GSMA

Scaling digital innovation in low- and middle-income countries (LMICs)

The impact of GSMA grant funding and technical assistance

GSMA

The GSMA is a global organisation unifying the mobile ecosystem to discover, develop and deliver innovation foundational to positive business environments and societal change. Our vision is to unlock the full power of connectivity so that people, industry, and society thrive. Representing MNOs and organisations across the mobile ecosystem and adjacent industries, the GSMA delivers for its members across three broad pillars: Connectivity for Good, Industry Services and Solutions, and Outreach. This activity includes advancing policy, tackling today's biggest societal challenges, underpinning the technology and interoperability that make mobile work, and providing the world's largest platform to convene the mobile ecosystem at the MWC and M360 series of events.

We invite you to find out more at gsma.com

Follow the GSMA on Twitter/X: @GSMA

UK International Development
Partnership | Progress | Prosperity

This initiative has been funded by UK International Development from the UK government and is supported by the GSMA and its members.

The views expressed do not necessarily reflect the UK government's official policies.

GSMA Innovation Fund

The GSMA Innovation Fund accelerates digital tech solutions that are addressing key global challenges. Through grant funding and tailored venture building support, we enable innovative organisations in LMICs to scale and amplify social and environmental impact.

For more information, please visit:
www.gsma.com/innovationfund

Author
Simone Hinrichsen, Insights Manager, GSMA Innovation Fund

Acknowledgements

We would like to thank the following experts and innovators for their valuable contributions to this research:

Shiela Yabo, MTN Ayoba

Uwem Uwemakpan, Launch Africa

Emmanuel Adegboye, Madica Ventures

Cynia Ejaz, Telenor Pakistan

Eva Waweru, Village Capital

Husein Merchant, Village Capital Impact Investors

Win Aufa Fidhuha, tinc (Telkomsel Indonesia's accelerator)

Bian Li, The Hungry Labs

Maxime Bayen, The Catalyst Fund

William Gozali, Telkomsel Ventures

Alexander Raia, Cauris Finance

Alvin Evander, MDI Ventures

Contents

Acronyms and abbreviations

AI	Artificial Intelligence
B2B	Business to Business
B2B2C	Business to Business to Consumer
B2C	Business to Consumer
IoT	Internet of Things
KPI	Key Performance Indicator
KYC	Know Your Customer
LMICs	Low- and Middle-Income Countries
MNO	Mobile Network Operator
MSME	Micro, Small and Medium Enterprise
MVP	Minimum Viable Product
PAYG	Pay As You Go
SME	Small and Medium Enterprise
VC	Venture Capital
VoIP	Voice over Internet Protocol
VSLA	Village Savings and Loan Association

Foreword

A thriving private sector is crucial for countries to escape poverty, and building successful economies that work for both people and the planet depends on investment. Yet, the places most in need of capital often receive the least.

To address this investment gap, the UK Foreign, Commonwealth and Development Office, through our valued partnership with the GSMA Mobile for Development Foundation and our co-funders, has provided grant funding and technical assistance to 156 innovative digital enterprises, as a means to de-risk innovation, attract follow-on funding and build a clear path to scale and commercial sustainability. Together, we invest in innovations which create jobs and opportunities, improve livelihoods, support the economic empowerment of women, and combat the causes and effects of climate change, having reached more than 90 million people.

Our partnership with the GSMA has played a crucial role in grantees' journey to scale, as evidenced in this report. While there is no one way to scale, mobile technology can be a crucial enabler for social enterprises on this pathway, as it provides the infrastructure for payments, communication and content, and allows new and more direct access to markets. This is why our work with the GSMA - which is uniquely positioned at the intersection of the mobile ecosystem and the development sector, and which has facilitated more than 100 partnerships between our grantees and Mobile Network Operators - is an important part of a broader ecosystem helping social enterprises to scale. Our joint achievement of having unlocked a total of £673 million in follow-on funding, with several startups in our portfolio achieving impressive growth, is testimony to that.

£673m
Additional funding raised

27x

£25m
Grant funding disbursed

Even through this last tough year, we are delighted to see the positive steps that many of our grantees in Africa and Asia have made, raising significant amounts of capital and increasing their impact in some of the world's poorest communities.

We couldn't have achieved this impact alone and are grateful for the dynamic partnerships that have made this possible, with local entrepreneurs, funding partners, and the communities themselves.

David Woolnough
Deputy Director Research, Technology and Innovation, UK Foreign, Commonwealth and Development Office

Executive summary

In partnership with the UK Foreign, Commonwealth & Development Office (FCDO) and other donors, the GSMA Mobile for Development (M4D) programme has supported more than 150 tech startups in LMICs with equity-free grant funding and venture building assistance through the GSMA Innovation Fund. The aim of the fund is to enable startups to test and scale innovative digital technologies and business models that boost local ecosystems, improve livelihoods and drive prosperity. Several of these innovative business models have scaled over the years, whether through expansion, follow-on funding or strategic partnerships.

Since 2016, just over £25 million in grant funding has been disbursed and **facilitated more than 100 partnerships with mobile network operators (MNOs)**. The alumni of the GSMA Innovation Fund have gone on to **raise more than £673 million in follow-on funding combined**.

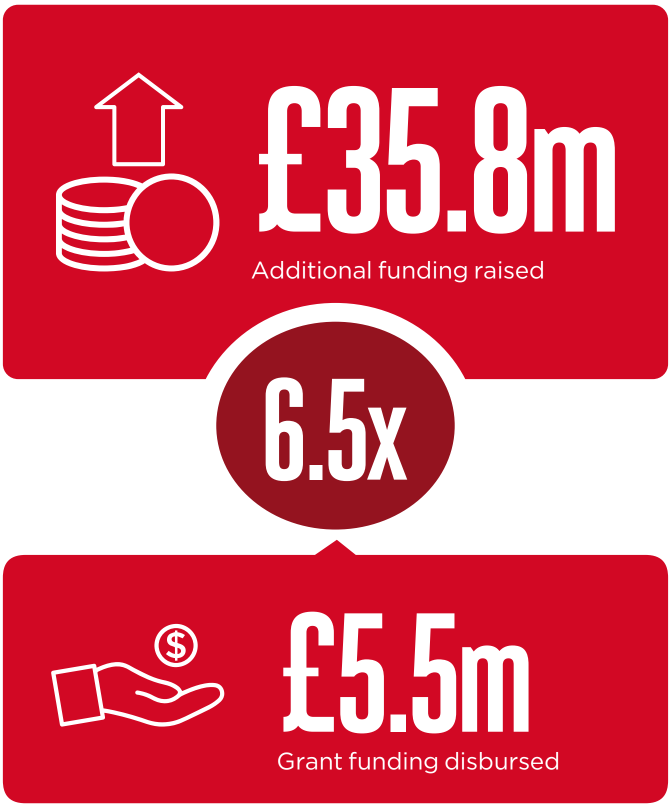
This report is a sequel to the 2023 GSMA report, *Scaling Digital Innovation in Emerging Economies*. It analyses the impact of 10 GSMA Innovation Fund alumni selected from the 33 tech startups that received grant funding between 2021 and 2024. The report focuses on the impact of GSMA grant funding and technical assistance in four areas:

— Mobile internet adoption and digital inclusion

— Assistive technology

— Digital urban services

— Climate resilience and adaptation



As of August 2024, the GSMA Innovation Fund has **disbursed £5.5 million** in grant funding to 33 startups in four rounds and **facilitated 13 partnerships** with MNOs. Combined, these innovative organisations **have attracted £35.8 million in follow-on funding**.

This report examines the top 10-funded startups from the Innovation Fund portfolio, which have each raised more than £1 million in follow-on funding. The report charts their journeys to scale, explores important lessons about raising additional funding and provides tips from investors.

1. Since 2013, donors to the GSMA Innovation Fund have included the Swedish International Development Cooperation Agency (Sida), Australia's Department of Foreign Affairs and Trade (DFAT) and the United States Agency for International Development (USAID).

1 Introduction

Follow-on funding secured after a GSMA Innovation Fund grant is a key indicator of investor confidence in a sustainable business model. The provision of catalytic funding and technical assistance can also help startups in LMICs navigate the unique challenges they face.

This report features 10 innovators that received grant funding and technical assistance from the GSMA Innovation Fund between 2021 and 2024. The focus and funders of these four funding rounds are detailed in Table 1.

This report analyses the fundraising journeys of the top 10-funded startups across these four funding rounds and explores the challenges they faced in scaling their solutions.

The report also examines the profiles of **funders** that supported the alumni along their entire fundraising journeys with funding and assistance, featuring insights from interviews with various investors.

Weathering the funding winter

The global tech startup ecosystem was impacted by a drop in funding that started in 2023 and has continued into 2024. Between 2022 and 2023, global venture capital (VC) funding decreased by 42% to $248.4 billion, the lowest on record since 2017.[2] This season of financial uncertainty – the result of market insecurity, higher interest rates and political instability – has made investors more cautious and requires startups to have a clearer pathway to scale. Due diligence has become increasingly important, with investors taking longer to sign cheques.[3] This has forced startups to cut costs and pursue alternative paths to business sustainability.

Across **Africa**, funding **fell by more than 50%** from $650 million in Q1 2023 to $310 million in Q1 2024.[4] While African startups had the best July on record since 2019,[5] they received just $56 million in funding in August 2024, a notable decrease from $234 million in August 2023.[6]

The funding winter has also continued in **Southeast Asia**, where startups saw funding **drop 29%** from Q1 2023 to Q1 2024 – the region's lowest Q1 level in more than five years.[7] In **South Asia**, tech startups in Pakistan recorded no new deals for Q1[8] and startups in India saw a significant decline in funding from $25.2 billion in December 2022 to $11.3 billion in December 2023.[9]

From 2022 to 2023, there was a 36% decrease in global VC funding for startups that are addressing socio-economic challenges, almost identical to the 37% decline in the VC market in general.[10]

In a challenging VC market, startups in LMICs must continue to pursue sustainability as they scale their innovation and maximise their impact. This reinforces the importance of catalytic grant funding, targeted venture-building support and strategic partnerships for tech startups on their journey to scale.

2. Mint. (16 January 2024). "Funding winter chill continues, global VC investments declined 42% in 2023".
3. Ibid.
4. Jackson, T. (4 April 2024). "Q1 African tech startup down once more as 'funding winter' continues". *Disrupt Africa*.
5. Cuvellier Giacomelli, M. (6 August 2024). "The best month of July on record!" *Africa: The Big Deal*.
6. Cuvellier Giacomelli, M. (3 September 2024). "Slow and steady wins the race(?)". *Africa: The Big Deal*.
7. Suruga, T. (3 May 2024). "Southeast Asia's startup fundraising lowest in over 5 years". *Nikkei Asia*.
8. Riaz, N. (29 April 2024). "Tech funding might be recovering in the US, but the trickle down effect will take its sweet time getting to Pakistan". *Profit*.
9. ICICI Direct. (12 April 2024). "Funding Winter – Meaning and impact on startups in India".
10. Lewis, I. (10 November 2023). "Slowdown in VC funding for impact startups does not bode well for meeting SDG goals". *Impact Investor*.

Table 1

Funding rounds of the GSMA Innovation Fund, 2021–2024

Funding round	Description	Funded by
1. Mobile Internet Adoption and Digital Inclusion **2021–2023**	This round focused on addressing key digital inclusion barriers that prevent 3.4 billion people from adopting life-enhancing mobile internet services. This round supported startups in the following sectors: — Fintech — Education — E-commerce — Smartphone financing	**FCDO**
2. Assistive Technology **2021–2023**	This round was established to fund startups, SMEs and social enterprises in Africa and Asia that are driving the digital inclusion of persons with disabilities.	**FCDO**
3. Digital Urban Services **2021–2023**	This round supported startups using digital technology to deliver urban services that have a socio-economic, commercial and environmental impact in four sectors: — Plastic and waste management — Water — Energy — Sanitation	**FCDO**
4. Climate Resilience and Adaptation **2022–2024**	This round was designed to help accelerate the testing, adoption and scalability of digital innovations that enable the world's most vulnerable populations to adapt to, anticipate and absorb the negative impacts of climate change or strengthen biodiversity. Startups were selected from five sectors: — Agriculture — Aquaculture — Natural resource management — Sanitation — Water	**FCDO and Sida**


Repairs

2 Revisiting pathways to scale

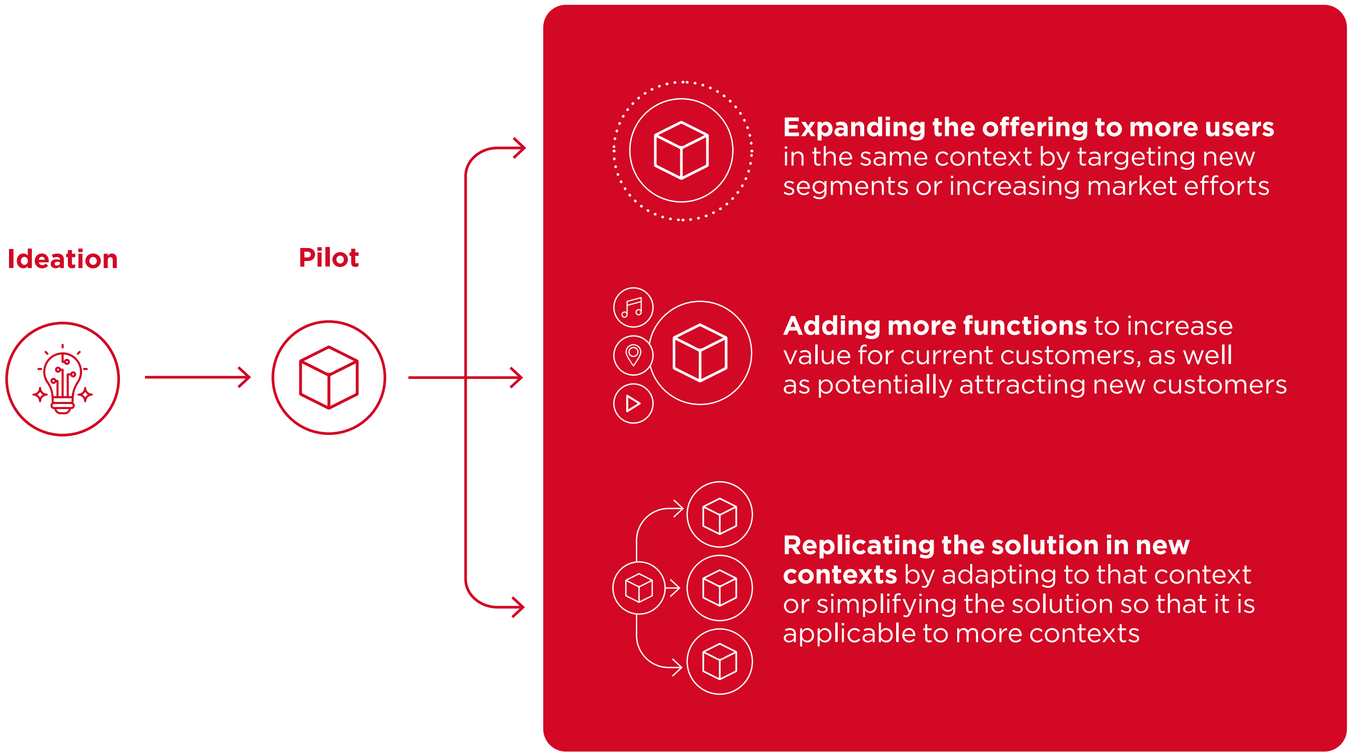
Every fundraising journey in this report tells the story of how an innovative organisation tackles the various challenges that come with scaling to achieve maximum socioeconomic impact.

As highlighted in the first *Scaling Digital Innovation in Emerging Economies* report, the journeys to scale for tech startups in LMICs vary significantly depending on the addressable market and specific barriers they face in their ecosystems. Figure 1 shows the pathways to scale identified in that report.

The pathways identified in Figure 1 are not necessarily pursued in isolation, as all three strategies can be deployed at the same time. For example, adding more features to a product or service offering to ensure user satisfaction and retention can also attract new users.

Figure 1

Pathways to scale



Source: GSMA 2022

Note: the possible pathways listed above are not exhaustive.

As was highlighted in the first edition of the report, there are different ways to scale an innovation that solves a problem and creates new value for customers in LMICs. Scale should not be evaluated in terms of size alone, as the addressable market differs for each solution. A focus on boosting user numbers or chasing headline-grabbing funding could lead to unsustainable growth. For example, incentivising a startup to add new customers without having the appropriate infrastructure in place to provide a high-quality product or service could result in lower customer satisfaction.

It is also helpful to consider scale over time. For example, eFishery, an aquaculture solution in Indonesia and GSMA Innovation Fund alumnus, took eight years to grow from a seed-stage startup in 2015 to reach unicorn status in 2023 after raising $200 million.[11] The founder of eFishery, Gibran Huzaifah, said that the key to scaling sustainably was securing the right audience for their product, which they did by building a strong sales team.[12]

11. Shu, C. (7 July 2023). "Indonesian aquaculture startup eFishery nets $200m at unicorn valuation". *TechCrunch*.
12. Hinrichsen, S. (7 June 2023). "Scaling Digital Innovation in Emerging Economies: Key takeaways from the webinar". *GSMA Mobile for Development Blog*.

2.1 Startup stages

To focus on the right metrics, a startup should use different KPIs at every stage of their journey to scale. Understanding changing priorities will also help startups pursue the right types of funding. For instance, it would be unproductive for a pre-seed startup to focus on seeking VC funding to become a recognised industry player.

Figure 2 outlines the metrics and priorities in each stage of the startup growth journey and the types of funding best suited to each stage.

Pre-seed stage: At this stage, startups are validating their idea and creating a minimum viable product (MVP). Sources of funding typically include personal funds and savings.

Seed stage: At this stage, the startup has moved beyond the ideation stage and is refining their business model, finalising the product or service offering and gathering market data. This is typically when a startup might seek grant funding and support from incubators and accelerators, as well as funds from friends, family and angel investors.

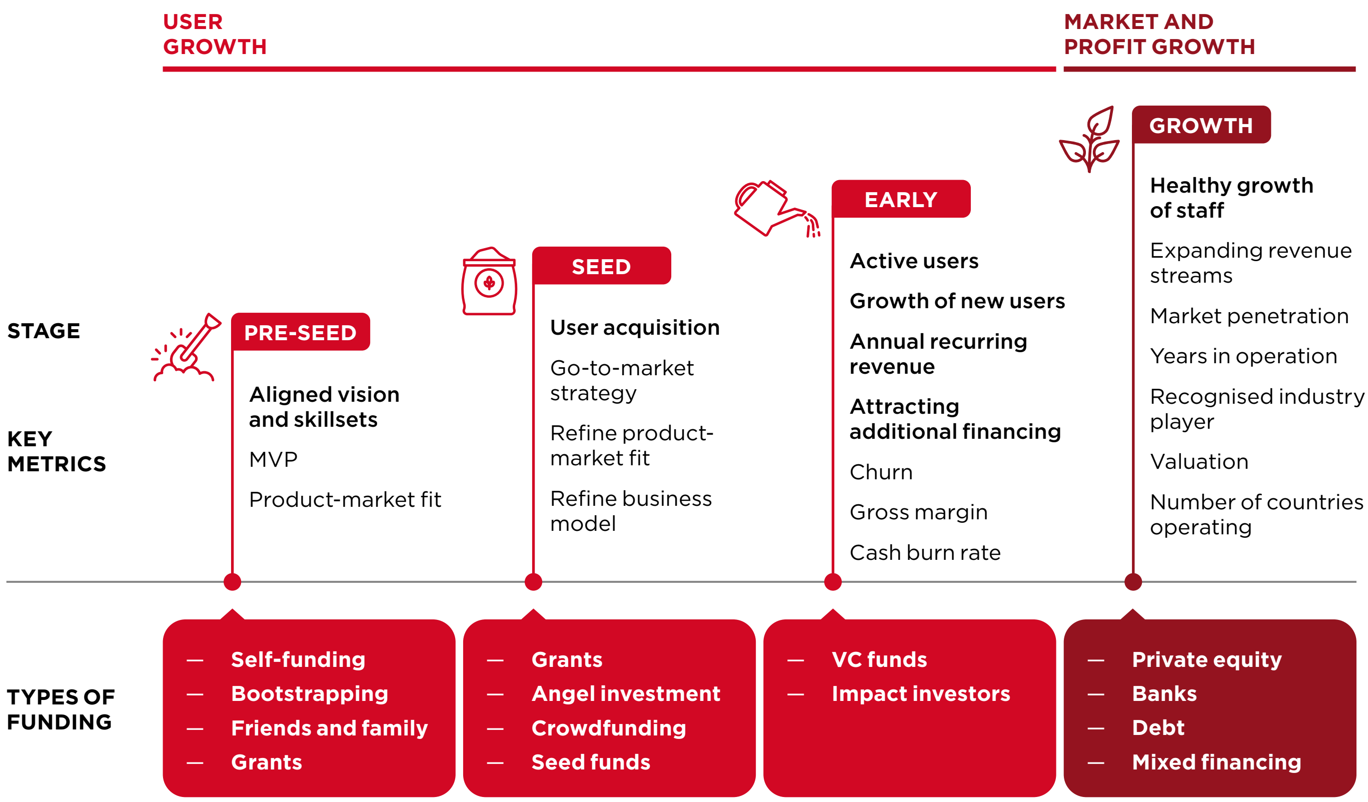
Early stage: At this stage, the startup has a potentially scalable idea for a product or service targeting a market that is poised to generate value. They have a proven prototype or MVP and are generating revenue but are typically not yet profitable.

Growth stage: Startups at this stage are scaling their operations to meet growing demand, targeting new market segments and geographies and diversifying their revenue streams. Typical sources of funding include VC firms, impact investors and commercial sources.

For a startup to progress on their journey to scale, a distinction must be made between first-time users and active users. Conducting surveys and customer research to ensure that onboarded users are actively using their product or service becomes increasingly important as a startup scales.

Figure 2

Recommended metrics and priorities for tech startups in LMICs



Source: Adapted from desk research, key informant interviews and existing Hungry Lab start-up frameworks

3 Fundraising journeys of the top 10-funded startups

Analysing the fundraising journeys of tech startups in LMICs is a useful way to assess whether an innovation has been derisked and whether other funders and investors believe the startup has a sustainable and scalable business model. In this report, funding of £1 million is considered an early indicator of scale.

3.1 Fundraising journeys

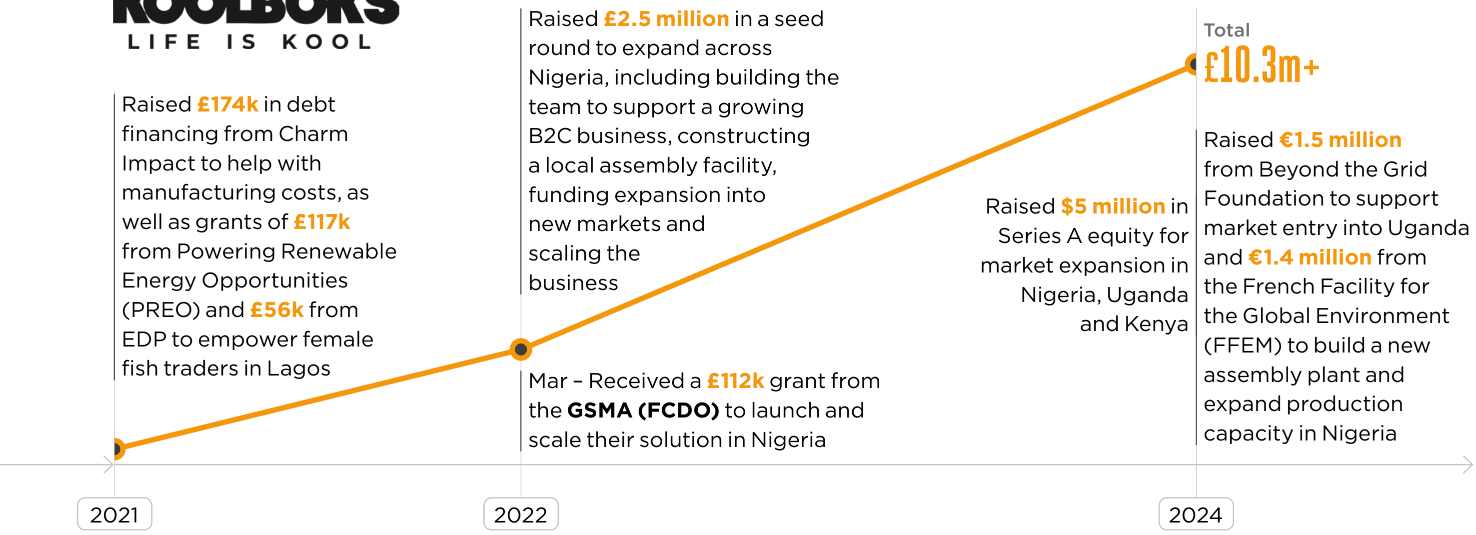
The following profiles depict the fundraising journeys of the top 10-funded GSMA Innovation Fund alumni since 2021 (fundraising totals are accurate as of August 2024).

Note: not all fundraisers, funds and uses of funds are disclosed. The startup stages indicated in the profiles are accurate as of August 2024.

ENERGY

Koolboks Nigeria Growth stage	**PROFILE** PAYG solar refrigeration for micro, small and medium enterprises (MSMEs)	**GENDER IMPACT** Female co-founder and 81% of users were female (as of August 2023)	**FOUNDER(S)** Ayoola Dominic Deborah Gael
	KEY PRODUCT IoT-enabled solar fridge	**BUSINESS MODEL** B2C	**TEAM SIZE** 51–200

KOOLBOKS
LIFE IS KOOL



AGRICULTURE

Hello Tractor
Nigeria
Growth stage

PROFILE
A digital platform that connects tractor owners and farmers through a farm equipment-sharing app and GPS fleet management solution

GENDER IMPACT
Women farmers in Nigeria and Kenya who use the solution have seen their income increase by 138%[13]

FOUNDER
Jehiel Oliver

KEY PRODUCT
Mobile app

BUSINESS MODEL
B2C

TEAM SIZE
51–200

2019

Received a **£250k** grant from AGRA and **£250k** in debt financing from Aztech and Double Feathers to meet farmer demand and increase access to asset financing

2020

Raised **£1.58 million** in equity from John Deere for operational support

Received a **£833k** grant from Heifer International to launch a pay-as-you-go (PAYG) tractor financing product

2022

Nov – Received a **£199k** grant from the **GSMA (FCDO)** to optimise tractor service, harvesting and yield, and build a more resilient, adaptive community of farmers and tractor owners

May – Received a **£2.45 million** grant from Heifer International to scale PAYG tractor financing across three countries

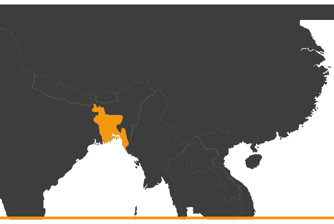
2023

Mar – Raised **£4 million** in debt financing from ABSA Bank to scale operations in Kenya, Nigeria and Uganda

2024

Total **£9.56m+**

ENERGY



ATEC
Bangladesh
Early stage

PROFILE
PAYG Internet of Things (IoT)-enabled cookstoves and carbon credits for low-income customers

GENDER IMPACT
94% of direct users are women[14]

FOUNDER
Ben Jeffreys

KEY PRODUCT
eCook stove

BUSINESS MODEL
B2C

TEAM SIZE
51–200

2019

Raised **$1.6 million** in equity from ENGIE, PhiTrust and Impact Capital Holdings to establish a subsidiary in Bangladesh and develop a new product line

2020

Received a **$100k** prize from the Water and Energy for Food (WE4F) Grand Challenge to optimise online marketing

Received a **$120k** grant from the Stone Family Foundation to centralise their sales model

Raised **£401k** in equity from ELEN

2022

Received a **£161k** grant from Modern Energy Cooking Solutions (MECS) to form a partnership for 5,000 cookstoves in Rwanda

Received an **£81k** grant from Roots of Impact to support the growth of eCook stoves

Received a **£146k** grant from the **GSMA (FCDO)** to develop and launch an Android mobile app integrated with their eCook stoves

2023

Received a **£403k** grant from ENGIE to enable carbon credit trading through their eCook stove devices

Raised **£49k** debt from KIVA to expand loan programme, and **£3m** equity from Schneider Electric Energy & Spark+ Africa Fund for R&D and partnerships with last-mile distributors and carbon buyers

2024

Total **£5.68m+**

13. Gunde, C. (3 June 2024). "Hello Tractor turns 10". *Hello Tractor Blog*.
14. Njoroge, B. (5 August 2024). "Electrifying clean cooking – ATEC eCook stoves in Bangladesh". *GSMA Mobile for Development Blog*.

ENERGY

Freetown Waste Transformers
Sierra Leone
Early stage

PROFILE
Digitalising organic waste-to-energy solutions

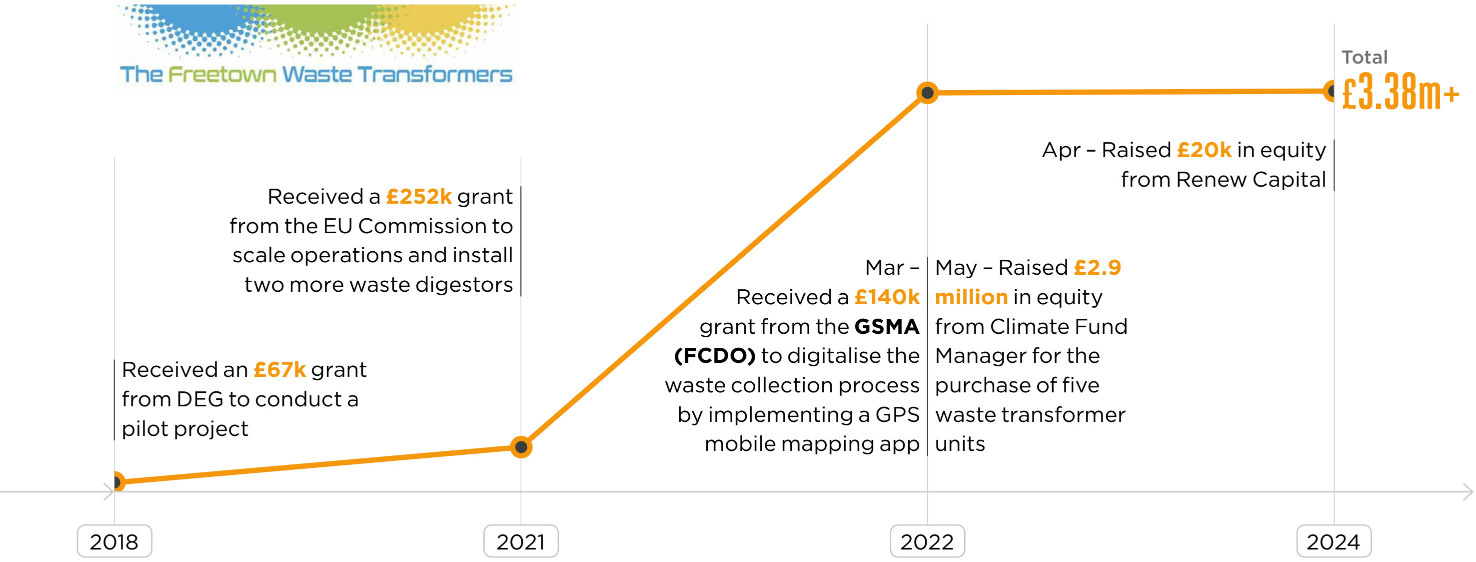
FOUNDER
Aminata Dumbuya-Jarr

GENDER IMPACT
Female founder and women represent 30% of their waste collectors (August 2023)

KEY PRODUCT
DortiBox mobile app

TEAM SIZE
1–10

BUSINESS MODEL
B2C



EDUCATION

Orenda
Pakistan
Seed stage

FOUNDER
Haroon Yasin

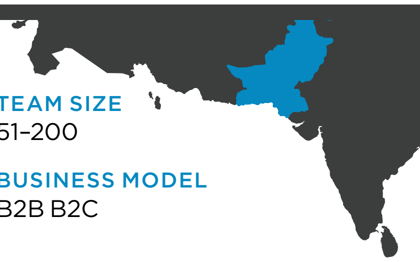
GENDER IMPACT
Orenda provides digital teacher training to 5,000 teachers in public and private schools, 80% of whom are women

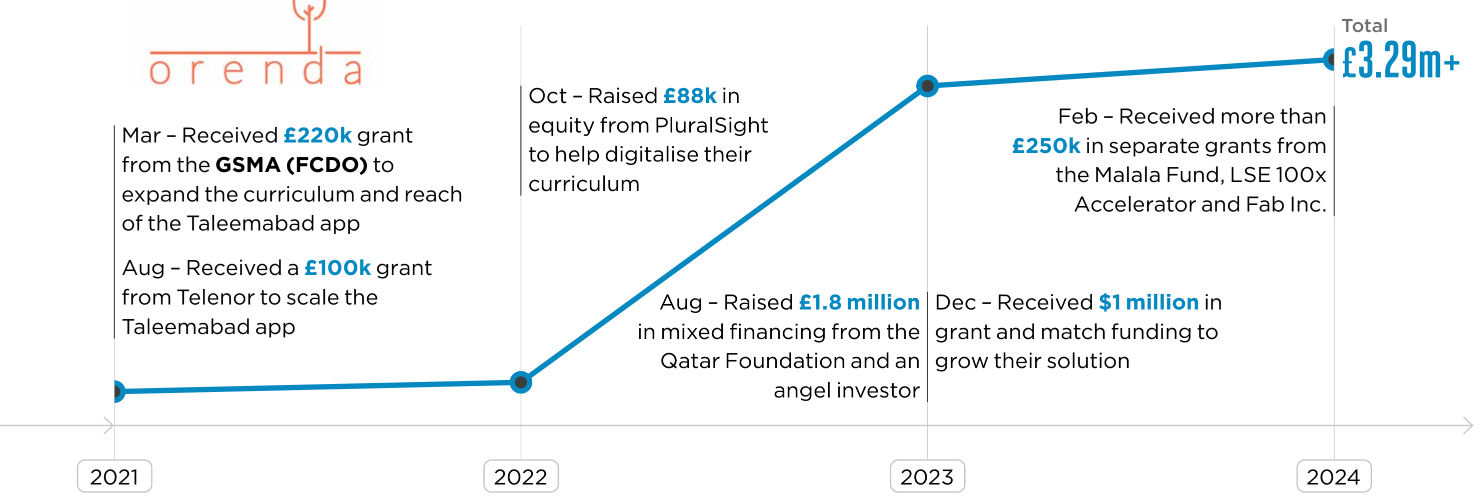
PROFILE
Digital education provided through videos and quizzes via digital platform Taleemabad

KEY PRODUCT
Orenda provides schools and students with an interconnected digital platform, Taleemabad, that improves learning cost-effectively

TEAM SIZE
51–200

BUSINESS MODEL
B2B B2C





AQUACULTURE

Aquarech
Kenya
Early stage

FOUNDER(S)
Dave Okech
James Odede
Joseph Okoth

PROFILE
Mobile apps that improve the productivity of fish farmers, open access to markets and create an inclusive aquaculture value chain using mobile technology and IoT sensors

TEAM SIZE
51–200

BUSINESS MODEL(S)
B2C B2B

KEY PRODUCT(S)
Farmer app
Trader app

GENDER IMPACT
34% of fish trader users are women (as of August 2024)[15]

2021

Raised **£148k** in debt financing from Melamed Investments for the purchase of fish feed

Received a **£39k** grant from Google Black Founders Fund to purchase fish feed and provide training for farmers

2022

Raised **£88k** in debt financing from the BFA Catalyst Fund as working capital

Nov – Received a **£250k** grant from the **GSMA (FCDO)** to test and scale a pilot project of IoT devices for fish farmers

Dec – Raised **£125k** in equity from AquaSpark and Katapult

Feb – Received an **£80k** grant from DeveloPPP Ventures

2023

Nov – Raised **£1.4 million** in debt financing and equity from Aquaspark, Acumen, MercyCorps Venture and Katapult to hire talent, acquire more feed and establish infrastructure to support vertical integration of their technology

Jun – Raised **£280k** in debt financing from Village Capital to use as working capital

2024

Total **£2.41m+**

AGRICULTURE

J-Palm
Liberia
Seed stage

PROFILE
Mobile apps that improve the transparency and traceability of wild harvest palm oil supply chains

KEY PRODUCT(S)
Traceability app
Tree health app

TEAM SIZE
51–200

BUSINESS MODEL
B2C

FOUNDER
Mahmud Johnson

GENDER IMPACT
56% of registered users are women

J-Palm Liberia

2020

Received a **£188k** grant from the US African Development Foundation (USADF) to set up 60 mini mills for 20 communities, seed funding for a palm kernel mill and seed funding to develop the first mobile traceability app

2021

Received a **£250k** grant from USAID to drive exports of palm kernel oil

Raised **£188k** in equity from Elea to provide working capital to scale their Kernel Fresh cosmetics business in Liberia

Received a **£70k** loan from Whole Planet Foundation to build and distribute 90 mini mills in 30 new communities

2022

Received a **£204k** grant from the **GSMA (FCDO)** to develop two mobile blockchain apps for supply chain transparency and traceability

Received a **£970k** grant from USAID to boost factory capacity, increase sales and distribution, expand to 60 villages, launch in two more West African countries and cover organic certification costs

2023

Raised **£205k** in debt financing from Whole Planet Foundation to fund additional mini mills for farming communities

2024

Total **£2.08m+**

15. Weddi, D.J. (14 August 2024). "'Internet of fish' empowering Lake Victoria women". *SciDevNet*.

FINTECH

Ensibuuko
Uganda
Early stage

FOUNDER
Gerald Otim

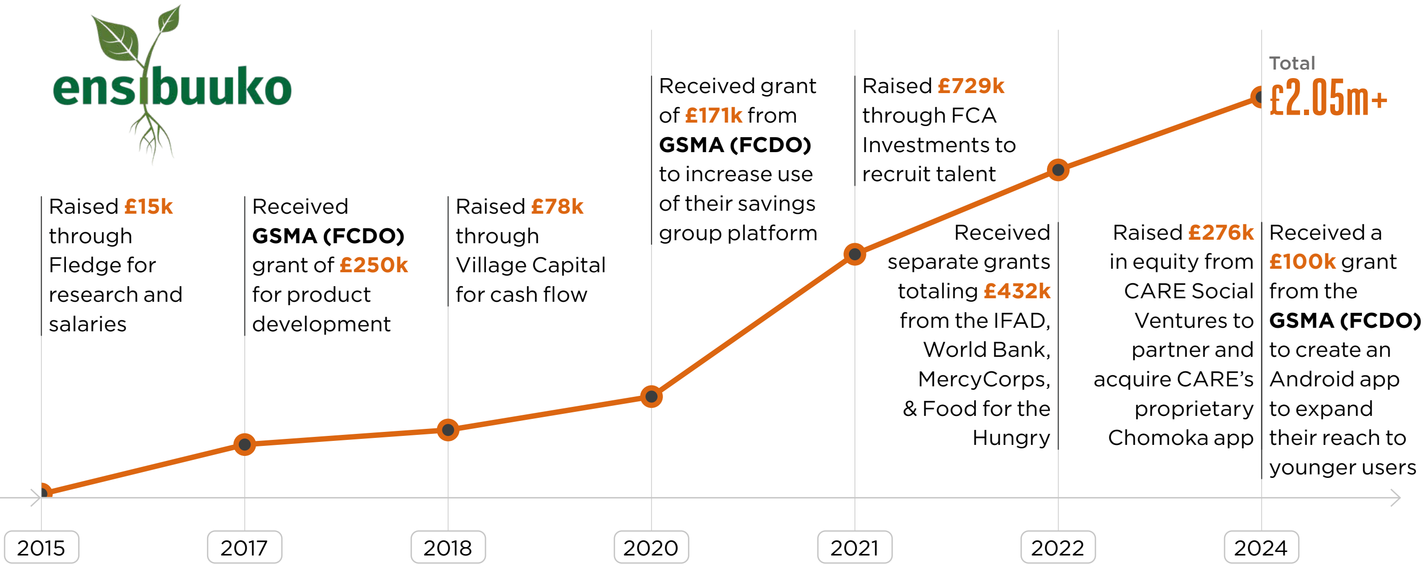
PROFILE
A digital platform providing cloud-based core banking software for farmers and savings groups, even in rural areas with poor telecoms infrastructure

GENDER IMPACT
60% of their 236,000 users are women[16]

KEY PRODUCT(S)
Mobis (microfinance digital platform)

TEAM SIZE
51–200

BUSINESS MODEL
B2B Software as a Service (SaaS)



ASSISTIVE TECH

DeafTawk
Pakistan
Assistive tech

PROFILE
Mobile apps that provide real-time translation of text and audio into sign language

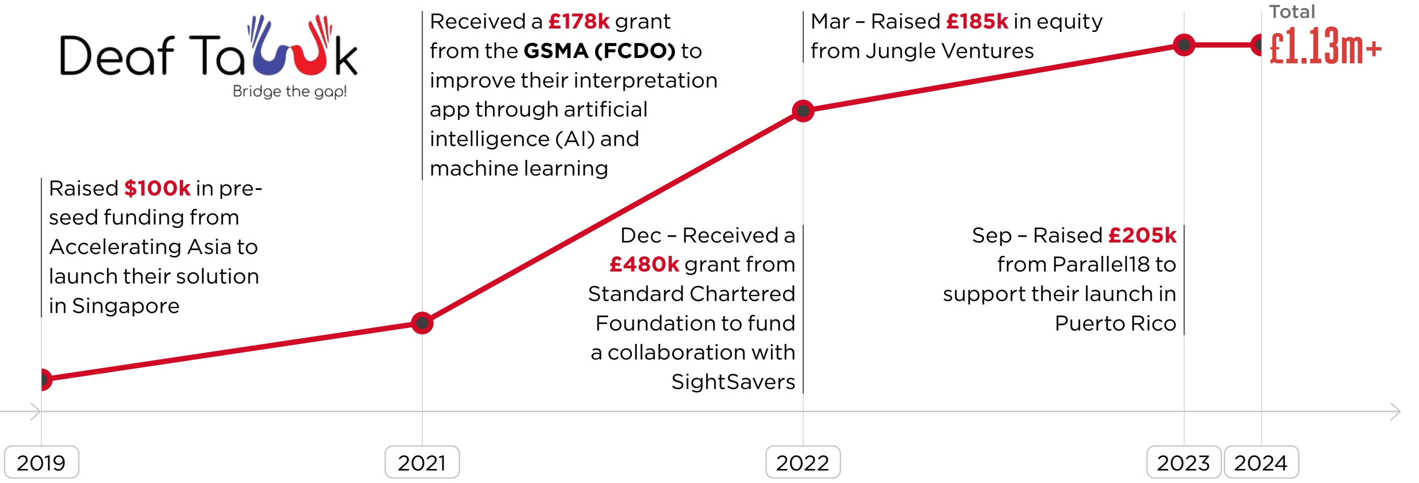
KEY PRODUCT
Mobile apps

BUSINESS MODEL
B2B B2C

FOUNDER
Ali Shabbar
Abdul Qadeer
Wamiq Hassan

TEAM SIZE
11–50

GENDER IMPACT
54% of their interpreters are female (as of October 2024)



16. Foreign, Commonwealth & Development Office. (26 February 2024). "Support for tech entrepreneurs will boost livelihoods". Press Release.

ReCircle
India
Seed stage

PROFILE
Aggregating and digitalising the waste supply chain

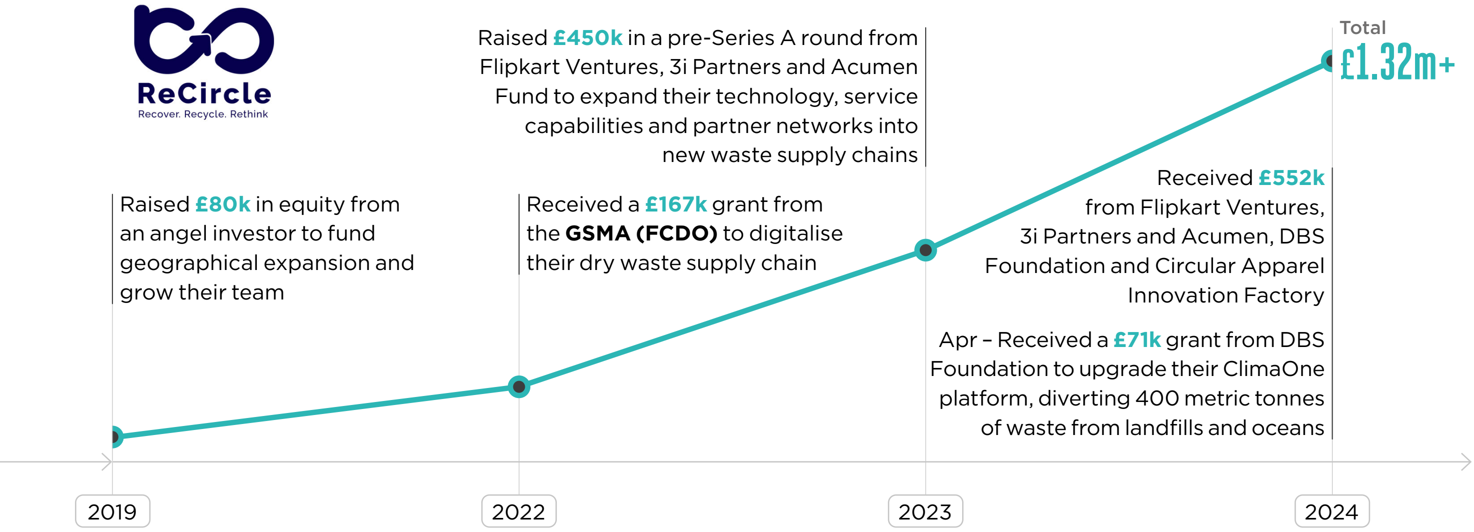
GENDER IMPACT
They support more than 650 female waste pickers across India[17]

FOUNDER(S)
Rahul Nainani
Gurashish Sahni

KEY PRODUCT(S)
Mobile app
Digital platform

BUSINESS MODEL(S)
B2C B2B

TEAM SIZE
11–50



3.2 Fundraising insights from GSMA Innovation Fund alumni, 2021–2024

The 33 tech startups that received grant funding from the GSMA Innovation Fund from 2021 to 2024 have attracted over £41m in their fundraising journeys from various sources, including Village Capital, Acumen and Climate Fund Manager. GSMA Innovation Fund grants have supported startups on these fundraising journeys.

88% of cumulative funding (£41.2m) has been **raised by 10 alumni of the GSMA Innovation Fund**

43% of the funding raised by the top 10 alumni went to **startups with a female founder or co-founder**

17. ReCircle. (8 March 2024). LinkedIn post.

Key insight: building partnerships with impact

Startups in LMICs play a vital role in addressing socio-economic challenges through digital solutions and innovative business models, but they often face challenges in reaching those who need their products and services most. Conversely, MNOs have the potential to impact the lives of their many subscribers but might not be agile enough to develop these innovative products or services, as they focus on running their core business and sustaining a competitive advantage in a world of digital disruption.

Building impactful strategic partnerships between startups and MNOs can be mutually beneficial and have positive outcomes for end users, too. The 33 startups supported by the GSMA Innovation Fund since 2020 have formed 13 partnerships.

Strategic partnerships can have the following benefits:

Startups can acquire customers, gain access to payment infrastructure and access other financing and support.

MNOs can have more impact through their core business, add services for existing users and build a stronger brand image.

Users can enjoy access to more services, a seamless customer journey and enhanced livelihoods.

The following two examples illustrate the positive impacts of strategic partnerships between tech startups and MNOs, including financial and digital inclusion for users in LMICs.

ensibuuko

Ensibuuko, a fintech that digitalises savings corporations for farmers, partnered with MTN and Airtel in Uganda to zero-rate their Mobis Groups app. Mobis Groups is a cloud-based microfinance platform designed to help Village Savings and Loan Associations (VSLAs) and investment clubs manage and track their savings group transactions. The app helps VSLAs collect, prepare and share data related to contributions, loans, meetings, fines and expenses, all of which enhance the transparency, efficiency and effectiveness of the group.[18] Zero-rating the Mobis app reduces data usage costs for VSLAs in rural areas and makes the content more accessible, even without internet access. This drives usage of Airtel's and MTN's core services and increases financial inclusion for MTN users,[19] building a more impactful and inclusive brand image for the MNOs. Ensibuuko can then reach these rural users, who can save and withdraw money through their mobile phones and apply for credit.

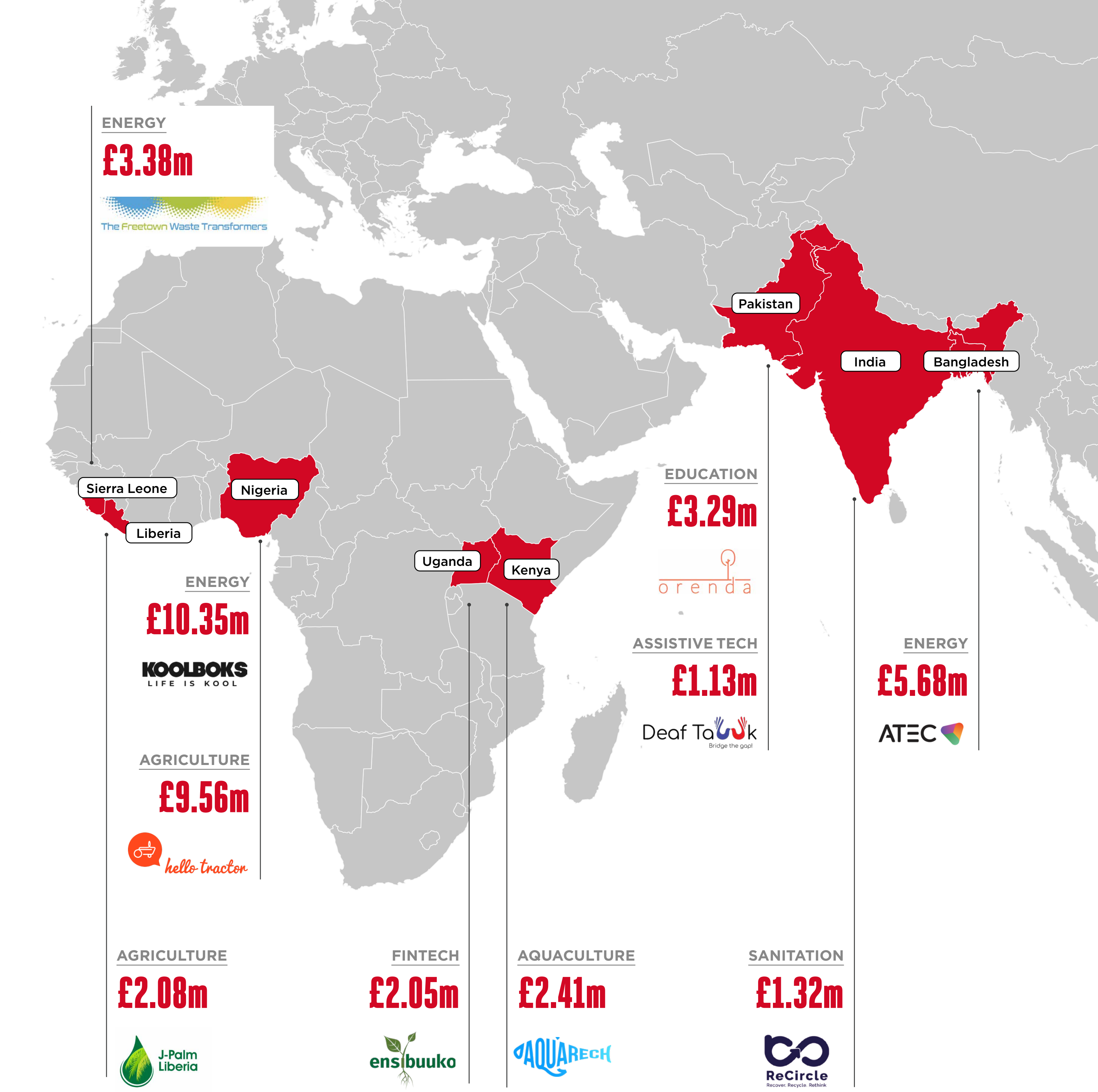
Deaf Tawk
Bridge the gap!

DeafTawk, which provides sign language services through mobile apps, was part of the Jazz Xlr8 2018 cohort of startups and partnered with **Jazz Pakistan** in 2021 to launch Voice over Internet Protocol (VoIP) services in Pakistan. They also worked with **Telenor Pakistan** in 2022 on an inclusive TV commercial that provided sign language interpretation. In 2023, DeafTawk launched in Sri Lanka in partnership with **Dialog Axiata**. These partnerships have helped DeafTawk scale their impact and reach more deaf customers, who had been excluded from essential digital services. DeafTawk's MNO partners can now serve a new customer segment who can be digitally included.

18. Mobis Groups VSLA app.
19. GSMA Mobile for Development. "GSMA Ecosystem Accelerator Innovation Fund: Ensibukko". YouTube.

Figure 3

Total funding raised by the top 10 GSMA Innovation Fund alumni, by sector and country



3.3 Emerging trends in fundraising

1. **Two female-founded energy startups, Koolboks and Freetown Waste Transformers, raised a combined £13.73 million in cumulative funding, representing just over a third of the total amounts raised by the 10 alumni.** To learn more about how the GSMA Innovation Fund supports female founders, read the 2024 report, *Funding Female Inclusive Startups in LMICs*.

2. **Energy was the most-funded sector** with a total of £19.41 million, representing nearly half of all funding raised by the top 10 alumni. Several energy startups are working on carbon credits, which is appealing to impact investors. For example, ATEC partnered with ENGIE to purchase up to 11.5 million tonnes of digital carbon credits through their patented IoT eCook stoves.[20]

3. **Agriculture startups raised £11.64 million**, representing the second most-funded sector of the top 10 alumni. Especially after the challenges posed by the COVID-19 pandemic, which severely affected the livelihoods of farmers, agriculture startups have been a driving force of innovation and food security. GSMA Innovation Fund alumni Hello Tractor and J-Palm are providing farmers with the information, services and products they need to improve their productivity and profitability.

4. **Aquaculture startup Aquarech has raised over £2 million in several rounds that included grants, debt financing and equity**. According to the World Wildlife Fund (WWF), 85% of the world's marine stocks are being exploited and overfished.[21] Given the challenges of a growing global population and increased stress on food supply chains, funders such as AquaSpark are investing specifically in aquaculture. Aquarech's largest investment was led by this Netherlands-based global aquaculture investment fund, with additional investment from Acumen, Katapult and Mercy Corps Ventures. The Aquarech team has used funding to hire talent and set up infrastructure to support more vertical integration of their technology. Through the GSMA Innovation Fund grant, Aquarech was able to test their innovation without the pressure of profitability and introduce the product at cost. Venture-building support from the GSMA and investor-readiness training provided by Katapult helped to kickstart Aquarech's fundraising journey. Aquarech have successfully managed to crowd in strategic investors and a wealth of experience to support their mission to improve the productivity of fish farmers and open access to markets.

5. **Strategic partnerships can be a catalyst for growth and scalability**, as half of the top 10-funded alumni have partnerships with MNOs. This includes Ensibuuko's partnerships with MTN and Airtel Uganda, Orenda's with Telenor Pakistan and DeafTawk's partnerships with multiple MNOs. For instance, DeafTawk's partnership with Telenor Velocity[22] has helped them expand into new countries and develop product features. Collaboration with MNOs continues to benefit startups, as it helps to facilitate access to resources and market insights.

20. Njoroge, B. (14 April 2023). "ATEC and ENGIE sign a digital carbon credit agreement". *GSMA Mobile for Development Blog*.
21. Skretting. (n.d.). "Why is aquaculture important?".
22. ProPakistani. (3 December 2021). "Telenor Velocity Partners with Deaftawk to Integrate Use of Sign Language". Press Release.

Key insight:
the impact of alumni on job creation

Tech startups in LMICs not only play an important role in addressing social challenges through scalable business models, but can also help to address unemployment. As pioneering startups work to acquire and retain customers, they must also acquire and retain skilled staff members.

Human capital has been a challenge and an important consideration for GSMA Innovation Fund alumni when scaling their businesses. Access to staff and capital are closely linked, as more employees are often required to reach more customers and more customers can bring in more revenue. This demands more financial resources and careful consideration of the "funding runway".

A significant challenge identified by startups is not only the time needed to find the right staff but being able to afford them. As most alumni are in the pre-growth stage, it is difficult to compete with the salaries and employment benefits offered by larger corporations. More financing and staffing are especially needed for startups that require physical assets to grow, such as Freetown Waste Transformers (waste biodigestors), ATEC (eCook stoves) and Koolboks (solar-powered refrigerators).

Despite these challenges, Aquarech, Freetown Waste Transformers, Koolboks and Hello Tractor more than doubled their staff from the start to the end of the grant period. Across the top 10 alumni featured in this report, **218 new jobs were created**, representing a 46% increase in the number of staff recorded at the start of the grant period.

While nine out of 10 alumni increased their number of employees, one decreased their staff by 36%. This was reported as part of their strategy to become leaner, emphasising that while startups need a strong team to scale, they also need to grow their staff in proportion with their business. This is especially important given that the global tech ecosystem has seen layoffs[23] in the wake of recent economic uncertainty, with India, Kenya and Pakistan making the top-20 list for tech layoffs in 2024.[24] It is therefore important for tech startups to carefully consider their staffing needs so that they can continue to scale.

3.4 Challenges faced by the top 10 alumni

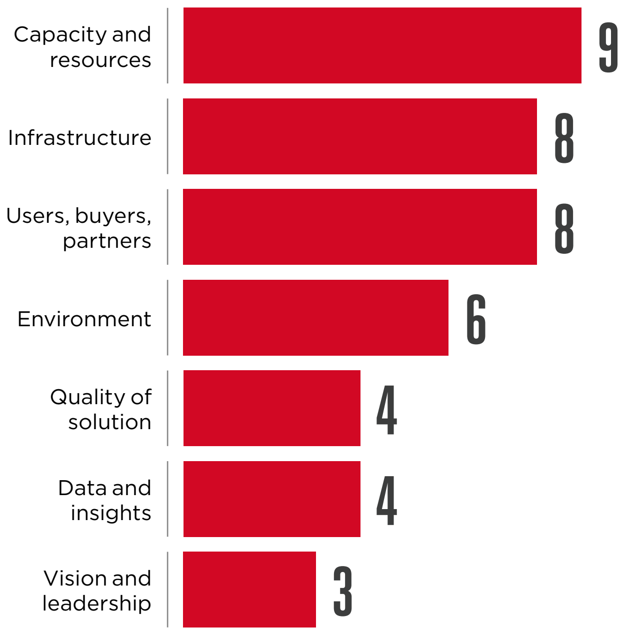
As the key metrics for success change as a startup scales, so too will their challenges. It is crucial to understand the root causes of the challenges faced by startups so they can employ the best scaling strategy and pursue the most appropriate types of financing.

Overwhelmingly, surveyed alumni said that capacity and resources were a challenge, but that their vision and leadership were not. This is reflected in Figure 2, which shows that when a startup is ideating in the early and seed stages, vision and leadership are strong but more resources are needed (typically financing and staffing) to acquire more users.

When funded projects end, the GSMA conducts in-depth surveys with Innovation Fund alumni to understand the progress they have made.[25] The following insights have been generalised for confidentiality.

Figure 4

Scaling challenges perceived by the top 10 alumni



23. Glasner, J. (1 March 2024). "Tech Layoffs Stay High as Extended Runways Reach their Limit". *Crunchbase News*.
24. Afolayan, D. (17 September 2024). "Kenya on top countries chart as tech companies layoff 211,033 employees in 2024". *Technext*.
25. Hinrichsen, S. and McKevitt, C. (14 March 2024). "What is scale and how can startups achieve it?". *GSMA Mobile for Development Blog*.

Table 2

Challenges faced by the top 10 alumni

Capacity and internal resources	**Finding, recruiting and retaining skilled personnel** is a challenge, particularly in technology roles, due to competition and the need for competitive salaries. **Access to financial resources** can be a major barrier, particularly to keeping a business operational in the early stages while trying to develop a strong product-market fit.
Infrastructure	For startups working in rural areas, the **lack of well-built transport infrastructure** makes it difficult to reach users. Being unable to physically visit rural communities has a negative impact on a startup's market research and their understanding of end users' pain points. **Inadequate mobile infrastructure is also a barrier**, as limited mobile connectivity, lack of uptake of mobile money and low smartphone penetration influence how many users can download and use their digital solutions. Based on 2024 data, Sub-Saharan Africa has the widest usage and coverage gap (60% and 13%, respectively),[26] making mobile infrastructure a significant obstacle for African tech startups. This contrasts with South Asia where the usage gap is 49% and the coverage gap is 4%. In East Asia and the Pacific, the usage gap is 27% and the coverage gap is 1%.
Users, buyers and partners	**Understanding the needs and behaviours of users, buyers and partners** is essential for a startup to scale. For several alumni, this has meant pivoting from a B2C business model to a B2B2C model to find a more financially sustainable way to deliver their product or service to target users. **Unit economics can create challenges in low-revenue markets.** When startups rely heavily on partnerships to onboard new users, scaling is contingent on the effectiveness of these collaborations. Therefore, it is important to align product offerings with the needs of various stakeholders to facilitate growth.
Regulatory environment	Depending on the sector and business model, **government regulation can be challenging** as legislation does not always keep up with innovation. Some alumni consider regulation a significant **barrier to international expansion**, as compliance varies across regions.
Quality of solution	Startups must continuously **improve their products and services** to ensure they meet user needs, as a low-quality product or service can deter usage.
Data and insights	The **absence of reliable data** on a target market will hamper a startup's ability to tailor their services effectively. It is challenging to find **skilled data scientists** to sort and interpret data into usable insights and actionable recommendations.
Vision and leadership	Sharing the company vision with the team can be a challenge due to **language and cultural differences**, and communicating the vision between the office and field staff can also be difficult. Ensuring that a startup's vision is clearly understood across the team requires a **proactive strategy**.

26. GSMA. (2024). *The State of Mobile Internet Connectivity Report 2024*.

4 Funding impact at scale

The 10 GSMA Innovation Fund alumni featured in this report have attracted funding from 38 funders as of August 2024, including grants, prize money, equity and debt financing. Organisations headquartered in the U.S. were the leading funders of the portfolio, including Acumen Fund, Mercy Corps Ventures and USAID. Two funders were from Africa (Absa and Aruwa Capital) and six were from Asia (including Telenor and Flipkart Ventures), a slow but encouraging trend in more support from local funders.

4.1 Types of funding instruments

The top 10 alumni raised various types of funding, including equity, grants, debt financing and a combination of the three (also known as "mixed funding"). It is important for startups to understand the various types of funding instruments available in order to pursue the right kind of financing at different stages. Figure 6 depicts the four types of funding received by the top 10 alumni and Table 3 details the characteristics of each funding type.

Figure 5

Types of funding received by the top 10 alumni

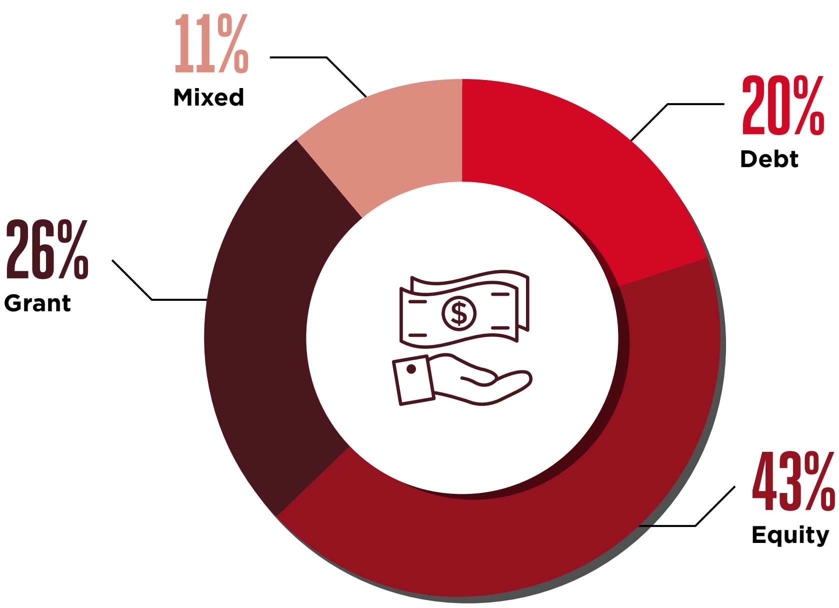


Figure 6

Funding organisations of the top 10 alumni

19 DONORS AND FOUNDATIONS

Grants and prize money, excluding the GSMA

BGFA Beyond the Grid Fund for Africa
DBS Live more, Bank less
develoPPP Where business meets development.
ELEN THE FUTURE IN A BEAM
engie
Food and Agriculture Organization of the United Nations
FONDS FRANÇAIS POUR L'ENVIRONNEMENT MONDIAL
fh food for the hungry
IFAD
IMPACT ACCELERATOR Powered by LSE
MALALA FUND
MECS
PREO Powering Renewable Energy Opportunities
مؤسسة قطر Qatar Foundation
Roots of Impact
Standard Chartered Foundation
telenor
UNCDF Microfinance • Capital Development
USAID FROM THE AMERICAN PEOPLE

19 INVESTORS

Equity, debt and others

3i PARTNERS
absa
Acumen
ARUWA CAPITAL MANAGEMENT
AquaSpark Investing in the Future of Aquaculture
care
CLIMATE FUND MANAGERS
Flipkart Ventures
JUNGLE
Katapult
MERCY CORPS
Morgan Stanley
parallel18
PG Impact INVESTMENTS
PLURALSIGHT
Schneider Electric
SPARK+ AFRICA INVESTING IN MODERN COOKING
village capital
WHOLE PLANET

Table 3

Funding types

Fund	Characteristics
Grants	— Useful for piloting innovative projects to prepare for commercialisation. — Important for supporting nascent sectors that require derisking. — Pre-seed and seed stage startups do not need to give up control to funders who want a controlling stake in their company. — Grants are often paired with mentoring and introductions to networks. — Securing a grant early enables innovators to access advice and sense check their business model, helping them to move in the right direction. — Grants should be selected strategically, as too many grants can be perceived as a red flag by VCs.
Equity	— Often requires giving up some ownership to shareholders who may have different incentives. — Risks and profits are shared with the investor. — Best when a founder is seeking to trade long-term value for long-term investments.
Debt	— Particularly well suited to scaling because it provides access to capital without diluting ownership. — Debt is often a better option than equity for financing operational activities, such as a new marketing campaign for a product. — Considered "cheaper" than equity because the cost of capital, in the form of interest payments, is typically lower than the cost of giving away equity, which involves giving up a share of future profits. — However, setting up debt can be costly due to several factors, particularly in LMICs where risk is perceived to be higher. This can include legal and advisory fees, collateral requirements, due diligence and transaction fees.
Mixed	— At times, different financing types are required to meet the objectives of the startup and the investor. — Combining two or more types of financing can provide a startup with a range of benefits. — For example, Koolboks is building their business in both Nigeria and key markets in Sub-Saharan Africa, supported by the equity funding they raised. Simultaneously, they are enhancing their inventory position in key markets, which they are funding with debt. Grant funding enables them to derisk, pilot and trial entry into new markets, test novel business models and develop new products.

Adapted from interviews and consolidated from Cauris Finance and Briter Bridges.[27]

27. Saunders, D. (n.d.). *Founder's Guide to Fundraising: South Africa*. Briter Bridges, GIZ and Make-IT in Africa.

4.2 Trends in funding instruments

1. **Equity accounts for almost half of the funds raised by the top 10 alumni, including from the agriculture, aquaculture, education, energy, fintech and sanitation sectors**. The ability to raise equity funding indicates that investors believe a business model shows potential to scale and become profitable, as they are committing to a long-term relationship and sharing in the risk and reward. It also indicates that investors are confident an innovation has been derisked and that they see potential for scale, in both finance and impact.

2. In addition to the GSMA Innovation Fund grant, **nine of the 10 alumni received grant funding** from other sources, including the LSE100X Accelerator, the World Bank and Mercy Corps. While grant application processes can take time, grants are helpful for testing new and innovative products, services or business models without the pressure of repayment or dealing with shareholders. They are especially beneficial for startups that require capital to test innovation (whether a product or service) without financial pressure.

3. **Debt is a viable option for startups in LMICs hoping to scale**, as it allows them to fund growth while maintaining control of their business – crucial in the early stages when founders want to retain decision-making power. Debt financing can be structured in various ways (such as term loans or revolving credit) to match the cash-flow needs of scaling businesses. This means that companies can use debt to bridge short-term liquidity gaps, finance working capital needs or fund capital expenditures. When used strategically, debt can accelerate growth without requiring immediate repayment, as repayment terms can often be aligned with a startup's revenue growth.

4. However, **debt financing is sometimes restricted to fuelling the growth of core business operations** rather than for general corporate purposes. For example, lenders may provide debt specifically for growing a loan book, but may be less willing to finance initiatives like marketing campaigns or payroll. This is common in LMICs, where lenders might impose stricter conditions to minimise their risk. In Africa specifically, debt deals made up 38.81% of total funding in H1 2023[28] and venture debt is becoming more attractive in Southeast Asia due to the funding winter affecting the risk appetite of VC investors.[29]

5. **Mixed funding accounts for the remaining 11% of funding**. A combination of grants, debt and/or equity can address various gaps with targeted funding. Having a combination of funding types in a single round is useful when a startup is limited in how much they can raise from a specific lender and when lenders have strict stipulations for how their funding can be used.

6. **It is important to find the right investors and maintain a long-term relationship with them**. An initial investment can lead to subsequent investments. Repeat investors in the GSMA Innovation Fund portfolio include Aruwa Capital (which has invested several times in Koolboks), Katapult (invested twice in Aquarech), Acumen (invested twice in Koolboks) and AquaSpark (invested twice in Aquarech). One startup reported that while building relationships with investors is time consuming and the benefits are not always immediate, it is important to retain a long-term view. This can be especially challenging when investors expect a startup to continue growing while negotiating the conditions of a funding agreement. This is why some alumni appoint a full-time staff member to manage investor engagement.

28. Tech Cabal Insights. (2024). *The State of Tech in Africa: Corporate Governance*.
29. Chew, J. (12 September 2024). "Behind the growth of venture debt in SEA". *Tech in Asia*.

Investor spotlight: Village Capital

Village Capital funded three GSMA Innovation Fund alumni through their Reducing Inequalities partnership with the Dutch development bank FMO (Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden). Their aim was to invest in startups that use technology to improve the lives of rural residents, and they identified **CoAmana, Crop2Cash and Aquarech** as “extremely scalable”.

All three alumni are addressing challenges facing smallholder farmers, as traditional markets are the backbone of Africa’s agricultural economy. Husein Merchant from the Village Capital team shared his insights on why they decided to invest in three GSMA Innovation Fund alumni.

CoAmana digitises traditional market hubs and their platform provides tools for farmers that support sales and procurement, enable digital payments, offer embedded financial services like digital credit and other services. Village Capital chose to invest in CoAmana because their unique solution solves problems for smallholder farmers at the market hub level, which the investor had not seen before. Husein also said that the founder, Hafsah Jumare, is extremely knowledgeable and has a research background. *“She’s seen the disconnect,”* and really understands the pain points of end users.

Crop2Cash is also supporting access to inputs and affordable financing for smallholder farmers in Nigeria using a USSD platform. They received funding from Village Capital because *“it was impressive how they enabled farmers to open bank accounts so seamlessly and quickly”*. They have also *“smartly used the same KYC tech database from the Nigerian central bank to help them open bank accounts.”* Crop2Cash provides smallholder farmers with access to formal financing for agricultural inputs and enables them to receive digital payments and access other digital financial services, such as credit.

Aquarech is a Kenyan fish farming platform to enable fish farmers, fish feed manufacturers and buyers to trade and create trusted relationships. Village Capital chose to invest in them because they saw high demand for fish as a protein source, and Aquarech *“helps the fish farmer with everything, addressing the entire value chain. They’ve made an entire ecosystem – it’s a complete cycle.”* They also said that a *“laser-focused startup works in mature markets. But in a market where users need so much more support, a more holistic solution works.”*

4.3 Navigating the fundraising journey: tips from investors

The following insights were gleaned from 15 interviews with investors representing a range of investment approaches.

1. **The characteristics of founders and their team dynamics are important considerations for investors**, as investors prefer founders who demonstrate resilience, determination and a willingness to learn. The ability to build a competent team was also emphasised by several investors. Founders should not try to do everything themselves and must find the right people to whom they can delegate tasks. Failure to delegate wisely can lead to poor decision-making and hinder growth.

2. Startups must balance the tension between **fundraising and profitability**. In the early stages, founders should be laser-focused on achieving product-market fit while also maintaining healthy unit economics. While fundraising is essential, it should not come at the expense of understanding the financial viability of the business. Considering the global VC funding winter, many investors are going back to basics, including a deeper examination of unit economics and growth margins. This reflects a broader trend among investors, who are becoming more cautious and looking for sustainable business models rather than high valuations driven by previous fundraising.

3. **It is crucial for startups to understand the investment approach of potential investors**. Failing to understand an investor's investment focus can lead to wasted time and missed opportunities. It is also important for startups to be well prepared and tailor their pitches to the interests of investors. Founders should research the recent investments of the investors they approach, which can help them align their proposals with the investors' focus areas.

4. **Storytelling is crucial in effectively communicating a startup's vision to potential investors**. Investors stressed the need for founders to craft compelling narratives that resonate with both the emotional and rational aspects of decision-making. As storytelling appeals to the decision-making part of the brain, a well-structured pitch with a clear narrative can significantly influence investor interest. In interviews, investors indicated that founders should focus on presenting clear, concise information in their pitch decks. For example, it is advised that pitches should not exceed 10–12 slides and should include key facets such as the problem, solution, market and team. The emphasis on clarity and storytelling reflects the competitive nature of securing investment and the need for founders to stand out in a crowded field.

5. **The role of emerging technologies, such as AI, IoT and blockchain, is attractive to investors when a strong use case is demonstrated**. While innovative technology can help to improve business efficiency and be a useful part of a business model, the novelty of the technology is less important than how it is applied to solve real problems.

6. Related to this is the **crucial role of development finance institutions (DFIs), impact investors and accelerators in derisking innovative emerging technologies**. Given that the investment ecosystem is cautious to fund AI, IoT, blockchain and other technologies, it is increasingly important for startups to seek catalytic funding that enables them to fine-tune their innovation and develop it into a sustainable business model. In investor interviews, the only one eager to invest in startups using AI was a corporate VC focused on growth-stage startups. At this later stage in a startup's scaling journey, how they use AI has been tested and proven (i.e. derisked).

7. Finally, investors highlighted the importance of **strategic and relevant support beyond financial investment**, which they identified as a commitment to mentoring and guiding startups post-investment. Startups should pursue investors that help their portfolio achieve their milestones. Interviews also highlighted the need for investors to connect startups with strategic partnerships and networks that can facilitate growth. This underscores the value of building a supportive ecosystem around startups to enhance their chances of success.


DEEPAK
PN 16

GSMA Head Office
1 Angel Lane,
London, EC4R 3AB, UK
Tel: +44 (0)207 356 0600
Fax: +44 (0)20 7356 0601
Email: info@gsma.com