Identification: A Key to Inclusive Growth*, (McKinsey Global Institute, January 2019), 3.

⁷ Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, Saniya Ansar, and Jake Hess, *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution*, (Washington, DC: World Bank. doi:10.1596/978-1-4648-1259-0. License: Creative Commons, 2018), 35.

is under immense geopolitical pressure, although the need to cooperate has never been greater. The rise of technology giants will test the sovereignty of the nation state in regulating digital spaces. While emerging technologies — such as the internet of things (IoT), 5G, distributed ledger technologies, robotics, and automation — all may be the proven technologies of five years from now, we are far from cementing our practice around the technologies we already have. And 3.3 billion people who live in areas covered by mobile broadband are not using mobile internet services,⁸ meaning that if current trends hold, more than 40% of the population in low- and middle-income countries will still be offline in 2025.⁹

In short, there is more to do — together.

A unique mandate to connect digital actors and efforts

When I joined DIAL as CEO in 2016, it was already clear that continuing to address all of these problems using the current approaches was not going to be sufficient. The scale of the problems is too great, and the technology is moving too fast. No one actor can do this alone. Instead, the sector needed a neutral, knowledgeable convener that could gather the collective issues, prioritize and test new approaches, and work to unify our fragmented ecosystems under common principles and approaches.

Over the last four years, we have invested in these structural issues to develop new answers to technical problems (e.g., open source standards and products); design curricula and run standards-based training across four continents (e.g., Principles for Digital Development); and conduct out-of-the-box research to break impasses between the public and private sectors (e.g., data analytics, messaging platforms, capacity, financing), all of which show the way to a new era of digital cooperation in which citizens, governments and private enterprises benefit.



To accomplish this, we set up a new type of organization, one that can respond to ecosystem needs and evolve over time as digital development priorities change and gaps emerge. Our early years focused on building the organization and gathering foundational insights through research and experimentation that could help us connect digital actors and initiatives and address the sector's most pressing needs.

A transitional year: Delivering impact and charting a new course

As we enter year five, it's clear we need to move beyond simply connecting digital technology efforts and instead choreograph collective investment in digital public goods; support country-level, cross-sector engagement and capacity; responsibly explore ways to utilize nontraditional data for development policymaking; and support the Principles for Digital Development to grow as user-driven, living standards that can ground global digital development agendas. We're committed to sharing what we've learned as white-label practitioner resources so that other partner networks and organizations can take on, adapt, and disseminate it more broadly under their own brands, driving impact far beyond DIAL's reach alone.

⁸ Kalvin Bahia, Stefano Suardi, *The State of Mobile Internet Connectivity 2019*, (GSMA Connected Society, July 2019), 5.

⁹ Ibid.

Early Signs of DIAL's Impact as of September 2019

Ecosystem Engagement



Communications



15 Aggregators mapped by DIAL to cover:

- Continents: 5
- Countries: 194
- Core Services: 12
- Service Types: 12
- Operators: 526

Uptake and Adoption



In this memo, we reiterate our vision and impact model for driving distributed change in the digital ecosystem (section 2). A summary of our programmatic areas, their progress this year and their plans for FY20 constitute section 3. Finally, we take you through the transitions we are navigating in FY20, including our work to ensure that the learning and evidence we have amassed in our first phase is accessible and usable by the digital ecosystem, and we highlight some early themes we see emerging over the next five years (section 4).

This letter would not be complete without my heartfelt thanks to the team for their hard work; to our Board and our hosts at the UN Foundation for their support; and to our donors for their continued belief in and commitment to our shared digital transformation agenda. Working together, we can realize the promise of digital cooperation to deliver the SDGs.

Sincerely,

*Working together,
we can realize the
promise of digital
cooperation to
deliver the SDGs.*

DIAL's Guiding Principles

Our vision

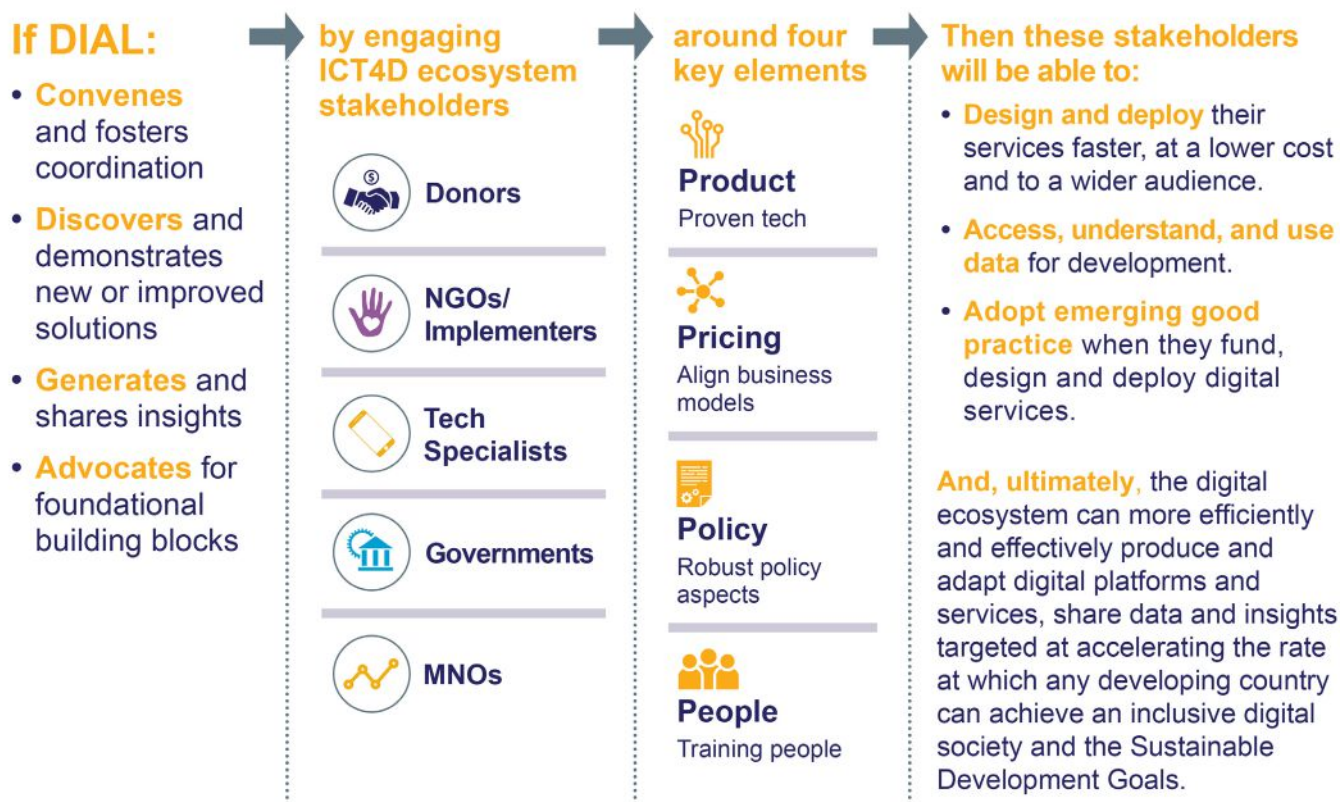
A world in which the underserved benefit from digital technology.

Our mission

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

We work 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.

Our theory of change



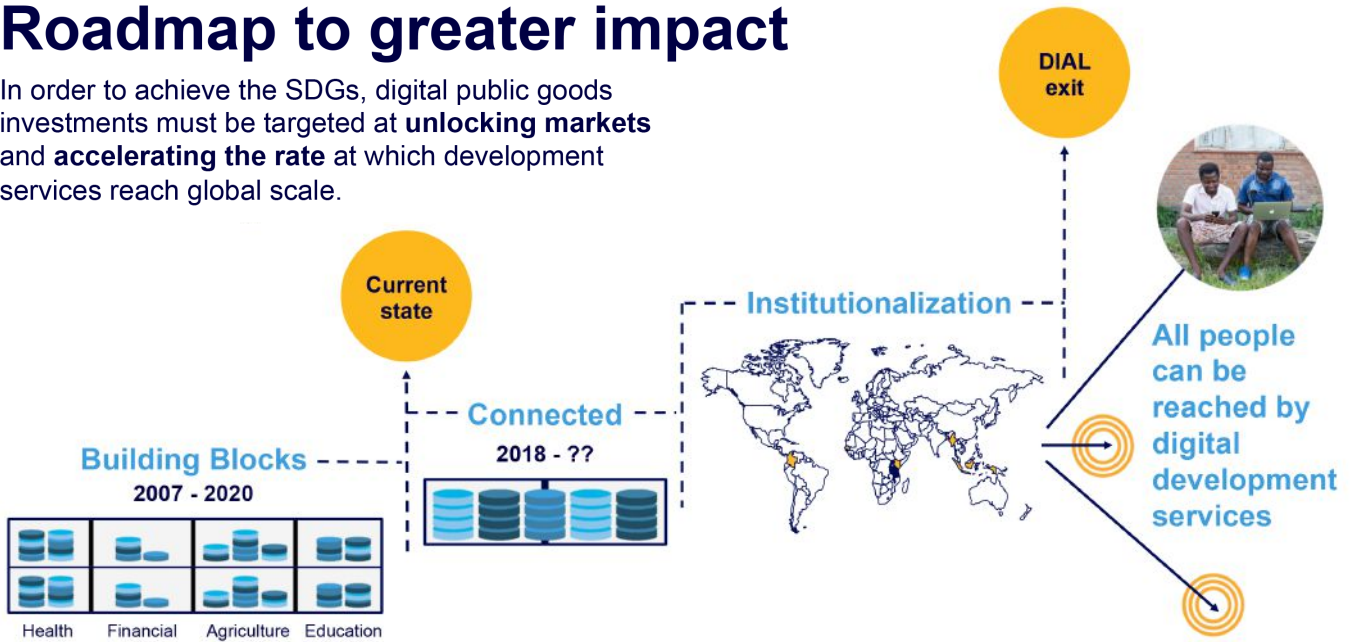
Our impact model

DIAL works to make it easier for people to choose and use technology to deliver services in support of the Sustainable Development Goals.

The digital development ecosystem has not yet realized its potential impact because it remains fragmented, with sector-specific products struggling to find the funding and customer base to scale. Connected, interoperable, scalable digital public goods — supported by a robust enabling environment of people, policies, and funding flows — make it easier for any development actor to **institutionalize** technology so that it is a routine part of service delivery. Institutionalization has occurred when these digitally enabled systems continue beyond catalytic funding and are so embedded in daily practice that alternative options no longer seem viable.

Roadmap to greater impact

In order to achieve the SDGs, digital public goods investments must be targeted at **unlocking markets** and **accelerating the rate** at which development services reach global scale.



We believe that institutionalization will be easier when there is a market of scalable, sustainable, affordable and accessible digital public goods and commercial, off-the-shelf software platforms (**Product**); sustained by diversified funding flows and priced appropriately for LMICs (**Pricing**); people with the knowledge to be skilled customers, comfortable with choosing and using technology (**People**); and supportive practice and regulation (**Policy**) that balances the power of digital technology with the need to protect the most vulnerable.

Therefore, we structure our own work around these four areas, or “four Ps,” of institutionalization: Products, Pricing, People (capacity) and Policy. In the programmatic overview that follows, we illustrate the progress that DIAL’s portfolios and programs made in 2019 against these areas and preview our 2020 priorities to drive impact.

DIAL 1.0: Investing in digital public goods

In order to move from a building-block world to one in which efforts are connected across sectors, we invest in **products, policy, people and pricing** mechanisms to ensure software platforms, mobile channels and D4D solutions are turnkey.



Our Programmatic Impact in FY19

PORTFOLIO 1

Proven Software Technology: Identifying, supporting and expediting the deployment of proven products

Our Proven Software Technology portfolio equips those who work on digital platforms and applications used in the international development and humanitarian sectors to discover and deploy more sustainable, robust, and interoperable systems.

Identifying cross-sector platform gaps

CHALLENGE: The Sustainable Development Goals promise to “transform our world” by 2030, and innovative uses of information and communication technologies (ICTs) have the potential to propel government programs to far greater effectiveness and scale, accelerating progress. Global development agencies have invested billions of dollars over the past decade to ride this wave and integrate government programming with digital technology. But we have not yet seen these innovations reaching scale, or realizing simplified, high-value experiences for citizens. Rather, fragmented products are piloted and implemented in small-scale programs with consequently smaller-scale results. The private-sector technology industry and their enterprise platforms and greater technology capacity are under-utilized and under-represented in the discourse.

Maximizing the leverage that digital technologies can have on global development requires governments and their partners to take a new, coordinated, whole-of-government approach to architecting, investing in and institutionalizing the use of technology. In order to deliver affordable, high-impact services and accelerate progress toward the SDGs, we need to identify and implement ICT solutions that meet the needs of not just one but *multiple* sectors.

DIAL’s work in Proven Software Technology has focused on:

- **Building, demonstrating, and disseminating best practices** to support people in taking an “ICT building block” approach at a policy, people and product levels. Our joint publication with the International Telecommunications Union, *SDG Digital Investment Framework*,¹⁰ maps ICT building blocks to SDGs, use cases and workflows to help implementers set strategy, plan across sectors and deliver on the SDGs.
- **Advocating for the ICT building block approach** to build awareness and draw attention globally. In September 2018, DIAL and the ITU released a call to action,¹¹ inviting countries to take a whole-of-government approach to investing in digital technology.
- **Defining, identifying, and mobilizing an ecosystem of ICT building blocks** so that there is a robust marketplace of products available. *DIAL’s Online Catalog* will be a curated list of best-in-class digital goods, mapped to the SDG Digital Investment Framework’s ICT building blocks. The online tool turns the framework into a user-friendly, interactive online catalog, linked to a product discovery tool. By linking ICT building blocks directly to existing digital goods, DIAL hopes to coordinate investment, fill gaps, and support implementers to choose and use the right tools to help them deliver digital services.



¹⁰ ITU, DIAL, *SDG Digital Investment Framework: A Whole-of-Government Approach to Investing in Digital Technologies to Achieve the SDGs*, (Geneva: ITU, 2019).

¹¹ ITU, DIAL, *SDG Digital Investment Framework: A Whole-of-Government Approach to Investing in Digital Technologies to Achieve the SDGs. Global Call to Action*, (New York: ITU, 2018).



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In our experience, detailed case studies of the Principles in action really speak to staff and suppliers.

USAID

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PROGRESS: In April 2019, DIAL and the ITU partnered to launch the **SDG Digital Investment Framework**. The work has since been cited widely, and its ideas are represented in the draft USAID Digital Strategy. India is reviewing the framework for domestic use.

The team also conducted secondary research to test its core assumptions: that enterprise architecture approaches benefit people by improving government services through reducing cost and complexity and increasing return on investment. A landscape analysis highlighted the distinction between back-office-focused e-governance initiatives, and digital transformation more likely to be explicitly linked to goals around public well-being and often to the SDGs themselves. The exercise underscored DIAL’s opportunity to leverage its cross-sector approach and convening role.



PLANS: In FY20, the team plans to:

- **Partner with at least one country to test the SDG Digital Investment Framework**, using it to help define a national ICT strategy and investment roadmap. Country selection for this pilot is underway.
- **Enhance the online tooling, develop an evaluation and scoring rubric** for the building blocks (harmonized with existing models such as the Digital Principles and Digital Square), and **create new use cases and products**.
- **Conduct a listening study to better understand the experiences of government staff** seeking to develop and implement digital transformation policies and the barriers and challenges they face. This will inform their plans to develop further white-label guidance and tools based on the Digital Investment Framework, and their learnings will be shared in a convening. The research represents an exciting opportunity for DIAL to round out its own understanding of an important element of the digital ecosystem, together with the 2018 Baseline Study, and existing research on MNOs.



Supporting Open Source Software platforms

CHALLENGE: Guided by the Principles for Digital Development, many products aimed at the international development market have embraced free and open source licenses, which bring the promise of better development outcomes by empowering global citizens and organizations to make contributions to public goods while avoiding license fees and vendor lock-in. This strategy has provided the freedom to study, change, improve, and distribute these tools to do the most good for the most people. Despite these promises and investments, however, open source software projects often struggle to achieve scale, maturity and sustainability.¹²

DIAL envisions a world where a portfolio of mature open source products and communities collaborate to support international development in highly useful and efficient ways. To realize that mission, DIAL’s Open Source Center (OSC) was created to convene a vibrant, inclusive, free and open source software community that promotes knowledge sharing, collaboration, and co-investment in technology and human capacity to support positive social change in communities around the world.

The OSC brings together open source maintainers (stewards of specific open source projects), contributors (of time and expertise to those projects), sustainers (who provide financial support to those projects), and consumers (who leverage these software projects to solve problems and provide feedback about their experiences). By helping to coordinate this ecosystem, strengthening its community of contributors, supporting project sustainability, and coordinating shared funding, the OSC addresses the needs of each type of stakeholder. Together, our community learns and demonstrates how to overcome key barriers to conceptualizing, designing, and building these software products, collectively building a public commons that can be scaled up to deliver global value and support the delivery of the SDGs.



¹² Chamindra de Silva, *Humanitarian Free and Open Source Software*, (Technology Innovation Management Review, 2010).

DIAL's Open Source Center brings together



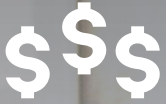
open source maintainers

(stewards of specific open source projects)



contributors

(of time and expertise to those projects)



sustainers

(who provide financial support to those projects)



consumers

(who leverage these software projects to solve problems and provide feedback about their experiences)



PROGRESS: In FY19, the OSC continued to test and validate assumptions about the services needed by creators of open source public goods and began the journey to strengthen and scale service delivery to a growing list of clients. The OSC provided financial support and technical assistance to 21 different open source public goods: Akezi, Bahmni, FlowKit, Humanitarian OpenStreetMap Team, iHRIS, InSTEDD, LibreHealth, Open Data Kit, OpenLMIS, Medic Mobile, Mifos, Mojaloop, mUzima, OpenCRVS, OpenSRP, Oppia, Primero, Public Lab, RapidPro, the Tor Project and Ushahidi. This support includes both small-scale, “catalytic,” tactical grants, as well as larger grants for strategic feature development; facilitation in mentorship and internship programs such as Google Summer of Code, Google-Code in, and Outreachy; technical assistance through strategic software development support; and professional consulting in areas such as business development and sustainability, community leadership and governance, and intellectual property issues.

Demand for our support continues to increase, although a lack of human capacity set a firm ceiling for what we were able to provide from DIAL resources alone in FY19. In response, we have refined our delivery and financial models as a prerequisite to FY20 fundraising, putting in place the framework for a long-term, multistakeholder support organization that pools resources across the ecosystem to be shared across open source public goods.

Specifically, throughout this past year, the program:

- **Developed a long-term business model and sustainability plan**
- **Created and refined a menu of services** with associated revenue and cost models
- **Worked to identify critical open source public goods using the SDG Investment Framework** and in collaboration with partners such as Digital Square for priority support in sustainability planning
- **Developed a sustainability guide to be consumed by open source public goods** throughout the digital development ecosystem
- **Established and developed multiple strategic partnerships** for identifying potential clients and for service delivery

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PLANS: With this framework in place, in FY20 the OSC will:

- **Begin to transition to an independent self-sustaining program**
- **Provide regular technical assistance to digital public goods**, with preference to those that adhere to the SDG Digital Investment Framework, while continuing to test and refine sustainability models with service delivery partners, sponsors in the public and private sectors, INGOs, and UN agencies
- **Help develop a synthesized evaluation and scoring rubric**, with internal and external partners, which will be publicly available and especially suitable for use by donors and other funders for objective evaluation of digital public goods
- **Continue to support capacity-building and mentorship programs, improved diversity, and inclusion**, while nurturing and growing communities of practice across open source public goods, offering technical assistance via a network of service delivery partners, companies, and consultants

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

CHALLENGE: Since 2016, DIAL has been the steward¹³ of the Principles for Digital Development, a set of recommended guidelines for implementing technology in development programs. Driven by the community but supported by USAID since early in its life, the Principles for Digital Development continue to play a strong role in the professionalization of digital development practice. Their importance is demonstrated by the continued *debate over individual principles and discussion about adding new ones*; donor demand for resources and capacity development for their own staff and implementing partners, linked to the Digital Principles; and citation of the Digital Principles.

¹³ Funding for all projects and activities supporting the Principles for Digital Development come directly from DIAL core funding. This amounts to a roughly \$1 million investment into global goods resources per year and is managed through the Insights & Impact team.



**All survey
respondents**

16

individuals

&

12

organizations

**identified increased
functionality, including:**

- **updated user interfaces**
- **increased tool stability**
- **increased form load time**
- **and optimized performance in low-bandwidth environments**
- **by working with the OSC**

The DIAL 2019 baseline ecosystem study suggested that a key remaining barrier to the success of digital development was capacity — among implementing partners, host governments, and even donor staff both in-country and at the headquarters level. This year, we see donors increasingly turning to the Digital Principles as a way to ground digital literacy in a clear framework and existing resources. With this in mind, and as we continue to focus on building community ownership and creating practitioner-focused resources, we are also assessing additional cross-cutting themes that would strengthen the Digital Principles as a broader digital literacy tool.

PROGRESS: As ever, our focus has been on our community. Our list of endorsers has grown to 198,¹⁴ an increase of 50% since October of last year. This year has seen a welcome increase in community engagement from Global South practitioners through a series of in-person events and workshops, including a Spanish-language Practicing the Principles event in Guatemala City, our first in Central America. This workshop was run five other times during the year in four countries—Tanzania, Uganda, Germany and Sweden. The team also represented the Principles at events in the United States, United Kingdom, Kenya, Uganda, and Germany.

In May 2019, we held our first-ever in-person Advisory Council meeting on the margins of the ICT4D Conference in Kampala. After the success of an advisory group during the development of our implementer tools, we determined that a body drawn from the community could provide additional input, accountability and transparency. The Advisory Council received 46 nominations, more than a third of whom were from the Global South. Final selections for the Advisory Council were made in November 2018, and the selected councilmembers were announced in December. The Advisory Council represents the type of diversity we aspire to achieve across DIAL’s work: Councilmembers represent donors (2), multilaterals (1), members of the private tech sector (1), and implementers (4). Five of the eight councilmembers are women and half are from Global South countries.

Building on the work done in 2018 to create resources for implementers, DIAL has focused in 2019 on resources for donors. After conducting multiyear user testing workshops and test trainings, DIAL will finalize a suite of materials to include a framework showing the interrelationship between the Digital Principles and the SDGs, self-study materials, and a maturity matrix for evaluating grant proposals that include the use of technology in development programs.

Finally, we are completing work on a new landscape report reviewing available digital development training curricula and related materials. The aim has been to understand demand and gaps as we consider building out a full training curriculum for implementing the Digital Principles. This report, along with the outputs from a series of ideation workshops conducted in the United States, Kenya and Colombia, will inform potential training content, delivery options, and long-term funding models to ensure sustainability of such curriculum.

PLANS: In FY20, we will:

- **Explore supplementing our Advisory Council with a Youth Steering Committee** supported by Foundation Botnar to focus on the future of technology work in the Global South
- **Explore the development of a full curriculum, develop a webinar series, and round out the Digital Principles as a digital literacy framework with new resources** examining them through a gender, responsible data, and monitoring and evaluation (M&E) lens, taking to heart the Digital Principles’ role as a core resource for digital literacy
- **Continue to develop our network of partnerships** to distribute all of our resources and learning, as we finalize and publish our donor suite of materials
- **Grow our community engagement** through a strengthened social media presence, a new audience engagement strategy and further website improvements
- **Look to the future**, working on business modelling for a new five-year strategy and expecting to welcome our 200th—and possibly 250th—endorser

¹⁴ As of October 29, 2019.



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Thank you for offering an opportunity to engage in this workshop. Not only was it very engaging, but the connections you made will give us tons to follow up on! Also very excited about the upcoming release of the Aggregator Mapping Tool, which will be a hugely useful resource for us.

UNICEF

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PORTFOLIO 2

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

CHALLENGE: The potential for mobile channels to help deliver services to the underserved and support the achievement of the Sustainable Development Goals across multiple sectors has been well documented. However, many of these service-delivery projects have not scaled beyond the pilot stage. Mobile network operators in Africa report that NGO customer acquisition and project planning are significant investments with low returns. Implementers in Africa report a lack of familiarity among MNOs with their needs and contexts, and a consequent chilling effect on pursuing mobile-enabled services.

DIAL's Mobile Distribution Channels portfolio of programs aimed to address these issues by raising awareness of mobile channels, platforms and partners, and demonstrating the economies of scale of collective action within the development and humanitarian sector when engaging with the mobile sector. DIAL predicted that this would lead to lowered cost of delivery and faster turnaround time, and the mobile sector would respond in kind by providing more turnkey solutions to the development sector. Ultimately, this would translate to greater reach to beneficiaries through greater adoption of mobile within SDG services targeting the underserved.

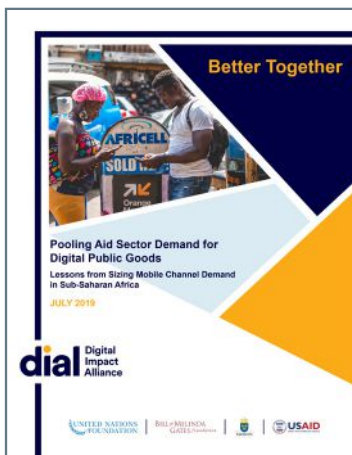
DIAL also wanted to understand whether the demand forecasting and modelling approach taken in vaccine procurement might work for technology. Building on its work in previous years,¹⁵ in FY19 DIAL investigated whether there is sufficient aggregate country-level demand for mobile to motivate private-sector providers to provide better value. We hypothesized that this demand was fragmented across sectors and actors. DIAL's demand forecasting model would allow us to quantify aggregated demand from the aid and development sector in five sub-Saharan African countries by sector and use case.

In FY19, the portfolio of work, therefore, included two programs: **Market Model Adoption** and **Pooled Procurement**.

The **Market Model Adoption** program provided guidance and resources to implementers, particularly in sub-Saharan Africa. Our mobile capability model¹⁶ showed how core mobile channels can be applied to major development use cases, so that development actors and mobile providers can communicate more effectively, cutting down on duplication of effort. Our aggregator supplier mapping¹⁷ helps implementers better choose partners by mapping potential mobile suppliers, depending on their ability to deliver on the capabilities within the capability model and within sub-Saharan Africa. One MNO will rebrand these guides for distribution to teams for use when working with NGOs. The database now includes 15 aggregators covering 540 mobile operators in 200 countries. Supporting

these resources, DIAL held mobile engagement workshops in Sierra Leone and Malawi. These events brought together public and private players, with ministerial-level participation, and were incredibly powerful, not only for information sharing but to demonstrate the potential shared value of partnership, encourage transparent and inclusive decision-making, build cross-sector engagement, and change the balance of power between stakeholders.

DIAL's **Pooled Procurement** program tested procurement and financing mechanisms that leverage aggregated mobile demand. Building on our existing work to explore innovative financing models, DIAL quantified potential aggregate demand for mobile and related digital assets from the development and aid sectors in five countries, covering the four main regions of sub-Saharan Africa: the Democratic



¹⁵ DIAL, Tableau Foundation, PATH, *Financing Digital Markets: What Vaccines Can Tell Us About Scaling Digital Technologies in Low- and Middle-Income Countries*, (Washington, DC: DIAL, 2018).

¹⁶ DIAL, *Mobile Capability Model*, (Washington, DC: DIAL, 2018).

¹⁷ DIAL, *A Guide to Using Mobile Aggregators to Deliver NGO Services at National Scale*, (Washington, DC: DIAL, 2019).



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For us, I think it (big data) has revealed something that we never thought about or there were speculations or had not been proven.

Airtel Malawi

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Republic of the Congo (DRC), Ghana, Malawi, Tanzania, and Uganda. Fieldwork allowed 116 interviews across 78 organizations, covering the overall ecosystem: MNOs, aggregators, donors, multilateral organizations and nongovernmental organizations (NGOs). The research produced an excel-based model¹⁸ that sizes macro-level mobile demand for mobile channels. DIAL published its findings in a research paper, “Pooling Aid Sector Demand for Digital Public Goods.”¹⁹

The paper gathered useful insights (see bullets to the right) on the relative understanding and use of major mobile channels, including SMS, voice/IVR and mobile money. We found a smaller-than-expected total estimated market value generated by NGOs and international organizations in 2018—between \$500,000 and \$1 million compared to total operator revenues in Africa

- **SMS volumes are driven by a few players, mostly multilateral agencies.**
- **Voice/IVR allows for rich interactions, but impact needs to be documented further.**
- **USSD usage by aid and development players appears limited despite promise.**
- **Interest in mobile money is high among both supply and demand players.**
- **Mobile internet adoption is still limited in potential.**

of \$40 billion in 2017.²⁰ The market is predicted to grow, and there is a clear opportunity for mobile aggregators to provide one-stop support to implementers running complex interventions. Simple activities, like engagement events and establishing some commonly understood terminology for defining mobile services, would be impactful. And there is the potential to bring together aggregated demand through standing mechanisms to drive better standards and lower prices. Nonetheless, there does not seem to be sufficient aggregate demand for mobile channels from the NGO sector for DIAL to go forward and actually construct such an aggregation mechanism at this time.

But there is growing interest to leverage demand aggregation for other digital assets. Innovative financing models, like those that leverage aggregate demand, are necessary to scale technology products developed and used by the international development sector. Additionally, testing hypotheses and sharing learnings from them, even when they do not prove out, is a key part of DIAL’s approach. The paper provides useful market intelligence to the digital ecosystem and, in echoes of last year’s baseline study, presents with evidence what many in the field had known from experience: that lack of mutual understanding, complex and mismatched systems, and funding are at the heart of many of the challenges in implementing mobile channels in aid and development projects.

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PLANS: DIAL will:

- **Refine and share this content as part of our overall effort** to synthesize and share learnings and key takeaways for the digital ecosystem in FY20
- **Leverage the experience of the team** in market sizing, research and assessment to examine a different area of DIAL’s work: digital public goods

Starting with a landscaping assessment in FY20, DIAL will:

- **Seek to understand** the complex and interdependent funding and procurement landscape for digital public goods
 - **Understand the major pain points** and how they might be ameliorated
 - **Develop some evidence-based, fit-for-purpose options** for the pooled financing of digital public goods
 - **Work with our community through convenings, workshops and peer review** to engage stakeholders, and hopefully provide donors and others procuring digital public goods with appropriate, usable, compelling options that they can commit to and support
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¹⁸ DIAL, Altai Consulting, *Pooling Aid Sector Demand for Digital Public Goods: Lessons From Sizing Mobile Channel Demand in Sub-Saharan Africa*, (Washington, DC: DIAL, 2019), 27.

¹⁹ Ibid.

²⁰ According to GSMA, the total value-add generated in 2017 by the mobile ecosystem in sub-Saharan Africa was \$40 billion. GSMA Intelligence, *The Mobile Economy: Sub-Saharan Africa 2018*, (London: GSMA Intelligence, 2018), 17.



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The catalytic grants program has had a big positive impact on our ability to execute, and we hope to apply for more grants in the future.

Oppia

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PORTFOLIO 3

Data for Development (D4D): Ensuring responsible, widespread access and use of network data for SDG decision-making

CHALLENGE: While the commercial world routinely uses mobile data to do everything from targeting food purchases to optimizing one’s route to work, the humanitarian and development sectors lag behind in optimizing service delivery with mobile network data. Governments in low-income countries have to make policy decisions without access to the research and public-sector data sets available in the Global North. Meanwhile, the private sector is capturing increasing amounts of data about populations in these countries. By combining analysis of these nontraditional datasets, specifically the intelligence from routine mobile network data and geospatial data, with patchy but more mainstream government data (e.g., census reports), DIAL sought to examine whether additional insights could be used to support public-sector decision-making. Our vision is that governments should be able to understand the potential of such data and be able to make use of it appropriately, in a safe and responsible manner, and legislate to provide the right framework for such applications of data to become part of their toolkit.

PROGRESS: The portfolio includes three main workstreams that come together to deliver on this aim:

- **Business and Use Case Development:** In specific country contexts, we help broker data-sharing agreements; support the development of test use cases; and help define, implement, and document D4D projects and business models that generate mobile and digital data-based insights for development.
- **Common Data Architecture:** DIAL is investing in two projects that together present robust, scalable, and interoperable toolkits that enable government, the private sector, and development actors to share and leverage data for good. One is an investment in a leading open source mobile data analytics platform, and the other is an open algorithms-based approach and (eventual) bank of freely available algorithms.
- **Legal and Responsible Data Use:** DIAL is building out and sharing its own Responsible Data Use practices, along with other resources, and engaging in sector-wide thought leadership in this complex area, including addressing regulatory and policy challenges.

Supporting data for development test cases in sub-Saharan Africa

DIAL has worked in Malawi, Tanzania, and Uganda and is beginning to work in Mozambique in 2020 to develop, implement, and document demonstration projects leveraging private-sector data such as MNO and geospatial data together with traditional data sets for public policy decision-making. The team brokered partnerships, made targeted capital and technical investments, and brought actors from the demand and supply sides together to increase the pace and impact of private-public partnerships.

To date, DIAL has completed two country implementation models, one on food security monitoring in Uganda and the other on public health in Malawi.

In **Malawi**, an estimated 7.73 million people, or 44.7% of the population, live more than five km walking distance from a clinic or health post. During the rainy season, floods render roads inaccessible, shifting the burden of care to even fewer health facilities. Without new health facilities, 9.7 million Malawians will not have access to health services by 2023. The Ministry of Health has thus set aside capital investments to install 900 new health facilities in the next five years. However, the ministry needed insights on population density, migration patterns, and disease burden to understand where best to locate these new resources.



DIAL, together with our implementing and technical partners, CooperSmith and Infosys, has developed a health post allocation model based on population density data and migration patterns gleaned from



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I think that the best practice is the constant feedback from the DIAL team and the multiple uses that we achieve from this data.

*Ministry of Health
Malawi*

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MNO data, triangulated with disease burden data from the Ministry of Health, and population and GIS data from UNICEF. The model will be used by the Ministry of Health to optimize allocation of the 900 health facilities and extend access to health services to underserved populations. Resourcing the posts according to this model is predicted to provide 95% of Malawians with access to a health facility by 2023. The model will be referenced in the Ministry of Health’s Capital Investment Plan.

As part of our ongoing dissemination and awareness-raising approach, DIAL held a workshop in April 2019. The workshop sought to disseminate our findings and experiences to date in order to encourage partners across other sectors to consider replicating and repeating similar models for resource allocation. Participants included the Ministry of Health, donors, implementing organizations, mobile operators, academics, and the Malawi Communications Regulatory Authority (MACRA). Workshops like this are a key element of DIAL’s in-country value add, as we bring together groups across sectors and government divides for the first time. In July 2019, we published a technical paper outlining the approach and early results.²¹

Following the data demonstration project in Malawi, the government of **Mozambique** has invited DIAL to support sustainably integrating analytics from de-identified and aggregated MNO data into its national disaster preparedness and humanitarian assistance systems. Mozambique faces extreme challenges due to natural disasters and was badly hit by two powerful cyclones within six weeks of each other in early 2019. Even before the storms, almost 60% of the population was at risk of water-related hazards, and the World Bank estimates that GDP growth decreases by 1.1% annually due to flooding, making Mozambique the third most vulnerable GDP to disasters in Africa.



At the invitation of Mozambique’s communications regulatory authority ARECOM, DIAL convened a workshop in Maputo, Mozambique, in June 2019. Participants included ARECOM; government authorities in charge of disaster preparedness, transportation, communication, and meteorology; and all three mobile network operators. Attendees brainstormed promising disaster management use cases, such as displacement patterns, service needs, and returning home. At the end of the workshop, participants agreed to form a technical working group on data for development.

In **Tanzania** in 2018, DIAL established relationships with relevant ministries and private-sector actors to use data to improve immunization in the country. Working closely with our partner PATH and the Tanzanian authorities, DIAL developed a program to provide heat maps showing population density and migration patterns based on MNO data. Insights from this data would be combined with data from the immunization registry, DHIS2, and potentially geospatial data and other socio-economic data to ultimately generate insights that inform immunization services. The project was set to move forward until one partner backed out due to political concerns.

In 2019, DIAL continued to pursue new MNO partners to broker an agreement to share analytics from their data. DIAL is negotiating a partnership with Vodacom Tanzania’s Analytics unit, which committed to providing analytics from MNO data towards an immunization use case. In September 2019, Ministry of Health delegates from Tanzania visited Malawi for a study tour to understand more about the demonstration project and how it could benefit Tanzania. We hope that these two recent developments will enable DIAL to work with our public and private sector partners to complete a demonstration project in Tanzania.

PLANS: In FY20, we will continue to push forward in Malawi with institutionalizing the approach within a government department, such as a national statistics office or planning commission, or a department of disaster management, both to broaden the approach across sectors and to ensure sustainability and transfer of expertise.

²¹ DIAL, CooperSmith, *Using Mobile Phone Data to Make Policy Decisions: A study in how new data sources optimized health facility placement in Malawi*, (Washington, DC: DIAL, 2019).



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We have been seen as a more committed and valuable partner with governments and other stakeholders in the manner in which we approach our interventions.

World Vision

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In Mozambique, we will work with Flowminder to deploy FlowKit within ARECOM's environment to generate analytics from MNO data, geospatial data, and other socio-economic datasets to provide insights that ultimately enhance decision-making in disaster preparedness and humanitarian assistance systems.

In Tanzania, we seek to finalize the agreement with Vodacom and move forward with the project. Overall, we have found that the business case for mobile network operators remains promising but nascent. Data-sharing agreements need explicit government support; and ownership from government is critical. Choreographing these relationships and building trust take time and local support. These projects demonstrate the power of this approach and its ability to scale beyond initial use cases as governments understand how they might utilize insights from MNO data in making key decisions for public good. For example, the Ministry of Health in Malawi is integrating the population model using MNO data in its Capital Investment Plan, a key decision-making document. Development partners, donors and NGOs across sectors aligned with the SDGs are expressing interest in scaling these models to answer key questions for public good. There is emerging interest from MNOs to generate analytics as a revenue stream and as part of their corporate social responsibility strategy.

Common Data Architecture

CHALLENGE: DIAL has invested in two significant projects, FlowKit (Flowminder) and the Open Algorithms (OPAL) project, that seek to provide end-to-end guidance and tools for private-sector and development actors to share and leverage data for good.

FlowKit is a suite of software tools designed to enable access and analysis of mobile data for humanitarian and development use cases. OPAL aims to leverage private-sector data for public good and addresses the legitimate concerns for privacy and security by “sending the code to the data,” in which the data is left in the mobile operator’s system, and then co-designs algorithms with local actors.

These platforms are being refined based on the team’s published research on cross-sectoral questions that network data can address and findings on how MNOs can better leverage D4D to help achieve the SDGs profitably. DIAL is testing FlowKit in our case study projects.

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PROGRESS: In FY19, FlowKit v1 was released, and a technical paper was published on how to use it at Mobile World Congress. Flowminder carried out data processing work in Ghana, Haiti and Nepal with other partners. OPAL carried out data processing work in Senegal and Colombia and has provided direct technical support, although at present the platform is not more widely available.

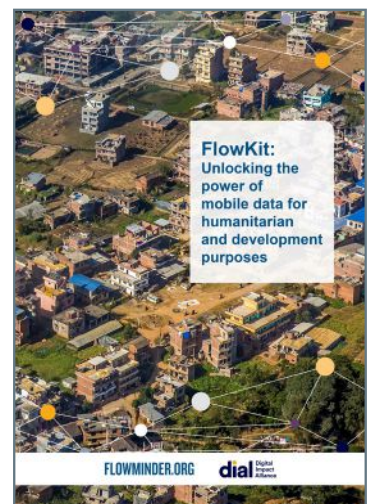
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PLANS: This year, DIAL will:

- **Conduct an analysis of its investments in data analytics platforms** to understand whether lessons and commonalities from the OPAL and Flowminder work might be able to lead to a framework for a Common Data Architecture (CDA) for future D4D work

If so, this framework might make it far easier to scale and replicate these projects. DIAL will conduct a preliminary review of our D4D work to date to examine whether a CDA is emerging, or conversely, whether each project is so specific in its needs that only bespoke architectures would work. We will also be disseminating lessons learned to date from our investments in FlowKit and OPAL as they emerge from our review.

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The most valuable benefit of participating in the community so far has been the increase in coordination and sharing of learning due to the formalization of donor calls. The calls have been regular, well curated, high quality, and well attended.

DFID

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Legal and Responsible Data Use

DIAL is building out and sharing its own Responsible Data Use practices, including legal frameworks and guidance as shared public goods. We are also engaging in sector-wide thought leadership in this complex area, including support to country and regional actors (e.g., Malawi) to address regulatory and policy challenges.

CHALLENGE: Generating, using, analyzing, and acting on data in a way that balances the potential benefits and risks of action, acts within the law, and treats data subjects with respect is a central challenge of data for development work across all sectors. Increasingly, the discourse is polarizing, with some embracing the potential of the technology to support improved development outcomes, and some expressing concerns about downstream risks and harms. DIAL has an opportunity to chart a course between those two views that uses threat modelling and risk mitigation strategies to balance risks and benefits and find a way to responsible data use. In our convening role, DIAL has an opportunity to bridge policy gaps in the discourse and bring together increasingly divergent views and communities at a critical juncture for this emerging field.

This area is increasingly difficult to navigate, with complex legal, operational, technology, and human resources challenges and little existing evidence of impact or harm. DIAL hopes to lead by example and share as much of its own process as possible, as we review our learnings from our data for development work to date and set clear Responsible Data Practices for ourselves.

PROGRESS: In FY19, DIAL began a process to develop its own Responsible Data Practices using the Mozambique project as a test case. Building on identified priority values of transparency and accountability, demystifying technology, and weighing potential benefits and harms, DIAL reviewed the project and identified potential opportunities and risks. By the end of the fiscal year, we will finalize a report setting out next steps for that project and operationalizing and testing new Responsible Data Practices.

In addition, DIAL reviewed its own work in Malawi and identified areas for revised practice, which were incorporated in our published report on this project. Using this project as a practical example, DIAL developed responsible data guidance for the digital ecosystem, including comparative analysis on regulatory approaches and detailed data sharing agreements that others can use when working with MNOs.

PLANS: In FY20, DIAL will:

- **Finalize and publish its new Responsible Data Practices** and share our reflections on the process of developing them in blog posts and public speaking opportunities
- **Examine the way that we make ethical decisions** about our use of artificial intelligence and machine learning later in the year

At the request of the Malawi government, we will support them in moving forward with their proposed draft data protection regulation. Building on our demonstration projects, we will develop a white paper bringing together all of our data for development experience to date and reflecting on the challenges of charting a course of responsible data use. We will also put forward a policy paper on the issues raised by data storage and governance in digital development and continue to drive dialogue on this issue through the Digital Principles and Digital Donors Anonymous community. Finally, we will publish the resources developed in 2019, including data sharing agreement templates and comparative analysis of regulatory approaches.

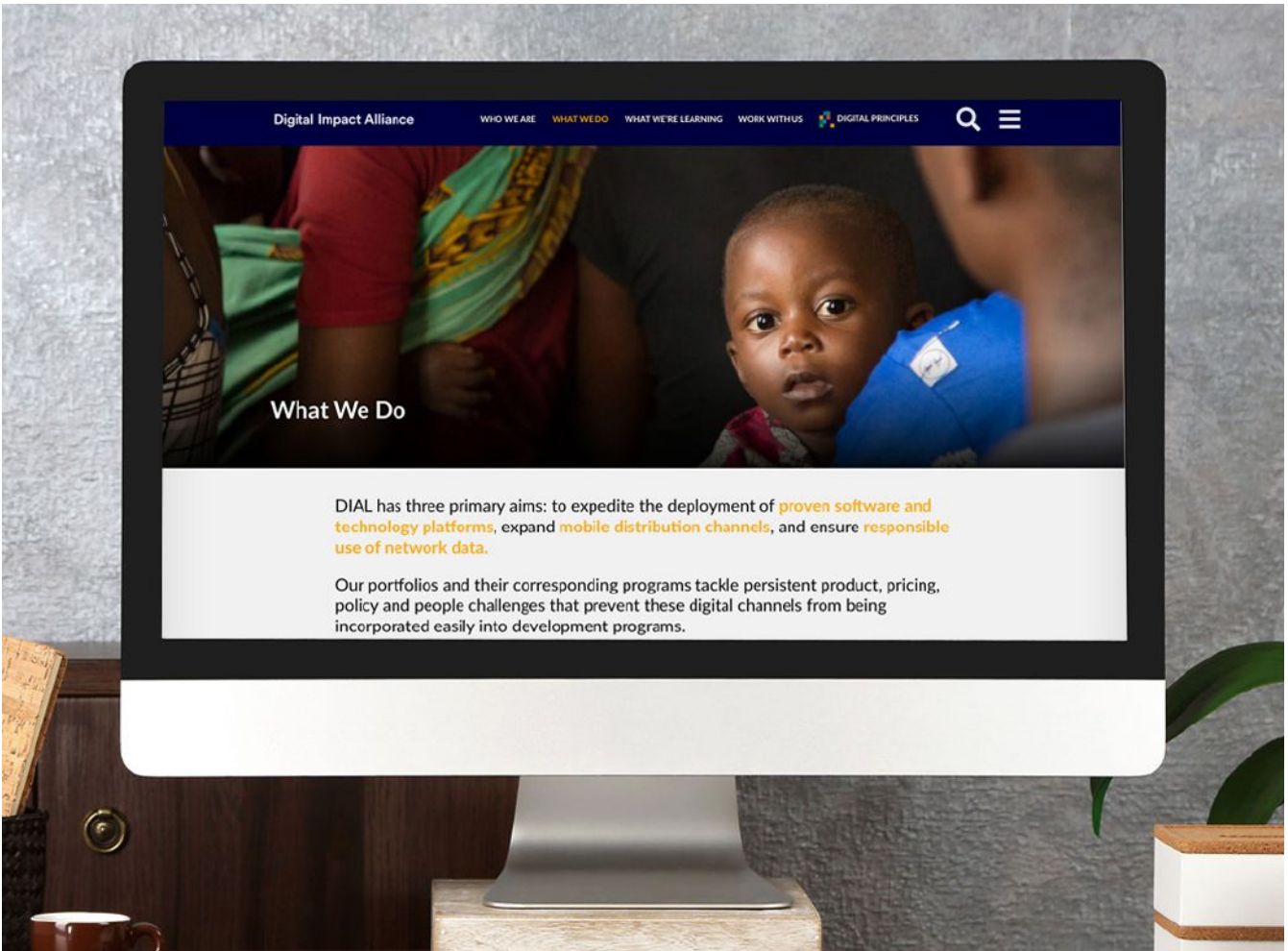
There
have been
17
citations
of the
SDG Digital
Investment
Framework

including:

- the Asia eHealth Information Network
- the Spanish government's Observatorio Nacional de las Telecomunicaciones y de la Sociedad de la Información (ONTSI)
- the Egyptian Ministry of Communications and Information Technology
- the Food and Agricultural Organization (FAO)



Cross-cutting work: Supporting work across our portfolios



Getting our message out

PROGRESS: In FY19, DIAL’s communications team continued to help our programmatic teams share what they are learning and doing with the digital ecosystem. Reports and publications, such as the SDG Digital Investment Framework and the technical paper on the Malawi data for development program, were shared and promoted through our website, social media, and press releases. Events were a key theme for the year, with two mobile integration workshops and engagement events in Malawi and Sierra Leone with key government and donor stakeholders. DIAL produced 42 publications, including blogs, reports, videos, press releases, and shared articles that have been cross posted by others, such as ICTWorks and Digital Square.

DIAL also invested in its core communications capability, refreshing the website, producing factsheets on DIAL and each portfolio of work, and developing an impact statement sharing our progress to date. We also launched a video showcasing our data for development work in Malawi and are planning two more — one focused on DIAL as a whole and another to showcase FlowKit, created in collaboration with Flowminder.



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PLANS: As we enter the final year of DIAL 1.0, the focus is shifting to our role of deepening digital cooperation and influencing the ecosystem. We have begun a review of our collective body of work to date, and in FY20 we will invest heavily in synthesizing our learning into compelling, accessible tools and guidance for targeted stakeholder groups and the digital development community more broadly. We will involve our community in the design and dissemination of these tools, and ensure that we finish DIAL 1.0 with a set of resources that others can pick up and use in their work and can inform our focus and efforts as we plan for the next five years.

With this credibility and knowledge comes the opportunity to go beyond distributing the results of our work with target audiences and strengthen our advocacy efforts based on what we are learning and where we believe we can offer additional insights and direction to the broader digital ecosystem. We will be developing advocacy positions and approaches around issues as diverse as responsible data use, financing for digital goods, open source licensing, and a whole-of-government approach to ICT procurement in low-income countries. In FY19, DIAL invested in training workshops for its staff, and is shifting its talent profile and structure to better enable integrated partnerships and messaging to be as impactful as possible in turning what we know into actionable information for the digital ecosystem.

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Supporting donor community learning and investment principles

Since late 2018, DIAL has hosted Digital Donors Anonymous, a community of practice for donor organization staff investing in digital development initiatives. Upon the request of the donors, DIAL has also taken on the stewardship of the Digital Health Donor Alignment Principles under the broader Digital Donors Anonymous umbrella. These two communities ensure funders around the world have access to a network and emerging good practices and are building increasingly collaborative relationships and approaches to their digital development investments. Digital Donors



Anonymous meets virtually approximately monthly to discuss issues of common interest, share resources, coordinate activities, and build ties between their organizations. It has more than 100 members from more than 25 organizations. Discussion topics are set by members themselves and have included navigating trends in innovation, digital ID, the UN High-level Panel on Digital Cooperation’s report, USAID’s draft digital strategy, strengthening and expanding ICT4D talent, and technology for M&E and evaluating technology. In FY20, DIAL hopes to expand engagement and collaboration amongst members, supporting these communities of donors to gather in person as well as virtually to strengthen relationships, trust and collaboration.

Partnerships are essential to DIAL’s strategy and approach. As the volume of our partnerships has grown, so has the need for a strategic approach to prioritizing and managing these relationships. In FY19, DIAL added staff to review our service offerings and potential partnerships, and help bridge relationships across our stakeholders. In FY20, the team will continue to expand the reach and utility of DIAL and partner resources, facilitate donor collaboration, and prepare the Open Source Center for its launch as an independent entity, among other key partnership initiatives. We hope to continue to serve the global digital for development community proactively, productively and responsively.

Where Next: The Year Ahead and Looking to the Future

FY20 is the last in DIAL's first five-year strategy. We've planned the year with strong guidance from our leadership team and Board to deliver on the promise of our early work in key areas, demonstrate impact on the ground, and synthesize our guidance and resources for the ecosystem to maximize their future impact.

Our commitments to the digital ecosystem include:

Building on our SDG Digital Investment Framework with a publicly available evaluation and scoring rubric

New research, guidance and tools on pooling financing and investment in digital public goods; assessing and evaluating the ROI of digital development projects; and responsible data

Sustainable business models and strategies for the Open Source Center and the Digital Principles

An end-line evaluation that revisits and updates the snapshot of the sector from our 2018 baseline two years on

We believe real impact is achieved when actors work together to align efforts and when citizens and countries are driving their digital transformation agenda. As we shape our future work with input from our stakeholders, we know that emerging themes of digital transformation, literacy, and deepening community and country engagement will be critical to this next phase of institutionalization. We look forward to working with you all to make this new era of digital cooperation a reality.



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What DIAL accomplished by this program is not just one use case or case study. There is a framework that was established to help any countries who are in need to get insights from their data to solve the real-world business problems. So this framework that was accomplished for Malawi can very well be replicated for multiple other countries and extrapolated to planning for other resources.

InfoSys

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List of Publications

October 2018 – September 2019

*All information is organized from most recent to oldest

Publications to date:

- 1. Pooling Aid Sector Demand for Digital Public Goods: Lessons From Sizing Mobile Channel Demand in Sub-Saharan Africa – July 2019**
Provides documented results from research to quantify and qualify the potential value of the market, focusing on communication costs for mobile channels used to interact with beneficiaries by implementers of aid and development projects in sub-Saharan Africa (SSA). <http://bit.ly/DemAgg>
- 2. Using Mobile Phone Data to Make Policy Decisions – July 2019**
Provides information on how mobile network operator data can be used as a public good to inform policy and decision-making by governments and their agencies across various development sectors. <http://bit.ly/2O05ZqL>
- 3. National Consultation Workshop on the Application of Mobile Technology as a Catalyst for the Delivery of the Sustainable Development Goals in Sierra Leone – July 2019**
Provides information on the power of mobile technologies as a tool for social and economic development in Sierra Leone. <http://bit.ly/2XLaQkb>
- 4. Promoting Mobile Sector Engagement in Malawi – April 2019**
Provides information on a workshop convened to build understanding and to facilitate communication between the mobile and development sectors. <http://bit.ly/2L7h9qK>
- 5. FlowKit: Unlocking the Power of Mobile Data for Humanitarian and Development Purposes – February 2019**
Provides information on the partnership to create FlowKit, a suite of opensource software tools designed to enable access and analysis of mobile data for humanitarian and development use cases. <http://bit.ly/2ExMP4Z>
- 6. A Guide to Using Mobile Aggregators to Deliver NGO Services at National Scale – February 2019**
This guide is the second in a series focused on building awareness among NGOs of mobile channels and platforms, their capabilities, and when to use an aggregator to deliver services at scale. <http://bit.ly/2O05ZqL>

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Glossary

Term	Definition
A4AI	The Alliance for Affordable Internet
AI	Artificial intelligence
API	Application program interface
BBCSD	Broadband Commission for Sustainable Development
CDR	Call detail record
CGAP	Consultative Group to Assist the Poor
CMS	Core mobile services
D4D	Data for development
DFID	(UK Government) Department for International Development
DSP	Digital service provider
FPG	Founding Partners Group
FY	Fiscal year (October - September for DIAL)
GIS	Geographic information system
GSMA	Global System for Mobile Communications Association
HDP	Human data platform
ICT	Information and communications technology
ICT4D	Information and communications technologies for development
ICT4SDGs	SDG Digital Investment Framework, inf. (also refers to our program)
ITU	International Telecommunications Union
IVR	Interactive voice response
KPI	Key performance indicator
LMICs	Low- and middle-income countries
M&E	Monitoring and evaluation
MNO	Mobile network operator
OSC	DIAL's Open Source Center
P&S	Platforms and services portfolio
ROI	Return on investment
SDGs	Sustainable Development Goals
Sida	The Swedish International Development Cooperation Agency
SMS	Short message service
UN	United Nations
USAID	United States Agency for International Development
USSD	Unstructured supplementary service data
VAS	Value-added service
WGA	Whole-of-government approach (to ICT procurement)

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