dial

**Digital Impact Alliance
2021-2026 STRATEGIC PLAN:**

Digital Beacons

Working together to accelerate national digital transformations and
responsible data use so that we can reach everyone, everywhere

JANUARY 2021

Acknowledgments

The Digital Impact Alliance (DIAL) 2020-2025 Strategic Plan builds on extensive primary and secondary research on the most pressing issues regarding the global development sector's use of digital technologies to accelerate impact.

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Executive summary

The COVID-19 pandemic has magnified our reliance on digital tools to study, work, live, and govern. Now more than ever, governments see the urgency of digital transformation. The pandemic has also highlighted digital technology's perils[i] as we grapple with questions of citizen safeguards and digital justice, and it has exacerbated the chasm between the digital "haves" and "have nots."[ii] It has shown us that the most resilient countries[iii] may not be those with the highest GDP per capita or the most ventilators, but rather those that have learned the lessons from prior pandemics,[iv] moving quickly to use their digital and data tools to understand and act on the problem and reach their population with critical information and services.

Digital transformation efforts and responsible data use policies have become global priorities. Despite the growing recognition that digital tools are critical and the high-level commitment to digital cooperation,[v] global development actors (GDAs) still lack shared agreement on what to invest in and how best to align efforts. Without a shared, evidence-based view analyzing which pathways accelerate digital transformation, we are unlikely to effectively align multilateral efforts to achieve the Sustainable Development Goals (SDGs). Today, the pursuit of digital transformation efforts is hindered by:

- Nascent understanding of, but a lack of evidence about, which factors drive effective national digital transformation and responsible data use and which matter most and in what order.

- Policies and regulations that don't clearly set the standards and guardrails to stimulate ethical innovation, implementation, and scale of digital solutions for the public sector.

- Limited and siloed resources that incent actors to work alone within their sectors and reinvent instead of reusing existing digital products.

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The Digital Impact Alliance Strategic Plan, **"*Digital Beacons*: Working together to accelerate national digital transformations and responsible data use so that we can reach everyone, everywhere,"** commits our resources to work with GDAs to resolve these obstacles. It starts with a simple hypothesis that is centered on aligning national and global demand and supply for digital and data tools (Figure 1).
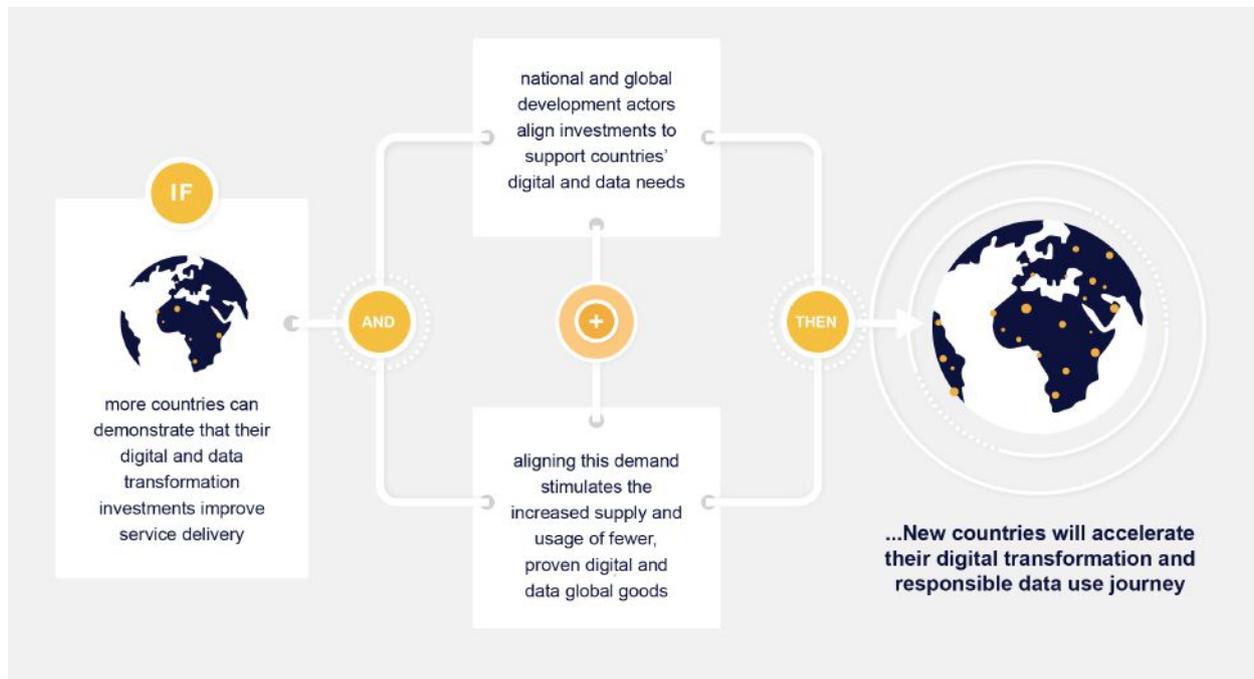
DIAL hypothesizes that:

Figure 1

DIAL recognizes that many actors are investing in different digital transformation models and numerous pathways may produce results. **DIAL's *"Accelerate, Build, Connect"*** approach tests one pathway, leveraging the lessons and programs already built. It focuses on the following components:

- *Accelerate* **national digital transformation countries:** Starting with one country that is working to operationalize its digital transformation efforts and responsible data use, DIAL will provide financing and technical assistance to support a whole-of-society digital integration effort led by a government, working with partners to pool resources and digital efforts across sectors, and stimulate local innovation. DIAL will work with additional countries pending demand. Working with these "digital exemplar" countries both in Africa and elsewhere, we will document and compare different digital transformation and responsible data use pathways to identify which investments matter most and produce a global evidence base for digital transformation.

- *Build* **political will and mechanisms to align global support for digital transformation:** DIAL will continue our exploration of pooled financing and procurement mechanisms for digital solutions in global development, contributing this evidence to better align global development policy and financing resources for national digital transformation efforts. We will establish the Principles for Digital Development as a business standard used by more than 240 endorsers and train a global network of Digital

Principles trainers to help GDAs put them into practice. We will promote knowledge exchanges and collaboration through continued investment in our communities of practice, which touch more than 500 global organizations.

- *Connect* **and expand the availability of proven solutions for faster uptake and adoption in national implementations:** DIAL will expand our "beta" Catalog of Digital Solutions, which makes it easier for national and global procurers to see the availability and maturity of existing technical solutions. We will advocate for the establishment of an independent foundation that can deliver essential services and test integrations of open source solutions for core digital building blocks (e.g., ID systems, financial services) needed by countries for their sectoral platforms (e.g., health, education).

To emerge resilient from this pandemic and to achieve the SDGs on time, we can't afford further delays to responsible digital transformation.

As Under-Secretary-General Fabrizio Hochschild noted at the launch of the Secretary-General's Roadmap for Digital Cooperation,[vi] the road ahead is long, our financial resources are insufficient, and none of us can complete the roadmap alone. Without true digital cooperation, our ecosystem will continue to struggle to find and learn from the knowledge that already exists, spinning its wheels and repeating mistakes across sectors and geographies.[vii] To emerge resilient from this pandemic and to achieve the SDGs on time, we can't afford further delays to responsible digital transformation. DIAL commits its resources to making this vision a reality and invites you to partner with us on the road ahead.

Reaching everyone, everywhere

A global imperative for change

Indeed, access to information is one of the most valuable currencies of our time. This is true in rich and poor countries alike. The stark divides in digital access between rich and poor, men and women, and urban and rural are even more pronounced and urgent during the COVID-19 pandemic. Women, who are among the most vulnerable, are 26% less likely to have mobile internet access than men. The gap is even larger for broadband access.[viii, ixx] Widespread barriers to access and safe use of digital solutions are a top concern for global leaders. The Secretary-General's Roadmap for Digital Cooperation notes: "Digital technology does not exist in a vacuum—it has enormous potential for positive change but can also reinforce and magnify existing fault lines and worsen economic and other inequalities."

The COVID-19 pandemic has brought startling clarity to the value that nationally scaled digital and data solutions can bring to countries. Those most resilient to the health and economic effects of the pandemic have not necessarily been rich countries but rather those equipped with and quick to use digital and data solutions to learn from the past, plan for the future, and reach communities with critical information and services (e.g., Rwanda, Singapore, South Korea). [xi, xii] However, four challenges currently prevent this from becoming a reality for more of them:

- **Government leaders struggle to understand the digital transformation steps required and prioritize technology investments**, often failing to get ahead of the technology and data issues facing them,[xiii] just as climate, health, and economic issues worsen.[xiv]

- **Private-sector technology leaders are frustrated by policies and regulations that stymie innovation and sustainability.[xv]** They are not yet a consistent partner in providing technology solutions designed for the needs of the most vulnerable.[xvi]

- **Donor investments prioritize sector-specific solutions**, which increases the cost and complexity of digital solutions instead of supporting national, cross-sectoral platform solutions.[xvii]

- **NGO leaders and technical implementers compete for scarce, sector-specific funding** and are incentivized to continue to build new digital solutions instead of reusing existing tools and approaches.[xviii,xix]

If we want to recover better from the current pandemic and be prepared for the next global crisis rather than scramble again and again to respond, we need to ensure that the remarkable advancements in digital and data solutions reach everyone[xx] and are institutionalized into development efforts.[xxi]

We can learn from the paths chosen by countries already undergoing national digital transformation. We must document and learn lessons from both their successes and challenges; support other countries to adapt these models; and work across sectors to make technology platforms modular, interoperable, and sustainable so governments and local innovators can use them to improve service delivery and deploy data responsibly to help people, not harm them.

DIAL's vision and mission
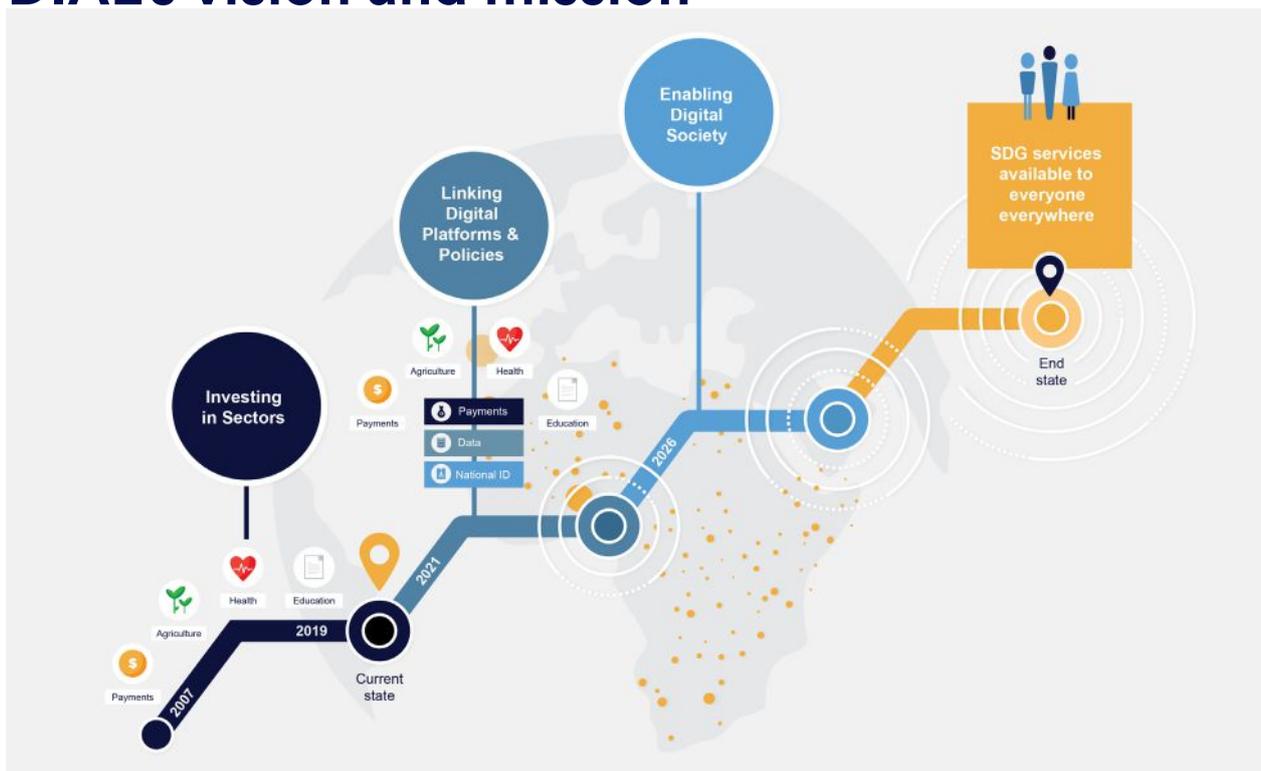
Figure 2

Founded in 2016, the vision of the Digital Impact Alliance is a world where services can safely reach everyone, everywhere using the power of digital technology and data. Our mission is to overcome the barriers to using digital solutions in global development so that services can be delivered seamlessly to the underserved. DIAL's work focuses on global, cross-sectoral alignment to accelerate the rate at which others can deploy and adopt digitally enabled services.

From an idea to a trusted partner: DIAL's early years

In just four years, DIAL has evolved from an idea to a trusted partner of multilateral, donor, and NGO groups. Known for our hands-on work and collaborative approach, we connect national and global actors with reusable, proven tools that advance digital transformation and responsible data use efforts.[xxii] We investigate common barriers that prevent GDAs from effectively seizing the potential of digital and data solutions and work with partners to test, white-label, and share solutions for the global community to make their own. Table 1 on page 10 highlights key progress areas.

What we have learned:

- **Impact matters at the country level and should be our focus.** Country examples stimulate the greatest change in digital transformation, but governments often lack the necessary financial and technical support to bring together disparate stakeholder groups across sectors.

- **Align donor and ecosystem actors around a central hypothesis:** DIAL's founding strategy tackled too many challenges without a unifying theme. Our new strategy centers on digital transformation and responsible data use, with the primary aim of serving country customers.

- **Focus DIAL resources where there is a unique value add:** DIAL was originally designed to "connect and convene the eco-system." However, many actors already play prominent roles in global convening, and more are not needed. Our convening efforts prioritize country-level gatherings and discussions of best practices through our ongoing communities of practice (e.g., the Principles for Digital Development, Digital Donors Anonymous).

- **Prioritize partnerships and resource alignment, not unique branding:** DIAL has established trust as a neutral partner in the digital development sector. We have dedicated time and resources to support others' work,[xxxii] building meaningful relationships and producing white-label solutions that can be rebranded and adopted by larger actors. DIAL will continue playing this "behind the scenes" role, connecting larger GDAs to complement and not compete with their efforts.

> *Box 1*
>
> **The power of neutral convening**
>
> As a neutral party, DIAL was invited by the Sierra Leone Ministry of ICT to bring together the public, private, and development sectors to discuss collaborative approaches to delivering mobile-for-development initiatives. This gathering, the first of its kind in the country, was hailed as a landmark in terms of driving improved understanding between sectors and has since led to more cross-sector collaborations. We have used the same approach in Malawi and the DRC.

Our 2016 hypothesis	Our progress
Platform digital solutions are worthwhile investments for public administration and economic development.	Developed with the International Telecommunication Union (ITU), the SDG Digital Investment Framework maps cross-cutting technical building blocks needed for digital transformation. This framework is being used by GDAs taking a whole-of-government approach to e-governance planning. Niger and India have incorporated it into their approaches,[xxiii, xxiv] and Ethiopia,[xxv] as well as regional and global actors like Smart Africa,[xxvi, xxvii] Pathways for Prosperity,[xxviii] USAID,[xxix] and FAO,[xxx] are leveraging it for their digital transformation efforts.
Mobile network data for decision-making and messaging channels to reach populations could not be routinely used by the development sector.	Today, nine countries routinely use mobile network operator (MNO) data analytics accessed through programs and open-source platforms supported by DIAL to make cross-sector decisions and improve national service delivery, including COVID-19 responses. NGOs and country governments access technical guides and a catalog mapping messaging providers and their capabilities built by DIAL to streamline the incorporation of new messaging channels into their programs. UNICEF and Orange have both cited usage.
Creating mature, high-quality, open-source software for global development is possible but expensive and complex. And it's hard for GDAs to find and select good software solutions to meet their needs.	**DIAL's Open Source Center supports 30 digital public goods**, providing technical, business, and community governance assistance to leading open-source platforms serving the agricultural, health, financial services, and humanitarian sectors. These platforms and more are captured in DIAL's Catalog of Digital Solutions, which captures existing software mapped against the SDG Investment Framework.
GDAs struggle to keep up with the pace of change in digital technology opportunities and risks and seek support to strengthen digital literacy.	DIAL has built training and guidance, and convened communities of practice for donors, NGOs, and country governments to choose and use digital technology better, faster, and more collaboratively. Our dissemination work regularly touches more than 500 organizations, and we have grown the Principles for Digital Development community to more than 240 organizations. DIAL's research, guidance, and advocacy for improvements to global procurement models by applying the Digital Principles has been adopted by donors (e.g., CDC, Omidyar Network, USAID, DFID, Enabel, and Foundation Botnar)[xxxi] and normative bodies (e.g., Organisation for Economic Co-operation and Development (OECD)).

Table 1

Time for a global movement

We believe that accelerating digital transformation and global digital cooperation are movements far larger than any one organization can drive alone. What is missing is a common framework that all actors can embrace that puts countries in the driver seat of their digital transformation efforts. We propose a framework for a global movement, *Digital Beacons*, where global development actors support countries around the world to become exemplars, or beacons, of the impact that digital transformation can unlock. This framework (Figure 3) hypothesizes that in order for low-income countries to achieve the SDGs by implementing digital and data solutions at scale, we need to demonstrate that:
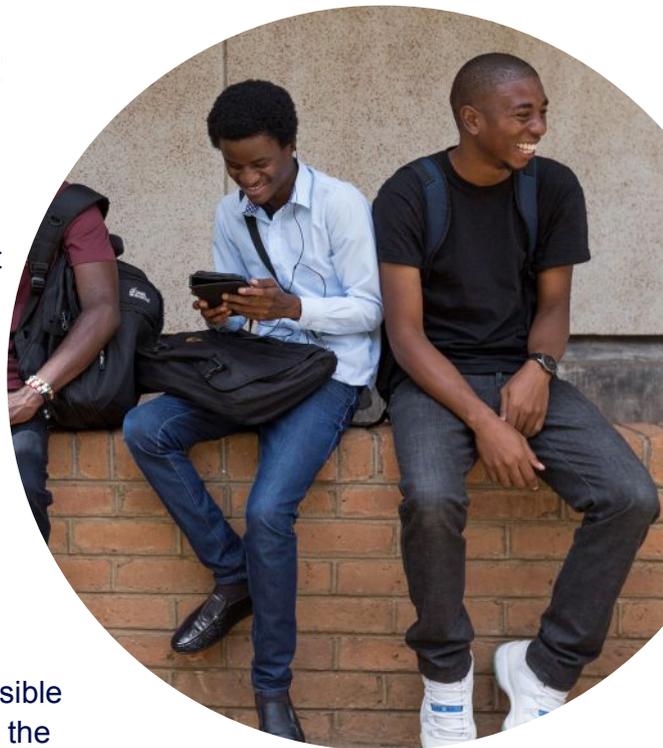
- Successful national digital transformation and responsible data use investments can improve service delivery at the country level across all sectors.

- National and global development actors can align connectivity, product, procurement, pricing, policy, and people investments to country needs.

- Greater, aligned country demand will drive an increased supply and usage of proven, appropriate, and affordable digital and data global goods that can be made available for countries to adopt and maintain.

If these things happen, more exemplar countries will be able to accelerate their digital transformation and responsible data use journeys. Investments that are needed are illustrated in Figure 3.
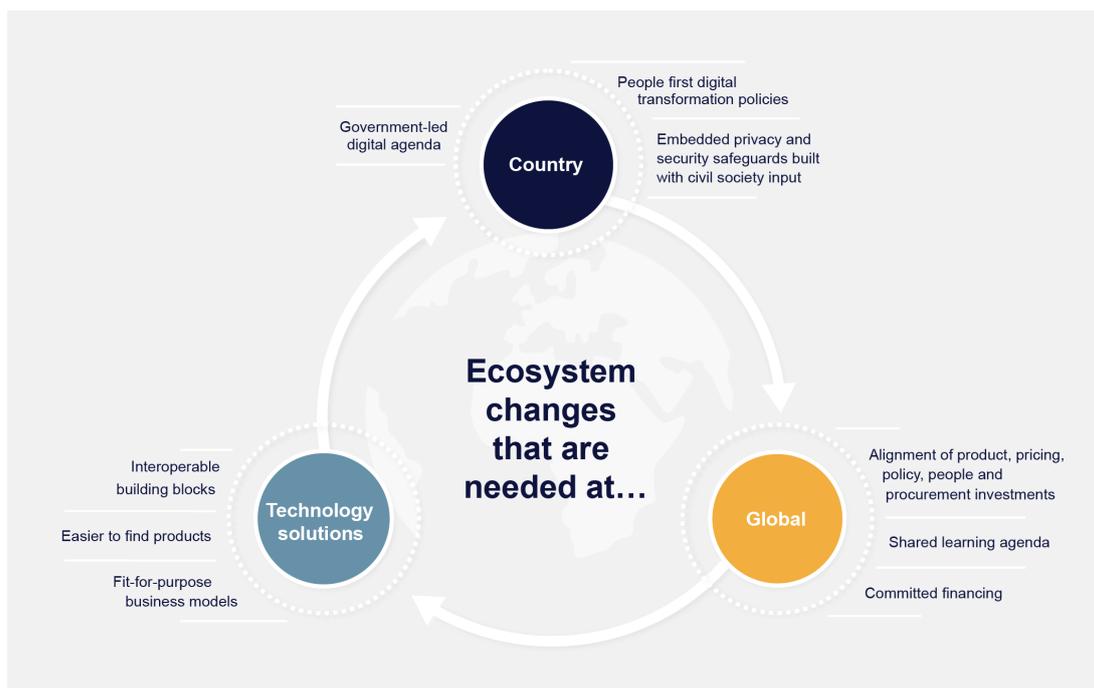

Figure 3

Strategy overview

The *Digital Beacons* framework is a vision for a global movement involving many actors. DIAL's 2021-2026 strategy tackles part of it through our "A, B, C" approach. DIAL seeks to **Accelerate** national digital transformation and data use exemplars, understanding and testing which pathways work best by working closely with national governments; **Build** global cooperation across development actors and the private sector around digital transformation through shared advocacy, financing, training, and community mechanisms; and **Connect**, support, and scale proven solutions for faster uptake and adoption by governments and service providers. DIAL's overall approach is governed by our commitment to put the Principles for Digital Development into practice, leave no one behind, and respect human rights. Digital transformation approaches must be grounded in the responsible use of digital and data solutions to achieve social impact. DIAL's monitoring, evaluation, and learning approach will continuously assess our progress in living these principles over the next five years.

> **Objective 1:** Accelerate new exemplars of low- and middle-income countries pursuing a whole-of-society approach to digital transformation and responsible data use.

Overview

Countries take different digital transformation journeys as they seek to build a digital economy. Despite differences in context and approaches, we believe there are common challenges, patterns, and investment variables that drive national digital transformation efforts. In partnership with national governments and GDAs working at the country level, we seek to identify these patterns, understand which matter most, and document them for global use. We will share what we learn to make it easier for any country to undergo their digital transformation.

To deeply understand these common challenges, DIAL plans to work with one national government starting in January 2021 and extend services and financing to two additional countries pending the success of the first country and the securing of additional resources. While our service offering will vary depending upon the of the country, we propose to provide direct **support** to the first country to develop its operational plan for national digital transformation across the public sector; integrate its lessons into published documents to share globally; and, if appropriate, adapt and **scale** this approach in two additional countries. We will develop all learnings with country leaders and **share** these with global development actors to help us all identify patterns and relevant investments that might accelerate progress in global digital transformation. We will embed the Principles for Digital Development and an awareness of human rights and Leave No-One Behind issues in all of our technical delivery, procurement and policy support, and program management.


Box 2

Country partnership process

In 2020, DIAL analyzed 22 definitions of digital transformation, digital economy, and digitalization (among others) and considered key factors of success in the journeys underway in countries like India and Estonia. From this analysis, we developed a working hypothesis of key preconditions of success required for digital transformation, including e-governance, ICT infrastructure, political will, human capacity, and partner/funding support. Based on our existing work and partnerships in Africa, we then mapped 10 Smart Africa countries against this criteria as part of a **Listening Study** published in October 2020. Our goal was to understand the key variables needed to achieve a digital economy, determine the basic validity of these factors, and identify for these countries what support they needed most, and where our proposed partnership model might resonate. Since then, DIAL has been reaching out through our partnerships to identify countries that would welcome additional technical and financial assistance for their digital transformation agenda.

Support: Our country government colleagues are requesting assistance with process and stakeholder engagement for designing and executing digital transformation. Many countries are transitioning into digital economies today. They have the political will, have or are building technical building blocks, and are managing mature sector-level information systems. What they often lack are the time, personnel, cross-sector buy-in, and financial support to bring these multiple disparate investments together under a comprehensive national roadmap, operationalize it, manage it, and measure its performance against their overarching digital transformation strategy and responsible data use agendas.

In 2021, we will support one national government to develop an operational plan to execute on its digital transformation roadmap. We will work with a committed e-governance agency, or its equivalent, that is identified prior to the beginning of 2021 through a country partner analysis process already underway (see Box 2). As a neutral partner, DIAL will support the country's e-governance agency or coordinating body to bring

coherence to the strategic, technical, financial, and policy investments currently led by different sectoral ministries and implementing agencies. Our experience over the past four years in Malawi, Mozambique, Sierra Leone, and the Democratic Republic of Congo, as well as talking to other governments[xxxiii], indicates that the capacity to identify and document the opportunities and challenges of bringing together disparate efforts remains a significant gap that few funders or governments prioritize.

In year one, we will support one national government to develop an operational plan to execute on its digital transformation roadmap.
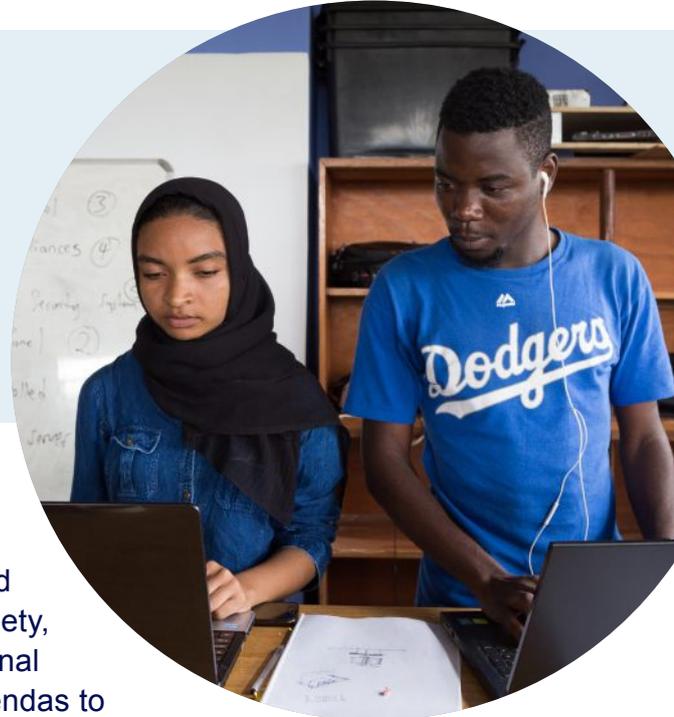
DIAL can offer the following technical and financial services to interested governments:

- **Map existing product and policy efforts** being led by stakeholders across the public, private, civil society, and development sectors who are working on national digital transformation and responsible data use agendas to help identify gaps, overlaps, and potential synergies.

- **Support the government to expand and articulate a vision** for responsible digital and data use practices through a whole-of-society approach. Digital transformation and data use should be implemented and evaluated with accountability and scrutiny from civil society and media, as well as judicial oversight, parliamentary review, academic research, and citizen conversation.

- **Consult and build capacity** among civil society, academia, the media, the judiciary, diaspora groups, and other actors to increase community ownership and provide sustainable capacity for scrutiny and accountability in digital transformation.

- **Support the government to convene cross-government agencies, private-sector actors, and development-sector actors** (including civil society) to seek stakeholder input into the national agenda, as well as identify points of intersection and alignment between existing sectoral efforts (e.g., health, agriculture) and technical building blocks (e.g., ID systems, payments).

- **Support the government's work** to consolidate policy and procurement efforts across line ministries.

- **Bolster the agency responsible for digital transformation's program management capacity** through training and support to identify and manage technical and policy priorities across line ministries on an ongoing basis.

- **Cost the overall resource needs** for the government to achieve the digital transformation and responsible data use agenda with donor partners and support efforts to finance the roadmap (e.g., through pledging conferences).

Scale: Pending learnings from this model, **DIAL intends to replicate this approach in two additional countries** beginning in year three to gain insight into alternate digital transformation and responsible data use models.[xxxiv] Working in new geographies with different partners will provide alternate proof points and teach us which variables matter most to accelerate digital transformation. For example, rather than working with a country that has a relatively well-developed set of preconditions for digital transformation and responsible data use, which is our target for country one, we propose working with a country that is smaller and less developed in terms of existing infrastructure and digital activity.

Working in new geographies with different partners will provide alternate proof points and teach us which variables matter most to accelerate digital transformation.

Standardize and share: As these exemplar cases gather momentum, DIAL will work with the national e-governance agencies and implementing partners to standardize a harmonized design and learning process. This will help governments track progress and analyze lessons so they can improve execution along the way. This standardized MEL (monitoring, evaluation, and learning) framework across DIAL-supported countries (and hopefully others) will build on nascent research methodologies designed to analyze the digital transformation journeys of India and Estonia.[xxxv] As we support the three countries in their journey, the MEL framework will be the basis for how lessons will be synthesized, documented, and disseminated along the way. These lessons will provide the **evidence DIAL will use to recommend standardized models for delivery** in digital transformation and responsible data use.

DIAL will also leverage existing platforms for **national-level information sharing and adaptation within each of the three countries, grounded in the Principles for Digital Development**. Depending on country context, we will look into adapting existing virtual (e.g., online learning/collaboration platforms) and/or in-person learning networks, which enable the political and technical stakeholders to learn from each other as well as from other countries.

Donors, governments, and private-sector partners will work together to finance these efforts.

Success factors

If DIAL's efforts to stimulate national demand are successful, the result in five years will be three countries whose digital transformation and responsible data use efforts are well coordinated between the public, private, and development sectors to drive a national development agenda. The digital transformation plans will be fully costed. Donors, governments, and private-sector partners will work together to finance these efforts. Their journey, and other case studies documenting digital transformation and responsible data use, will be shared widely for new countries to consider through communities of practice. Markers of progress within each of the three DIAL countries over the five years will include the following:

- Active **political cooperation** across public-, private- and development-sector actors around the need to align digital transformation and responsible data use efforts and finance digital transformation. MOUs signed between critical actors within the public, private, and development sectors will signal commitment to a national delivery roadmap, with common priorities, clearly defined roles, and measures of success.

- Consultatively developed **policies on responsible data use and privacy** as appropriate to country context that have been developed with governments and civil society.

- An established bench of **technical capacity** in their e-governance agencies, trained in the Principles for Digital Development, that are equipped to maintain this alignment over time and engage at the political and technical levels to chart their national transformation roadmap.

- Improved **product alignment** across key building blocks (e.g., digital identity, financial services, data) that can connect to sectoral initiatives driven by line ministries. There will be suitable structures and national bodies to drive the development of common national technical standards, specifications, and APIs that align to the national enterprise architecture. Thereafter, local solution providers should be developing solutions and new applications in accordance with these standards and specifications.

- A **fully costed plan** of the digital roadmap that the government developed, and the government has the data to run resource mobilization drives to secure gaps in financing or in-kind resourcing from multilateral finance institutions, bilateral donors, and the private sector.

- **Standardized, comparative case studies** that document the digital transformation journeys from different country archetypes with comparative needs and opportunities. There will also be focused briefs on specific aspects of digital transformation and responsible data use, including, but not limited to, areas in policy, procurement, financing, and technical architecture.

Objective 2: *Build* with partners a global movement that aligns the financing, training, and measurement approaches that global development actors use to support country-led digital transformation.

Overview

Governments, donors, and multilateral agencies have prioritized digital transformation and pledged cooperation, recognizing that these tools and responsible data use are critical if we are to achieve the SDGs. Preliminary analysis[xxxvi] of practices used across global development actors reveals the lack of agreement on how best to enable country-level digital progress. Inefficiencies and fragmentation in global investments, priorities, and practices continue to make it difficult for countries to implement their national digital transformation strategies. Definitional issues aside, our hypothesis is that without greater alignment across GDAs on common business standards and cross-sectoral mechanisms (e.g., common funding priorities, policy positions, procurement practices, training guidelines, and best practices), countries' efforts to use digital tools to make progress towards their development goals will continue to be undermined and delayed by agency, sector, and geographic siloes.[xxxvii]

DIAL will leverage its neutral role and expertise in digital practice, financing, training, and community building to **mobilize** high-level political leadership around the need for digital cooperation and aligned financing for digital transformation driven by national and regional digital transformation strategies; **standardize** digital capacity training and procurement practice around the Principles for Digital Development; and **share, connect, and drive adoption** of digital good practices through its digital development communities of practice.

In addition to our work on digital transformation, we will focus in three primary areas: financing, responsible data use, and evidence.

Mobilize: DIAL will work with GDAs to *align and connect, not control*, digital transformation initiatives, highlighting gaps and supporting co-investment. DIAL will contribute original research, advocacy materials, policy analysis, and technical guidance, and will work with existing networks to support policy coordination for digital transformation against the *Digital Beacons* framework. In addition to our work on digital transformation, we will focus in three primary areas: financing, responsible data use, and evidence.

Financing: We will continue to build the evidence base for new financing mechanisms for digital transformation, particularly public procurement practice (see Box 3). In most economies, public-sector spend typically represents a major segment of local demand, with public procurement estimated to make up more than 13% of GDP in low-income countries.[xxxviii] Public procurement also provides governments with an opportunity to promote awareness of and respect for human rights by businesses, including in the terms of procurement contracts. We will use data from national tests to advocate for a pan-government approach to investment and procurement. We will propose new funding mechanisms and provide policy analysis, technical guidance, and evidence to demonstrate the increased long-term sustainability and impact of a cross-government investment approach.[xxxix] **Building on The Principles of Donor Alignment for Digital Health,**[xl] we will advocate for a principles-based, cross-sectoral approach to digital goods and support incorporation of the Principles for Digital Development into procurement practices.

Box 3

Building the evidence base for pooled procurement of digital transformation

The impact of the COVID-19 pandemic on global resource flows to emerging markets is already apparent. In March 2020 alone, investors pulled approximately US $90 billion out of emerging markets. The OECD estimates a longer-term economic recession will drive additional cuts from donors, as economic growth slows and budget is reallocated to domestic spending. Estimates are that global ODA levels will drop sharply, and a US $25 billion decrease by 2021 is within the range of possibilities. Strong public institutions, particularly those involved in procurement, are needed to ensure value for money, continued and improved protection of human rights, and impact for every dollar invested.

DIAL in 2017 researched the GAVI business model, which is based on aggregation of demand and associated investment as a market-shaping strategy. Working with 15 governments across all income levels about their approach to aligning investment in digital transformation, we have developed a hypothesis for a viable strategy for pooled procurement. Many of the specialists we interviewed agreed that a centrally led operating model for procurement of digital solutions increases economies of scale and negotiating power, improves the interoperability of digital technologies implemented by the government, and presents a whole-of-government view that generally builds trust and stimulates the supply-side market. This strategy will build on our work to aggregate the myriad existing technology commissioning, total cost of ownership, and buyer guides into an online tool for use by national governments. We are also using DIAL's connections with larger UN agencies to evangelize digital procurement as a specialization, backing this position with data on the benefits of taking a whole-of-government approach to digital procurement.

Responsible data use: Building on our country-level work and our internal responsible data use practices, DIAL will undertake collaborative research on the role of the whole-of-society approach in accountability and scrutiny around the use and governance of data in digital transformation and public policy decision-making. In keeping with our emphasis on cross-sector work, we will encourage the data-for-development sector to work collaboratively and break down sector siloes through convenings and participation in policy discourse and communities of practice.

Evidence: Learning from digital transformation exemplars and generating actionable knowledge from systematic review of our practice is a critical step in improving outcomes and scaling digital transformation effectively. We will work with partners across the digital ecosystem to build data use, curating and synthesizing evaluations, reports, and studies from across the digital ecosystem in key areas of action to produce several annual thematic papers and a periodic State of the Ecosystem report outlining the progress and gaps in the digital ecosystem. DIAL will build on existing methodologies that can be used to compare approaches and track the progress being made at the national and global levels of digital transformation and responsible data use efforts.

Donors and implementers alike have begun utilizing the Digital Principles Maturity Matrix for Proposal Evaluation.

Standardize: Underpinning DIAL's research, advocacy work, and tests to identify financing mechanisms is our stewardship of the Principles for Digital Development. While calls for digital investment cooperation have increased over the past four years, the OECD reports that sector-level cooperative financing approaches are actually decreasing.[xli] Our hypothesis is that a common standard used by donors and country governments in their digital procurement practices, proposal evaluations, technology considerations, and programmatic implementations can help to counterbalance this trend. With more than 240 organizations already endorsing the Principles for Digital Development, multiple sectoral Principles nested underneath them, and five donors already incorporating them into their evaluations of new digital submissions, DIAL believes the Principles can be the basis for this business standard. Donors and implementers alike have begun utilizing the Digital Principles Maturity Matrix for Proposal Evaluation. We will soon deploy measurement indicators that can be used to track the progress of digital programs and products against digital transformation efforts and measurement indices. These are early examples of tools that can form the foundation for standards. DIAL will expand these critical guiding resources to ensure that the Principles for Digital Development are adopted as a business standard to align global practices across the development sector.

Under the advice of the Digital Principles Advisory Council and through community engagement, DIAL will build additional Digital Principles training curricula to contribute to greater digital capacity among agencies that adopt the new standard. Our goal will be to make the curricula available as a digital public good under open license for public use. DIAL will offer partners an accredited training-of-trainers program, creating a global network of trusted facilitators that can be run by local institutions in their own countries.

Share and connect: Over the past four years, DIAL has built a community management and events capacity that connects discrete communities around shared best practices. In addition to the Principles for Digital Development, DIAL manages two additional communities of practice:[xlii] the Open Source Center, which works with digital public goods providers, and Digital Donors Anonymous, which links bilateral and multilateral donors to discuss practical methods for better digital cooperation. We also provide infrastructure for the Donor Alignment Principles in Digital Health. Collectively, these communities touch more than 300 organizations and 1,200 individuals around the world. DIAL will grow its existing communities of practice, providing shared personnel and infrastructure, and deepen partnerships with sectoral and country peer learning networks[xliii] to accelerate the sharing of digital transformation and responsible data use best practices across pathfinder countries. In particular, we will support the community to review and update the Principles for Digital Development and expand its stakeholder network to more effectively include country governments.[xliv]

Success factors

If DIAL's efforts aligning global demand are successful, in five years we will have supported a coalition of GDAs to reach consensus on mechanisms that support digital financing cooperation and digital transformation; developed a strong technical curriculum and training accreditation program based on the Principles for Digital Development; and promulgated learnings through interconnected, powerful communities of practice. Markers of progress over the five years might include the following:

- Alignment among a core group of public and private actors on the most critical components of national digital transformation and responsible data use; progress towards co-investment; the benchmarks, original research, and technical guidance to track and measure progress across initiatives, particularly around public procurement practices; and the endorsement by at least five donors of a new set of cross-sector Donor Investment Principles.

- Improved practice in key areas of digital transformation and clear documentation of the progress and gaps in the digital ecosystem in the form of actionable insights in papers and studies, based on a community-driven evidence base.

- Increased numbers of government endorsers for the Principles for Digital Development and improved design, development, and deployment practices with a common business standard drawn from the Principles, adopted through the Digital Principles training program and implemented by a global network of accredited trainers; e-learning and capacity-building resources for donors to help them integrate the Principles into their staff training programs.

- Continued progress and impact realized for the Principles for Digital Development endorsers, including undertaking a global process to update the Principles in partnership with the community to ensure their relevance as "living" guidelines.

- Living communities of practice that share innovations and common infrastructure. These will be leveraged by the Open Source Center, the Principles for Digital Development community, Digital Donors Anonymous, and a new country-led digital transformation Peer Learning Network made available to the whole digital ecosystem.

Objective 3: Connect, support, and scale proven solutions for faster uptake and adoption by governments and service providers.

Overview

To support their social program objectives, GDAs pursuing digital transformation agendas have invested in software solutions and the corresponding enabling environments to roll them out. Given the funding and infrastructural constraints low- and middle-income countries (LMICs) face, many GDAs have embraced free and open-source software (FOSS) to avoid ongoing licensing costs and vendor lock-in,[xlv] have the freedom to modify the software to fit the needs of a country context, and leverage the FOSS communities to augment their own capacities to develop and manage it.[xlvi]

Cross-cutting digital solutions face chronic underinvestment to build their platform capabilities and the necessary capital to **connect** solutions within a country. The result is *over*investment by donors and governments in sector-specific solutions, many of which have overlapping or duplicative functions and the inability to easily aggregate and compare data pulled from disparate systems (Figure 4).
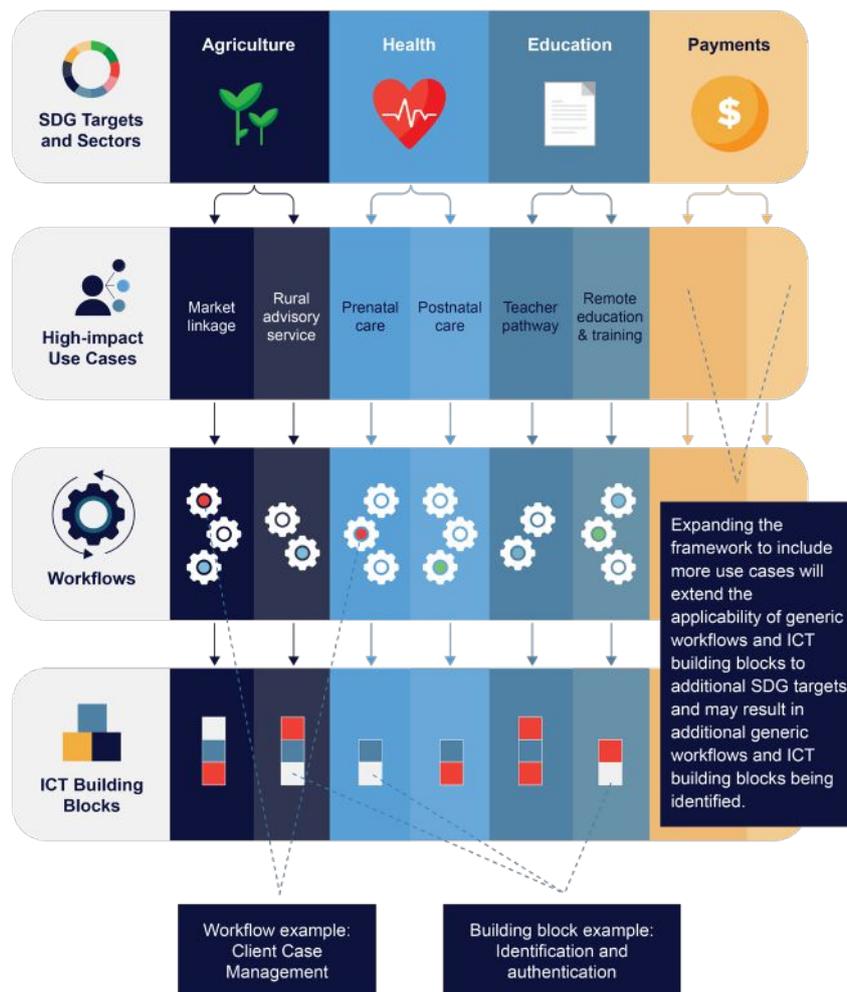

Figure 4

SDG Digital Investment Framework: A Whole-of-Government Approach to Investing in Digital Technologies to Achieve the SDGs. DIAL and the International Telecommunications Framework: 2018

Imagine we are a head of state in a low-income country trying to justify a commitment to funding large-scale, sustainable ICT infrastructure capable of supporting a large number of programs across a wide variety of sectors.

Our hypothetical arguments might look similar to the scenario below.

1

We have 14 ongoing digital pilot projects

Which serve 7,000 people

across 3 sectors

Agriculture   Health   Education

2

Total donor investment → Average cost → Total cohort, at scale → Cost of scaling projects
$6 million $857/person   1 million people $857 million

3

We have found that by employing generic building blocks, **12 of these projects have 70% overlap** in both the software functionality required and the human resources needed to deploy and manage these systems.

4

If these projects had been deployed using a single set of shared ICT services instead of 12 distinct ICT systems, and had they integrated the workload across shared workforces, the total investment required by donors would drop from:

Total donor investment → Average cost → Total cohort, at scale → Cost of scaling projects
$6 million $857/person   1 million people $857 million
$2 million $285/person $285 million

5

This common platform can also support many other SDG-related programs as well.

Total cohort served could be →   Average cost
1 million people $857/person
5 million people $57/person

6

Through consolidation and through the use of a common application architecture that is both scalable and more sustainable, you shift from:

Total donor invesment →   Serving
$857 million   1/2 of your population
$285 million   entire population

Source: SDG Digital Investment Framework A Whole-of-Government Approach to Investing in Digital Technologies to Achieve the SDGs. DIAL and the International Telecommunications Framework: 2018
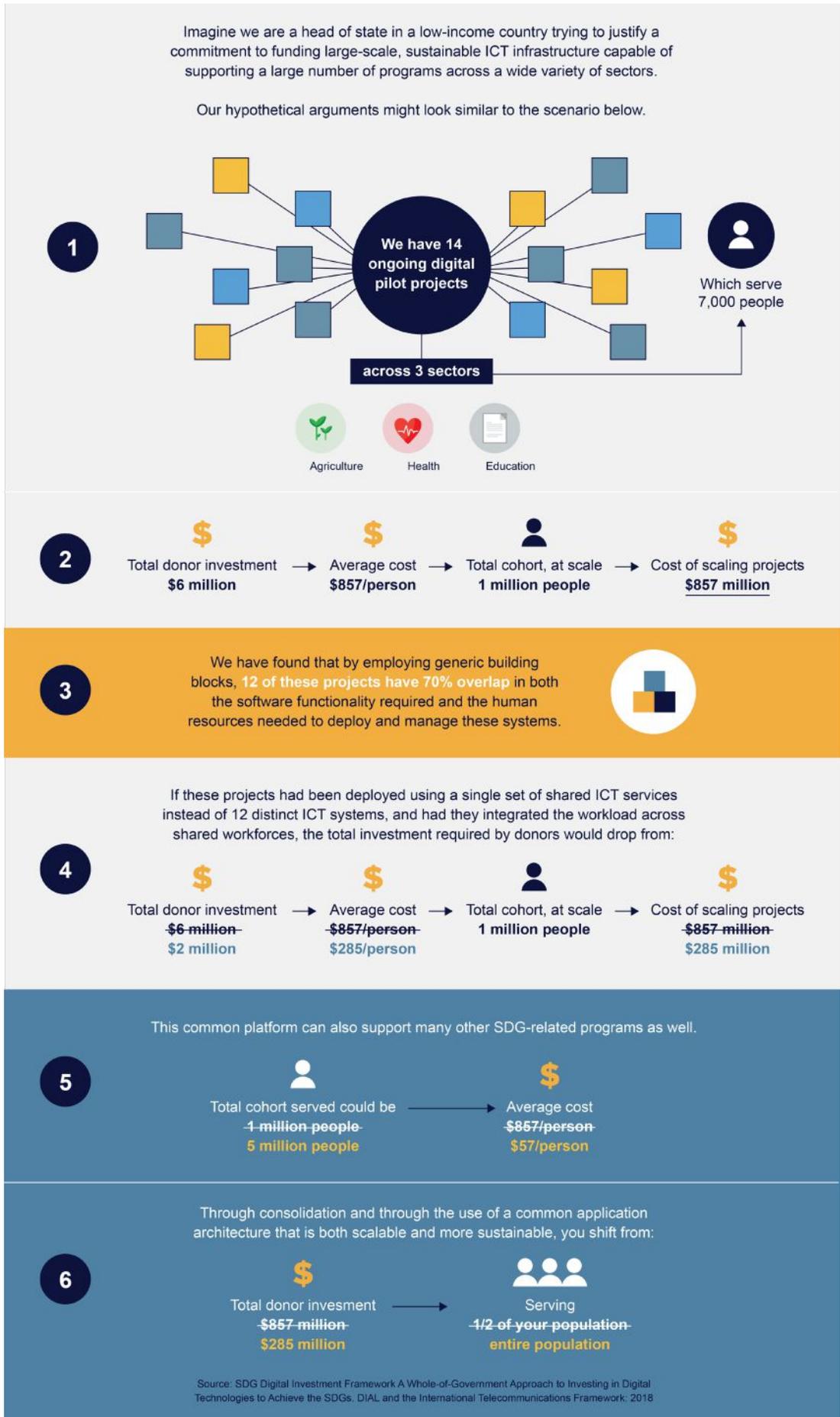
Figure 5

SDG Digital Investment Framework: A Whole-of-Government Approach to Investing in Digital Technologies to Achieve the SDGs. DIAL and the International Telecommunications Framework: 2018

From our work with the ITU, Smart Africa, and countries (e.g., Angola, Benin, Burkina Faso, Cote d'Ivoire, Gabon, Ghana, Kenya, Malawi, Niger, Senegal, Sierra Leone) and donors (e.g., GIZ, FCDO, USAID), we have identified two main obstacles with which they struggle: *discoverability* of products that are proven digital building blocks, and how best to connect these interoperable building blocks to form a national ICT strategy that delivers high return on investment and provides more solutions than the sum of its parts.

Many countries already have some of the requisite infrastructure needed for digital transformation but lack the funding, time, and/or expertise to find and evaluate products against shared business requirements; understand the pros and cons of different technical approaches already in use; and connect these building blocks to cover more use cases than currently envisioned by the standard, sector-specific approach.

DIAL will make it easy for GDAs to *find* potential products that meet a set of requirements and provide practical examples of *how* these products are used in combination with others to provide solutions to real problems and maximize ROI. Once candidate products are discovered, they must be rigorously evaluated against existing maturity models and matrices; and governments, many of which choose open-source solutions, must have confidence that these products will persist.

Our supply-side work bolsters DIAL's support to national governments that are making these "build vs. buy" decisions, the global procurement efforts that finance them, and the marketplace of implementers who supply them. We will invest in efforts to **connect** buyers and sellers with existing, vetted solutions; provide tools for analysis and evaluation; and establish, with partners, an independent software foundation dedicated to **support and scale** proven solutions.

Connect buyers and sellers: DIAL will continue working with leading sectoral and global partners to expand both the breadth and depth of the SDG Digital Investment Framework's use cases, workflows, and descriptions of ICT Building Blocks in the form of business requirements. This theoretical framework is complemented by the living Catalog of Digital Solutions (Box4), which serves both as a digital marketplace for digital solutions as well as a white-labelable tool that GDAs can use them-selves to manage their digital investments.

Box 4

The online catalog has three main features:

- Yelp-like listing of products, searchable by various taxonomies like the SDGs or WHO's Digital Health classification, and eventually displaying maturity scores by different lenses, like "sustainability"

- Example playbooks sourced and shared by the community on how these products can be mixed and matched to solve real-world problems

- The ability for governments, donors, and NGOs to have their own version of this platform to manage their digital investments and instructions for use (i.e., playbooks for COVID response or agricultural supply chain)

Support and scale: The Catalog of Digital Solutions captures many of the existing digital solutions, most of which originated and still reside in academic or nonprofit institutions. These organizations are not well-suited, however, to scale and sustain digital and data platforms to a sufficient level of maturity. In addition, most of these products are not financially sustainable, requiring continued donor support. From our research and experience working with 30 clients through the Open Source Center, we have noted five common characteristics that sustainable digital and data solutions require, but most projects lack at least one:

- **Fiduciary agent:** A host entity that receives and manages financing and is auditable and able to execute contracts; the OSC, existing software foundations, or other legal fiscal sponsors that could provide legal entities to facilitate financial management and back-office services.

- **Organizational home:** The primary maintainer of the project, who takes an active role in community management, developing/maintaining the product roadmap, governance, etc.

- **Dedicated staff:** A full-time core product team consisting of product owner, community manager, technical architect, and software engineers; not every product needs or can afford full-time staffing for these roles.

- **Stable funding:** A committed funder(s) dedicated to finding and/or developing both start-up and ongoing funding that supports the "core"; likely a mix of grants and internally generated revenue, ideally through a public-private partnership.

- **Community governance:** Connections to others solving similar challenges for collaboration.

DIAL and GDAs will establish an independent foundation that provides some or all of the above services for digital and data solutions deemed essential for digital transformation. The benefits include the following:

- Elimination of duplicative overhead (e.g., legal, human resources, accounting, monitoring and evaluation) for managing separate products under many different organizations, allowing maintainers to focus on their area of expertise (e.g., supply chain, disease surveillance) and helping reduce funding need.

- Faster and more affordable access to technical assistance through established partnerships from the existing and expanded network of trusted organizations, professional specialists, and companies.

- Hosted, shared sandboxes and testing infrastructure to harden products and promote interoperability among building blocks.

- Dedicated business development services for fundraising and long-term sustainability planning (e.g., through PPPs).

- Becoming a hub for volunteer and corporate social responsibility (CSR) which provides training and certification for digital public goods.
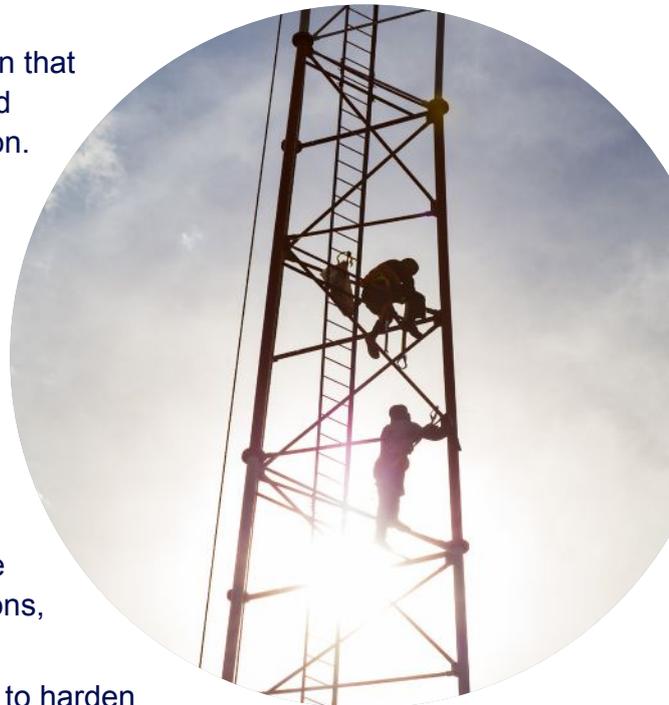
Success factors

If DIAL's efforts connecting buyers and sellers with proven solutions and providing dedicated support for those solutions are successful, the result in five years will be an online marketplace of vetted, proven solutions that contribute to government digital transformation and responsible data use; technical tools, resources, and communities that empower governments to achieve technical sovereignty over their digital infrastructure; and a dedicated foundation built solely to ensure that the products and services needed for digital transformation are well-managed, scalable, and sustainable. Markers of progress include the following:

- **Expanded library of use cases, workflows, and common business requirements for ICT Building Blocks (products).** Our team will continue to augment and refine the platform's library of use cases and workflows through engagement with working groups, domain experts, and alliances to incorporate priority use cases and link to relevant resources, expanding both the breadth (e.g., fintech, climate) and depth (e.g., agriculture, social protection) of the SDG Digital Investment Framework.

- **Development and adoption of a common ontology for evaluating digital products.** This ontology will include broad categories for evaluating products and specific indicators or data points that can be collected about a product and will be contained in a white-labeled rubric that provides an open and transparent guide for evaluating the maturity, quality, and sustainability of digital public goods. By working to align donors, governments, and any funder or purchaser of these digital public goods and services around a common framework for evaluating technology solutions, we will reduce fragmented and/or duplicative investments while also shaping the market by signaling the weight of desirable aspects (e.g., standards, interoperability, modularity, etc.).

- **An online marketplace (Catalog of Digital Solutions) that serves as a searchable repository of digital building blocks used for digital transformation and responsible data use.** The catalog will serve as a public repository of available digital public goods and commercial solutions. This platform will also contain community-sourced, real-world examples of how ICT building blocks can be mixed and matched to solve real-world problems, as well as provide guidance on how to select products and strategically plan for interoperable investments via wizards and toolkits. In addition to hosting a reference implementation of this platform, we have heard an expressed need by governments (e.g., the DRC), donors (e.g., GIZ) and NGOs to make it their own (white-label use) in order to organize and manage their investments.

- **A foundation dedicated to supporting, scaling, and sustaining digital public goods.** This entity will provide a menu of service offerings specific to digital public goods and governments as the primary clients. Certain service offerings will appeal more to some products based on their maturity, and country governments will leverage the foundation in different ways. For example, they might use the reference sandboxes for testing the interoperability of various combinations of building blocks (e.g., ID systems, fintech) to achieve certain playbooks (e.g., payments to teachers or community health workers); as technical consultants for ICT strategy development that leverages the Principles for Digital Development and the SDG Digital Investment; or as a hub for talent development.

Join us

In order to achieve the SDGs; equip over 3 billion people with equal access to information and basic services; prepare for and respond to climate, health, and humanitarian emergencies; and serve the most vulnerable, we can't afford delays. Mutually beneficial partnerships in which global development actors complement, not compete with, one another is critical for the success of the Roadmap for Digital Cooperation and achieving the SDGs. Through DIAL's *Digital Beacons* framework and this five-year strategy, DIAL pledges our support to connect the digital development ecosystem, integrating people and technology to achieve a shared vision. Join us in this effort to advance digital transformation and responsible data use to achieve inclusion.

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Key terms

Key term	Definition
Building block approach	A way to implement technology solutions using multiple, interoperable, reusable components that address more than a primary use case to achieve economies of scale and maximum return on investment.
Digital building blocks	A digital or ICT Building Block is an enterprise-ready, reusable software component that provides key functionality to facilitate generic workflows across multiple sectors.
Digital transformation	The use of digital technologies by governments, the private sector, donors, and civil society to fundamentally improve how a country achieves its national priorities and supports its citizens. It requires that external stakeholders invest their funds, time, and capacity to support countries to improve the delivery and reach of all services and to use digital data responsibly.
Digitalization	The transition of business and services to use digital technologies (e.g., APIs), products, and services. That means digitalization presumes digitization.
Digitization	The process of encoding physical information, i.e., creating a digital representation of physical objects. For instance, we scan a paper document and save it as a digital document (e.g., PDF).
Digital inclusion	The activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of information and communication technologies (ICTs).
Digital public goods	The digital products, software, and data—and the algorithms that drive them—that serve to educate us, help us thrive in our professional lives, enrich our cultural experiences, and ultimately do good for the benefit of humankind. (UNICEF) The Secretary-General's High-Level Panel on Digital Cooperation noted the requirement for them to be freely and openly available with minimal restrictions. (Report.) Digital public goods include: • Open source software: Libraries, application programming interfaces (APIs), and algorithms for which the source code is released under a license that allows the user to use, study, change, and distribute it. • Open data and content: Information or knowledge that is released under a license that allows the user to use, study, and distribute it. • Open standards: Publicly available compendia of norms, laws, specifications, and reference implementations.

Key term	Definition
ICT4SDGs	Information, Communications and Technology for the Sustainable Development Goals
Institutionalization	Embedding digital technology in policies, practices, workflows, and daily life.
Global development actors	Individuals, groups, and agencies that exist and carry out specific functions in every society. In any given society or country, there are people who are responsible for the development of the society by reason of their activities. They are institutions and/or organizations like civil society, government, and community-based groups.
Low-income countries	Nations that have a per capita gross national income (GNI) of less than US $1,026.
Middle-income countries	Nations that have a per capita gross national income of US $1,026 to $12,475.
MNO	Mobile network operator
National digital transformation	The use of digital technologies to radically or fundamentally improve how a country's socio-economic conditions benefit all citizens, improve digital government, improve gender equality, boost productivity/growth/jobs, develop digital skills/literacy, and drive innovation (i.e., promote economic growth and sustainable development OR a country's specific priorities, which could be the SDGs).
Person-first	Denotes the importance of honoring the rights and needs of all people in the country (as opposed to citizen-first).
Private sector	The part of the economy, sometimes referred to as the citizen sector, which is owned by private individuals or groups, usually as a means of enterprise for profit rather than being owned by the state.
Procurers	A person or entity (donor, multilateral, country ministry, NGO, etc.) that buys a digital public good or digital global good.
Public sector	The part of the economy owned by the state, composed of both public services and public enterprises.
Responsible data use	The duty to ensure people's right to consent, privacy, security, and ownership around the information process of collection, analysis, storage, presentation, and reuse of data, while respecting the values of transparency and openness.
Safeguards	Policies and regulations and the mechanisms to enforce them.

Key term	Definition
SDG targets	Defined high-level objectives to which governments systematically align their development goals.
Sustainable Development Goals (SDGs)	The world's shared plan to end extreme poverty, reduce inequality, and protect the planet by 2030.
SROI	Social return on investment
Technology supplier	A person or business that provides a technology product or service to another entity.
Use cases	Define the steps necessary to achieve a business objective contributing to one or more SDG targets.
Whole-of-government approach	The joint activities performed by diverse ministries, public administrations, and public agencies in order to provide a common solution to a particular problem or issue. The approach and content of the initiatives can be formal or informal. For DIAL, this means using a whole-of-government approach to invest in and deploy digital technologies.
Whole-of-society Approach	The joint activities performed by all relevant stakeholders, including civil society, the private sector, individuals, and communities in order to provide a common solution.
Workflows	Generic business processes, such as client communication or procurement, that support the delivery of a use case.
Vulnerable populations	Groups and communities that are at a higher risk as a result of the barriers they experience to social, economic, political, and environmental resources, as well as limitations due to illness or disability.

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xxxix Accompanying this research will be an extension of our current work examining the evidence on the comparative return on investment in digital goods and services, working with donor and country governments to build evidence-based advocacy demonstrating the sustained impact for the most vulnerable of continued investment in digital transformation and responsible data use.

xl The Principles of Donor Alignment for Digital Health (available at https://digitalinvestmentprinciples.org/) are 10 principles guiding donors to align their investments to countries' digital health struggles. For more information, see: Vota, Wayan, "Introducing the Principles of Donor Alignment for Digital Health," *ICTworks*, October 24, 2018 (accessed on June 24, 2020). Retrieved from: https://www.ictworks.org/principles-donors-digital-health/#.XvMw-GhKhPY.

xli OECD, "Global Outlook on Financing for Sustainable Development 2019: Time to Face the Challenge," *OECD Publishing Paris*, 2018 (accessed on June 25, 2020): 23-24. Retrieved from: https://www.oecd-ilibrary.org/docserver/9789264307995-en.

xlii To date, the Open Source Center (OSC) community has 28 members, while the Digital Donors Anonymous (DDA) community has involved more than 20 distinct funders across the digital ecosystem. Furthermore, the DDA community has engaged more than 140 individuals across all funders as of June 2020 (including donor governments, UN agencies, and private foundations), regularly engaging focused conversations across a range of topics.

xliii Future State, BMGF and Omidyar, *Joint call with stakeholders*, May 29, 2020.

xliv The Principles for Digital Development has 223 endorsers as of June 2020, as well as a community of more than 2,500 individuals through social media and the DIAL online forum.

xlv Digital Impact Alliance, "Annual Memo 2019," *DIAL*, September 2019 (accessed on June 24, 2020). Retrieved from: https://digitalimpactalliance.org/wp-content/uploads/2019/11/DIAL_AnnualMemo2019-v2.pdf.

xlvi For example, Siribaddan, Pandula and Hewapathirana, "Using Training as a Tool for Cultivating Communities of Practice Around Health Information Systems in Low and Middle Income Countries: A Longitudinal Mixed Method Study," *The Electronic Journal of Information Systems in Developing Countries*, Vol. 74, Issue No. 1 (2017): 1. Retrieved from: https://onlinelibrary.wiley.com/doi/abs/10.1002/j.1681-4835.2016.tb00528.x.