

The GSMA Innovation Fund for Digital Urban Services

Portfolio overview

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

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The GSMA Innovation Fund

The GSMA Innovation Fund drives innovative digital solutions with positive socio-economic or environmental impact in low- and middle-income countries and supports local entrepreneurs on their journey to scale. We believe digital solutions have the power to sustainably reduce inequalities within our world.

To find out more about our past innovation funding, please visit: gsma.com/mobilefordevelopment/the-gsma-innovation-fund/

GSMA Digital Utilities

Utility services such as energy, water, sanitation, waste management and transport are essential to life. The Digital Utilities programme enables access to affordable, reliable, safe and sustainable urban utility services for low-income populations through digital solutions and innovative partnerships. In doing so, we also seek to support cities in low- and middle-income countries in their transition to a low carbon, climate-resilient future.

For more information, please visit:

www.gsma.com/mobilefordevelopment/digitalutilities



This initiative has been funded by UK Aid 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.

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The GSMA Innovation Fund for Digital Urban Services

Cities in Africa and Asia are projected to account for 90% of urban growth worldwide from now until 2050. However, urbanisation in low- and middle-income countries (LMICs) is not always accompanied by inclusive growth and structural transformation. Informal settlements are expanding at an unprecedented rate, and providing basic urban services to these areas poses unique challenges for municipalities and state-owned utilities. Climate change is intensifying these challenges, creating additional risks and vulnerabilities for cities and the provision of utility services. For cities to become engines of productivity and social mobility, it is critical that low-income urban populations are not excluded from accessing essential urban utility services.

Meeting this challenge requires new and innovative business models and services. To that end, in May 2021 the GSMA launched the GSMA Innovation Fund for Digital Urban Services with support from the UK Foreign, Commonwealth & Development Office (FCDO). The objective of the fund is to support start-ups and early stage companies that provide essential urban utility services, and leverage digital innovations and partnerships to make these services accessible, reliable, sustainable and affordable.

The Innovation Fund covers four key utilities sectors: Plastic and waste management, energy, sanitation and water. Successful organisations were awarded between £100,000 and £250,000 in grant funding, and provided with technical assistance and dedicated support to facilitate partnerships with mobile operators. Applications were submitted by 335 organisations from 43 countries across Africa and South and Southeast

Asia. Of these, nine were accepted into the cohort. Over the life cycle of the programme, we will support these start-ups to scale and realise their full potential by:

- Facilitating partnerships with MNOs and public sector organisations
- Providing technical assistance to reach and better serve urban customers through digital innovations
- Providing tools, templates and specialist advisory support to generate evidence of socio-economic impact and improve products
- Providing support with scalability and sustainability planning
- Increasing their visibility to potential investors and partners through profiles of their innovative work in GSMA events and publications

Since 2012, the GSMA Innovation Fund has supported more than 130 organisations to develop, launch and scale innovative businesses and services. Collectively, these organisations went on to raise more than £560 million in follow-on funding within two years of the end of the grant and impacted the lives of more than 36 million people.

We look forward to working with this latest cohort and being part of a journey to scale that has life-enhancing impacts on low-income urban populations. In catalysing these digital solutions, we also hope to learn, build evidence and share insights and lessons across the industry to support the growth of the ecosystem.



Application trends and highlights

Three-quarters of applications to the Innovation Fund were from Sub-Saharan African countries, with the highest concentration from West Africa. Five African markets accounted for nearly half of all applications: Ghana, Kenya, Nigeria, South Africa and Uganda. This reflects broader investment trends on the continent, where innovation ecosystems are concentrated in a few key markets. The remaining applications came from South and Southeast Asia, primarily from Bangladesh, India and Pakistan. While some of these trends were predictable, they also highlight the need for funders and investors to make deliberate efforts to reach innovators in other overlooked ecosystems, which also face considerable gaps in urban services.

The GSMA seeks to support local innovation ecosystems through our funding, and we were pleased to see that nearly 90% of the applications we received were from organisations that had headquarters in the same country where the grant was to be implemented.

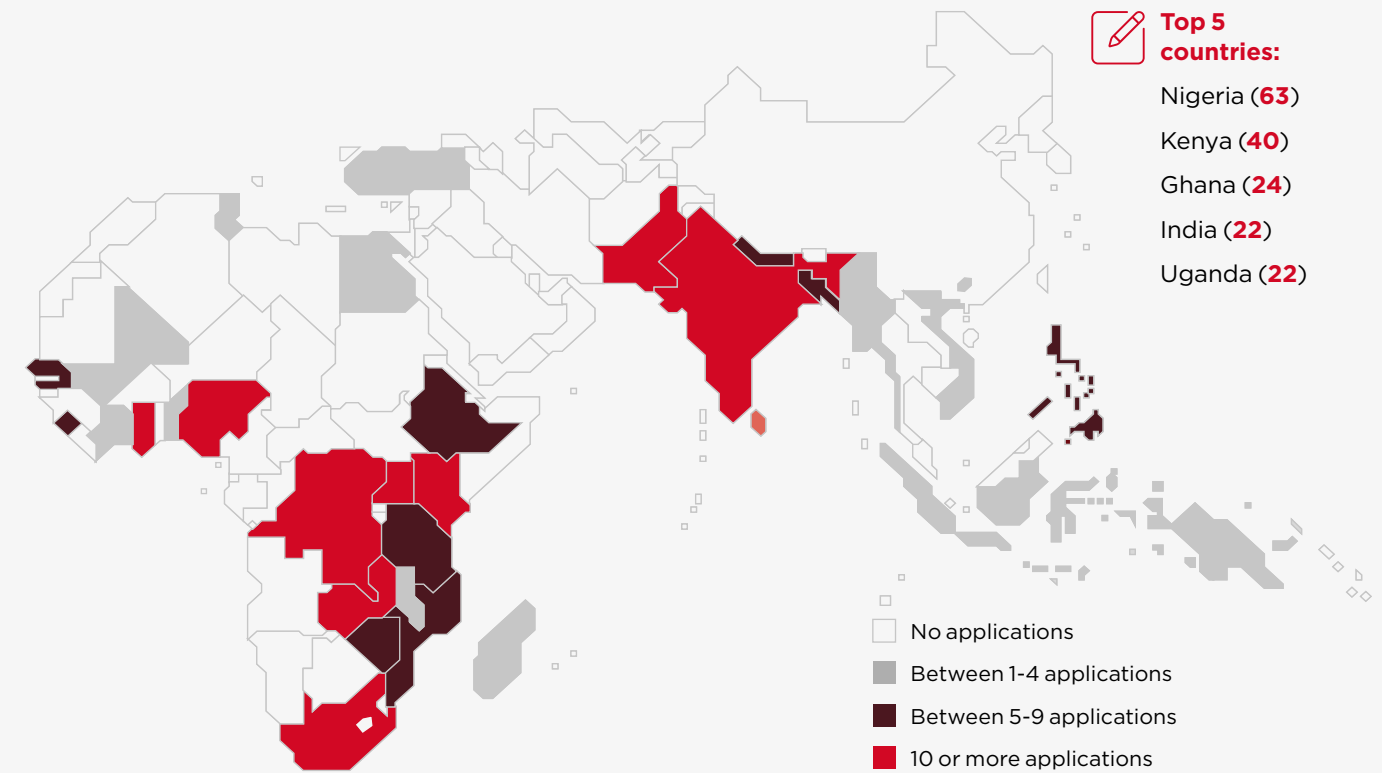
Gender is another significant dimension in our funding decisions. For this fund, 38% of all organisations that applied were founded or co-founded by women. While still a long way from parity, this is considerably better than market trends. In 2021, less than 7% of funding went to female CEOs and less than 1% to female-only founding teams. The GSMA remains committed to supporting the development of an inclusive ecosystem, and supporting talent to rise wherever it originates.

38%

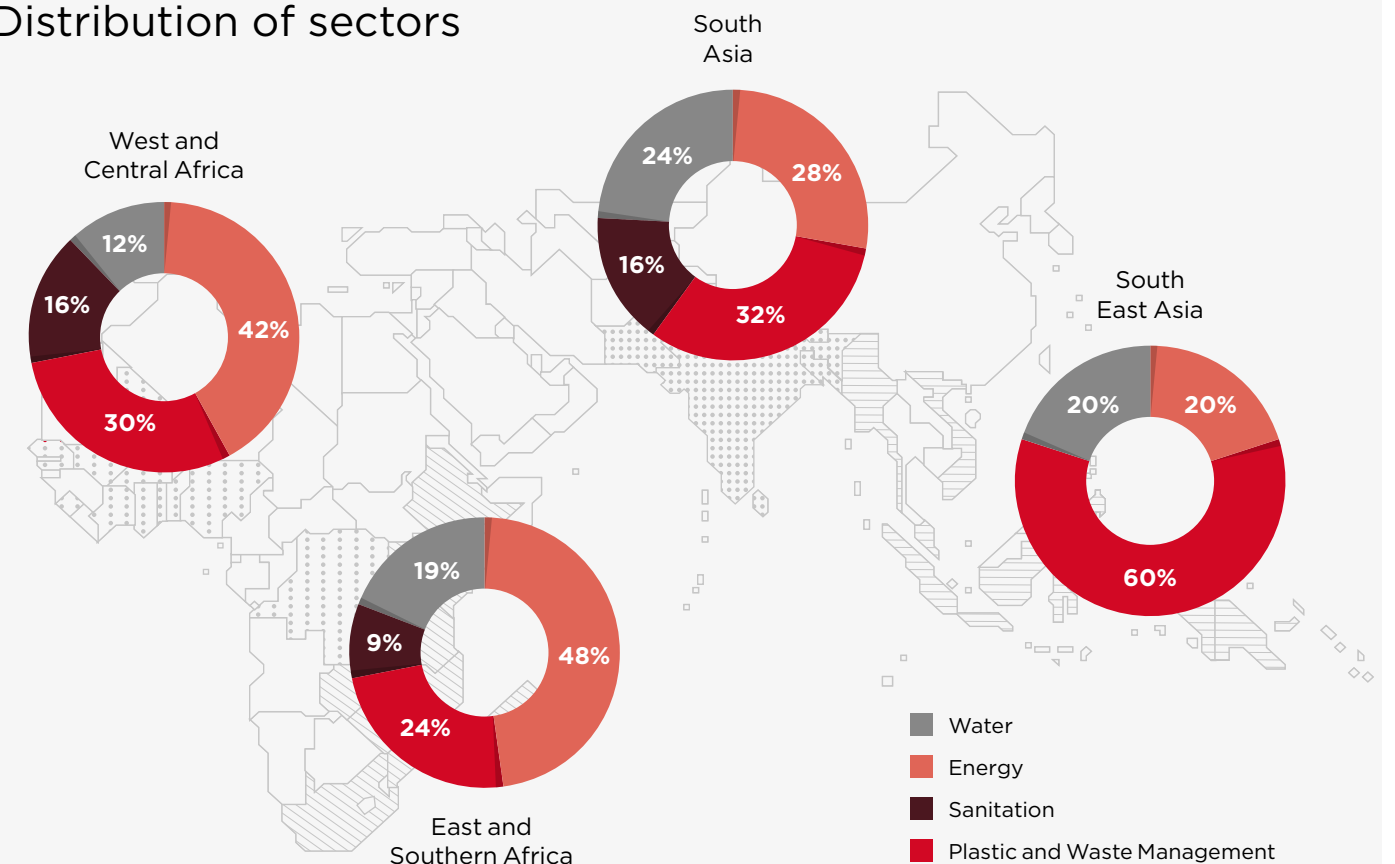
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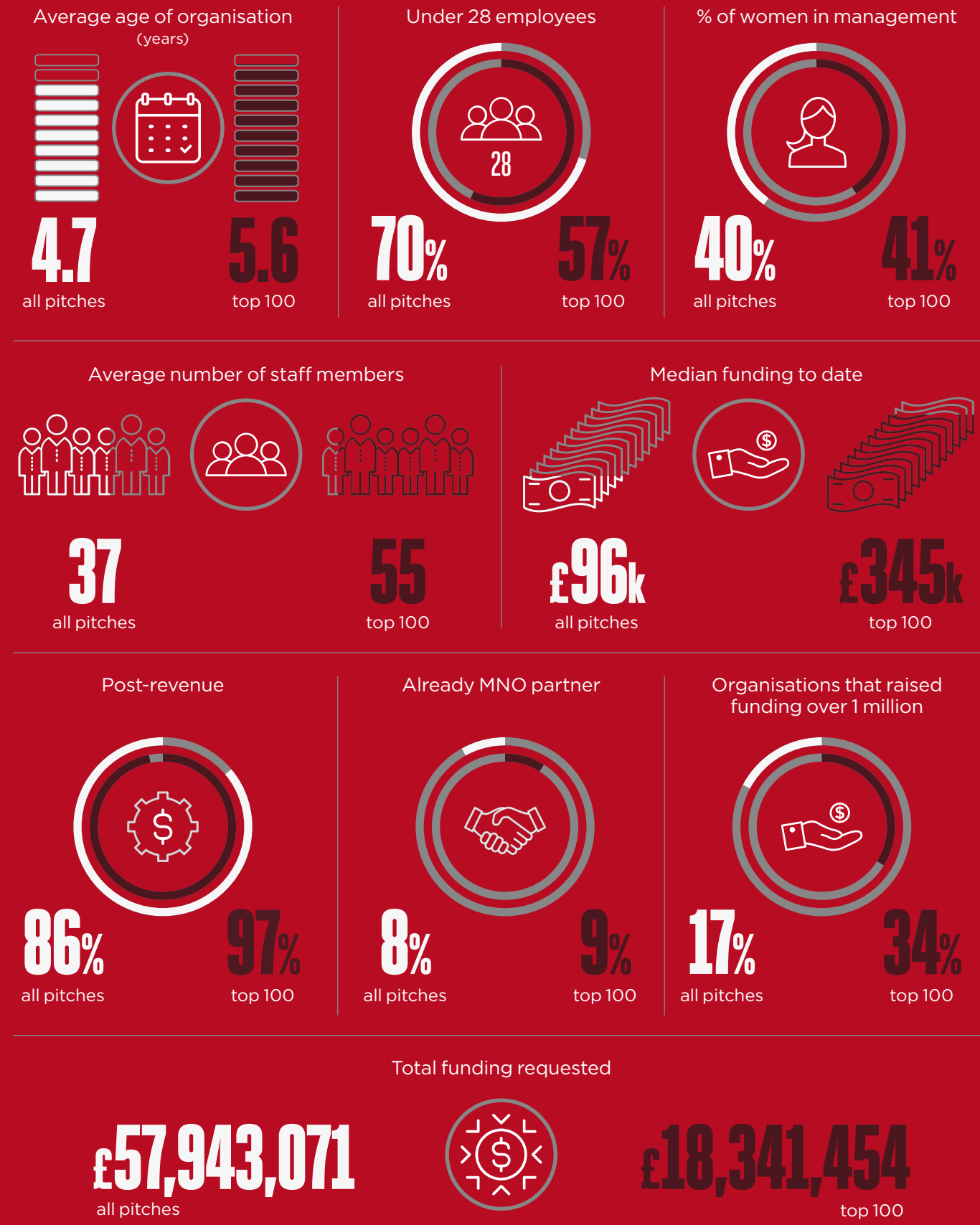
Geographical distribution of all pitches



Distribution of sectors



Average applicant profile



The cohort





LOCATION:
Bangladesh

FIND OUT MORE:
[ATEC website](#)
[GSMA blog on ATEC](#)

ATEC

PAYG eCooking and carbon credits for low-income customers



PARTNERSHIPS:
bKash (payments)
Gold Standard (carbon credit verification)



DIGITAL CHANNELS:
Digital payments, Internet of Things (IoT), mobile app, digital platform



The problem: Globally, four billion people lack access to clean cooking. Cooking with solid fuels produce the particularly harmful PM 2.5 emissions, and smoke inhalation resulting from dirty cooking methods cause multiple health issues, particularly for women who are the most exposed. In Bangladesh, 65% of households still use biomass for cooking. For households earning less than \$10/day, 1.5 days per month are spent collecting wood and up to three hours per day are spent on household chores due to inefficient cooking.



Grant summary: The GSMA is working with ATEC to develop and launch an Android mobile app that will be integrated with eCook stoves. The app will show users real-time electricity usage data, their payment status and any carbon offset data, enabling them to pay as little as \$5 a month. The stove will also automatically mint **Gold Standard-certified** carbon credits. These credits can be sold to ATEC's international corporate partners and on carbon markets. The revenues from the sale of carbon credits will be shared with users via subsidised monthly instalments.



The solution: ATEC provides sustainable, affordable and accessible clean cooking products for low-income communities. They have developed an electromagnetic induction stove – the “eCook” stove – that enables clean and affordable cooking. These stoves are available on a PAYG basis, making them affordable even for those on the lowest incomes.



Looking ahead: ATEC is currently working in Bangladesh and Cambodia and expanding their smart “product+carbon” technology into Asian and African countries. With rapid expansion in 2022 and 2023, ATEC is aiming to have more than 56,000 active customers in the next two years and is raising \$6.5 million in Series A funding to support this goal (for more information, read their one-pager [here](#) or pitch deck [here](#)). The total addressable market for modern cooking in the next 20 years is about \$40 billion, with 10% in countries targeted by ATEC's Series A funding.

“The GSMA Innovation Fund grant will enable ATEC to deploy the app along with the stoves to capture the impact data more accurately through usage parameters. The usage data will be the real-time data validity for carbon credit revenue generation. This is a key point for the cooking sector – to truly solve the cooking problem we must have 100% verifiable usage. Just having the stove is not enough to confirm behaviour change and severely hampers the ability to leverage carbon markets.”

Ben Jeffreys,
CEO, ATEC International



LOCATION:
Bangladesh

FIND OUT MORE:
[Bhumijo website](#)
[GSMA blog on Bhumijo](#)

Bhumijo

Digitalising safe and clean public toilet facilities



PARTNERSHIPS:
City authorities and municipalities (service delivery)
bKash (mobile money payment)



DIGITAL CHANNELS:
Digital payments, RFID, IoT, mobile app



The problem: For the more than five million people who commute daily on the roads of Dhaka, there are **less than 50** usable public toilets. The detrimental effects are felt most acutely by low-income populations and women, who often spend 12 to 16 hours a day outside their homes. According to a survey conducted by Bhumijo, 80% of women in Dhaka report not drinking water or drinking less water due to the absence of usable public toilets. This contributes to UTI conditions and other kidney-related diseases.



Grant summary: The GSMA is supporting Bhumijo to digitalise the operation of their public toilets. With the grant, Bhumijo will trial a suite of technologies, including a touchless entry system and the integration of an Android mobile app for users to pay for their subscription and receive informational content on hygiene. By the end of the project period, Bhumijo expects to have a technically sound solution to scale up their business.



The solution: Bhumijo provides hygienic, inclusive and affordable smart toilets in low-income areas, either by building new toilets or renovating and managing existing facilities. Bhumijo centres provide other services besides toilets, such as showers, clean drinking water, laundry, refreshments and advertising space, all at an affordable price. These services are available through a subscription model or pay per use. Their centres offer a separate area for women to protect their privacy and safety. Bhumijo currently serves 7,000 people daily in 30 sanitation centres in Dhaka and Benapol.



Looking ahead: On average, each Bhumijo centre serves 6,200 people per month. Bhumijo is aiming to scale their model countrywide. The Dhaka Metro alone has more than 180 markets without clean toilet facilities, and Bhumijo also intends to venture into hospitals and transport hubs where demand for facilities is high. Bhumijo already has partnerships with many city corporations and other government institutions that allow them to operate in government facilities and build new toilets on public land. Bhumijo is in discussions with MNO **Robi Axiata** to provide internet services at Bhumijo centres.

“Bhumijo envisions to build a future with dignified, healthy and smart public toilets that everyone in Bangladesh deserves. We are grateful to have the GSMA as a partner in this journey.”

Farhana Rashid,
CEO





LOCATION:
Nepal

FIND OUT MORE:
[Diyalo website](#)
[GSMA blog on Diyalo](#)

Diyalo

Digital solutions for urban water utilities



PARTNERSHIPS:
Nepal Telecom (connectivity)
350 utility providers (service delivery)
Gham Power (IoT Hardware)
Supremus Developer/JanaJal
(MoU to jointly launch services)



DIGITAL CHANNELS:
IoT, digital payments, mobile app



The problem: Only 52% of Nepalis have access to piped water for their homes. One of the reasons is that, according to [government data](#), less than 30% of Nepal's 44,000 water schemes are fully functional. When services fail, people often rely on water from tanker trucks, which is usually much lower quality and can cost up to 40 times more than piped water. [Price gouging in times of scarcity](#) is well documented.



The solution: Diyalo is a pioneer in water tech solutions. With 10 years of experience in the sector, they have partnerships with 600 utilities that serve 1.2 million households with their existing solution – an IoT-based water quality monitoring technology that includes a water intelligence system, mobile app and IoT-enabled web-based software called “Watermark”.



Looking ahead: Diyalo has already developed their latest version of Watermark and integrated the new modules, including IoT. They are preparing to test their IoT solution with 16 utilities before rolling it and the mobile app out nationally. Meanwhile, they are researching water treatment plants to implement their solution. Their focus will be on the drinking water sector of Nepal and working closely with the regulators, development agencies and utility providers. Starting in 2024, Diyalo is planning to launch their solutions in the international market to contribute to the global drinking water sector.



Grant summary: Diyalo will use the GSMA Innovation Fund award to develop their digital solutions, offering a mobile app and enterprise dashboard for urban utility providers. This will enable Diyalo to digitalise enterprise resource planning (ERP) and customer relationship management (CRM) systems, including IoT deployments to measure network performance and leakages and the Watermark mobile app. This customer app will allow people to register complaints and mobile meter readings and to make digital payments, among other features.

“We hope to understand how the integration and development of water IoT technologies enhance water distribution systems. This will help us create and deploy state-of-the-art IoT technologies in Nepal that can be commercialised by utilities which can contribute for their increased revenue, reduced cost, improved quality and increased water supply.”

P.R. Khanal,
Founder and CEO



LOCATION:
Sierra Leone

FIND OUT MORE:
[FWT website](#)
[GSMA blog on FWT](#)

Freetown Waste Transformers

Digitalised organic waste-to-energy solutions



PARTNERSHIPS:
Freetown City Council and the Waste Collection Management Association (service delivery)
Orange and AfriMoney (payments)



DIGITAL CHANNELS:
IoT, digital payments, mobile app



The problem: Sierra Leone has one of the lowest energy access rates globally, with 76% of the population having no access to electricity. Limited energy access and an unreliable grid have led to mass use of diesel generators, especially among MSMEs. The waste management infrastructure in Freetown is also beset with inefficient collection processes. Freetown Waste Transformers (FWT) aims to address these twin problems by providing a unique solution to waste disposal and enabling access to clean and affordable energy.



Grant summary: The GSMA is supporting FWT to digitalise the waste collection process by implementing a GPS mobile mapping app to improve the efficiency of existing waste coordination. To scale this solution, more organic waste will be required to feed FWT's anaerobic biodigesters, highlighting the need to better coordinate the collection of organic waste. The app will be used by waste collectors, in partnership with the Freetown City Council, to manage inputs from waste collection partners and provide live data.



The solution: FWT is an integrated waste-to-energy company operating in Freetown, Sierra Leone. They have successfully deployed a waste-to-energy pilot using proprietary technology (waste transformer) to convert organic waste into electricity, heat and fertiliser. On average, each installed transformer unit will generate up to 150 kVA of electricity and double that amount in heat. With this amount of electricity and thermal heat, MSMEs can potentially reduce their power bill by more than 35% and minimise their carbon footprint. Importantly, the solution also provides more reliable energy than the grid, something central for supporting businesses.



Looking ahead: At present, FWT's business model is based on installing waste transformers for MSMEs on an off-take agreement that allows these businesses to purchase electricity produced on a per kilowatt hour (kWh) basis. Each installation will also produce 1,000 litres of nutrient-rich digestate per day on average, which can be sold as organic fertiliser. FWT is planning to install five units within the next year to test and refine the model before launching a full roll-out across Freetown.

“At the end of the grant period, FWT will be empowered and equipped with knowledge and capacity to predict market trends as it scales its operations and contributes to increasing energy access rates and a stronger waste management infrastructure in Freetown.”

Aminata Dumbuya-Jarr,
Founder and CEO





LOCATION:
India

FIND OUT MORE:
[Janajal website](#)
[GSMA blog on JanaJal](#)



JanaJal

Doorstep delivery of clean and affordable drinking water

PARTNERSHIPS:
JIO and Airtel (connectivity, device operations and tech platform), Ministry of Housing and Urban Affairs (service delivery), Municipal Corporation of Delhi (service delivery)

DIGITAL CHANNELS:
IoT, digital payments



The problem: In the city of Delhi there are 800 listed unauthorised slums, home to around 1.8 million people who do not qualify for a secured, piped water connection. Despite the demand for a reliable water source and willingness to pay for safe water, slum dwellers are forced to buy water from unreliable sources, such as private water tankers that lack quality assurance and are unable to reach many areas. These sources are often considerably more expensive, and considerably less safe, than the water provided by the utility.



Grant summary: Following the successful prototyping of the JanaJal WOW service, the GSMA is supporting JanaJal to trial and launch 25 JanaJal WOW in three to five slums in Delhi. Each JanaJal WOW is IoT-enabled and can distribute approximately 3,000 litres of water per day. JanaJal WOW offers real-time monitoring of water quality, customer orders and volume of water dispensed. Customers can also purchase water using various digital wallets/interfaces.



The solution: JanaJal is a pioneer in safe drinking water services in India and operates multiple static water ATMs and IoT-based mobile water delivery vehicles across Delhi, Ghaziabad, Surat, Maharashtra and other densely populated areas. They have developed a unique solution called the JanaJal WOW (water on wheels), a custom-built vehicle that delivers safe water to the doorsteps of households in the last mile. During the 2019 India Water Week, the JanaJal WOW was recognised as a key innovation by the Jal Shakti Ministry and is already playing a critical role in the Government of India's mission to make safe water available to every household by 2024.



Looking ahead: A strong pipeline of JanaJal WOW will be deployed in the next two to three years. JanaJal plans to collaborate with and enable social entrepreneurs, empower women's self-help groups and add residential and community bodies as long-term subscribers. JanaJal's social entrepreneurial model enables them to focus on asset-light operations. They are also actively looking for funding support to implement this model through debt financing to individuals.



"The support from the GSMA has enabled us to penetrate densely populated sections of Delhi which would have otherwise been a challenge in terms of undergoing the compliance process to set up static water ATMs."

Dr. Parag Agarwal,
Founder and CEO



LOCATION:
Nigeria

FIND OUT MORE:
[Koolboks website](#)
[GSMA blog on Koolboks](#)



Koolboks

PAYG solar refrigeration for MSMEs

PARTNERSHIPS:
Orange Energie (distribution), Infibranches (payments)

DIGITAL CHANNELS:
Digital payments, IoT



The problem: An estimated 85 million Nigerians, more than 40% of the population, do not have access to grid electricity. The Food and Agriculture Organization of the United Nations (FAO) estimates that across African countries, post-harvest losses could be worth up to \$4 billion and enough to feed 48 million people. In Nigeria, up to 40% of all food produced is wasted, largely due to a lack of access to cold storage. Even where people have access to the grid, power is unreliable and back-up diesel generators are ubiquitous. Nigeria's installed diesel generator set capacity exceeds the power generation capacity of the country's grid, but generators are more expensive for customers and harmful to the environment.



Grant summary: Following a successful pilot to test consumer response to Koolboks' products, the GSMA Innovation Fund award will be used to launch and scale the solution in Nigeria where it will target fish traders, the majority of whom are women. Koolboks is also developing additional IoT capabilities to enable the monitoring of asset performance and preventive maintenance. With the introduction of IoT, Koolboks will be able to monitor refrigeration systems remotely and evolve their offering to include cooling-as-a-service (CaaS).



The solution: Koolboks provides PAYG solar-powered refrigeration solutions. Their innovative product uses ice, as well as batteries, to convert the power of the sun into cooling, which cuts the cost of off-grid refrigeration by 40%. Through PAYG, Koolboks can offer their freezers on a lease-to-own basis, with a locking device embedded in the compressor. Customers can make affordable weekly or monthly instalments, bringing their solution within reach of customers who would not otherwise be able to afford it.



Looking ahead: Koolboks recently closed a \$2.5 million seed round with investment from Aruwa Capital Management, Acumen, PG Impact and All On. With this funding, they are planning to scale even further across Nigeria. This will include building a team to support a growing business-to-consumer (B2C) line and constructing a local assembly facility. Koolboks also opened an affiliate office in Kenya in July 2022 ahead of a planned expansion into East Africa.

"Through working with the GSMA, we expect to learn how the adoption of solar refrigeration on a lease-to-own basis improves profitability and impacts financial inclusion for women fish traders. We also hope to understand how the deployment of IoT PAYG leads to improved freezer monitoring and improves affordability, leading to increased access to energy for the underserved."

Dominic Ayoola and Deborah Gael,
Co-founders





LOCATION:
India

FIND OUT MORE:
[ReCircle website](#)
[GSMA blog on ReCircle](#)



ReCircle

Aggregating and digitalising the waste supply chain

PARTNERSHIPS:
Coca Cola (service delivery)

DIGITAL CHANNELS:
Blockchain, mobile app, digital payments, digital platform



The problem: In India, low-value, non-recyclable plastics – such as food packets, sachets and wrappers – are usually dumped in landfills as there is no value attached to collecting this waste. However, this is a missed income opportunity since India's **Extended Producer Responsibility (EPR)** guidelines require medium- to large-sized companies to recover the waste they produce. Without a proper channel to do this, companies producing plastic waste cannot meet their sustainability commitments or comply with India's EPR guidelines, and waste is discharged into the environment.



The solution: ReCircle is building a digital platform that aggregates the collection and processing of dry waste to sell EPR credits to businesses. They have built an ethical and traceable reverse supply chain for waste, especially plastics. Partnerships with local waste collectors help ReCircle to collect, sort and pre-process recovered materials, after which the material is channelled to authorised recyclers/processors.



Looking ahead: With the Innovation Fund grant, ReCircle will be able to scale their service even more, and digitalisation will enable them to integrate forward and backward in the supply chain and move into new waste materials, such as paper, glass and cloth waste. They are currently raising a pre-Series A funding round, which will be used to develop their tech platform, grow their partner network and bolster their team. This funding will also help ReCircle scale their processing rate from 50 million kg to more 250 million kg a year.



Grant summary: The GSMA is supporting ReCircle to digitalise their existing dry waste supply chain from collection to processing to make it more transparent and drive operational efficiencies in waste management. The ReCircle platform that is being built will bring together individual household-level waste collectors, large-scale waste aggregators, recyclers and processors. It will be launched across India, digitalising ReCircle's supply chain in 102 cities, towns and villages. To date, ReCircle has recovered more than 46 million kilograms (kg) of waste.

“The digitalisation of our supply chain will offer us new insights on our customer demographics and our operations. We will have access to data on the number of collectors in a location, waste generation of a city, distance between collectors and processors, quality and quantity of waste collected, and the number of registered recyclers in a state. We shall use this information to make strategic decisions on how to grow the business further, be it new verticals that should be introduced, or to scale.”

Rahul Nainani,
Co-founder and CEO



LOCATION:
South Africa

FIND OUT MORE:
[Regenize website](#)
[GSMA blog on Regenize](#)



Regenize

Digital tools to formalise and incentivise recycling

PARTNERSHIPS:
MTN Ayoba (mobile apps)
Partner stores (service delivery)

DIGITAL CHANNELS:
Mobile app, digital payments, digital platform



The problem: South Africa has low recycling rates, with only 7.5% of the population separating their waste. The country's recycling sector depends on the roughly 90,000 waste pickers that collect material from households and businesses. These waste pickers make huge contributions to the sector. It is estimated that they save the government up to \$50 million a year through landfill airspace and collect up to 90% of all recycled paper and packaging waste. Despite this, they work in dangerous conditions, searching through bins or landfills as they do not have access to clean, separated recyclables.



The solution: Regenize is a recycling collection solution that is on a mission to make recycling more accessible, inclusive and rewarding. They provide a “freemium” recycling collection service that incentivises residents with a virtual currency. This free model ensures that they reach most residents with their decentralised recycling operation, which integrates and supports waste pickers with uniforms, equipment, mobile devices, access to clean recyclables and a decentralised recycling hub.



Looking ahead: Regenize is on a mission to make zero-waste services accessible, attainable and inclusive in South Africa. They aim to scale three key solutions nationally within the next five years: i) REACT, a freemium recycling collection service in low-income communities; ii) Remali, a virtual currency and behaviour-changing mobile app; and iii) Zero Waste Spaza, a shopping solution that partners with local convenience shops to make purchasing staple foods more accessible and attainable without creating packaging.



Grant summary: The GSMA is supporting Regenize to scale their solution. The grant funding will be used to establish new decentralised recycling hubs (DRHs) and develop version 2.0 of the Recycling app and Remali app. Residents working with Regenize will earn a virtual currency, Remali, each time their recyclable waste is collected (1 collection=150 remali=1.50 rand). The Remali earned can be redeemed for various rewards, such as airtime, data and grocery vouchers. Alternatively, residents can use a QR code to access their Remali at a local shop in their community.

“We are not just integrating waste pickers, but also dignifying their role, and assisting them with getting bank cards, providing training on technology and customer service, getting a stable income, enabling access to PPE and to micro-loans.”

Chad Robertson and Nkazimlo Miti,
Co-founders





LOCATION:
Nigeria

FIND OUT MORE:
[Soso Care website](#)
[GSMA blog on Soso Care](#)

PARTNERSHIPS:
AXA Mansard
(service delivery)

DIGITAL CHANNELS:
Digital payments,
digital platform

Soso Care

Microhealth insurance from plastic waste recycling



The problem: Nigeria generates more than 34 million tonnes of waste annually, including 20 billion plastic bottles, less than 10% of which are collected, sorted and recycled. At the same time, pervasive poverty and poor healthcare financing (less than 3% of Nigeria's 200 million people have health insurance) has meant quality healthcare is out of reach for most Nigerians.



Grant summary: The GSMA is supporting Soso Care to expand their current offering to purchase recyclable waste from low-income individuals and sell it to intermediaries and recycling companies. Soso Care aims to use the Innovation Fund award to increase automation across their systems by introducing digital and mobile apps. The grant will also support Soso Care to develop a processing element for their operations, which will enable them to collect more waste and increase the value generated from waste collection.



The solution: Soso Care is a microhealth insurance company with an innovative approach to providing health insurance to low-income populations in Nigeria. Households sell their recyclable household waste to intermediaries and recycling processors, and the proceeds are used to pay for Soso Care health insurance premiums.



Looking ahead: In the short term, Soso Care is focused on rolling out their technology to increase the number of households that can convert waste into cash and health insurance cover. In the long term, Soso Care aims to expand their geographical reach and franchise their model to strategic partners in other African countries.



"This opportunity enables us to improve our product and position in the market. One of our limitations has been around marketing and this project can help strengthen this. In the past six months we have seen significant growth in our users, doubled our revenue, and recovered over 50 tonnes of plastics."

Chinonso Oporum,
Co-founder and CEO

Looking ahead

Two-thirds of the world's population will live in cities by 2050, with most urban growth concentrated in Africa and Asia. Intermediary cities, which account for the bulk of urban growth in LMICs, face particular challenges when it comes to extending access to essential utility services, such as limited fiscal independence and capacity.

While there has been a historic rise in mobile connectivity in LMICs, particularly in cities, billions of people continue to lack access to essential urban utility services. For cities to become true engines of productivity and social mobility, municipalities and utilities will need to prioritise access to essential services. Without a step change in service levels, water shortages, unsanitary conditions, unreliable power provision, pollution and inadequate waste management could remain a defining reality for those living in the rapidly expanding informal settlements and intermediary cities.

The Digital Utilities programme supports urban resilience in LMICs by enabling access to essential utility services through digital solutions and innovative partnerships. In doing so, we support cities to better withstand challenges related to rapid urbanisation, climate change and inequality. We have often found that different sets of stakeholders are working on similar problems, but operating in silos when an ecosystem approach based on partnerships and mutual accountability can be more effective. Our programme aims to bring the public and private sectors together to build partnerships and foster an enabling environment, with the objective to scale and replicate innovative urban utility service delivery models.

Through the GSMA Innovation Fund, we've seen that private sector innovators working with public sector organisations and large corporates such as mobile operators can scale innovative service delivery models. We've also seen that these innovators require patient capital, partnership support and technical assistance to realise their full potential. It's also critical to support innovators in measuring and showcasing their impact to funders whose investment lenses go beyond mere commercial returns. This is particularly important

given the increased opportunities in the context of the growing availability of climate financing instruments. The learnings from this Innovation Fund will help us answer some critical questions on how to address issues most effectively in urban service delivery – specifically:

- How can digital technology support delivery of services to low-income urban populations?
- Which business models and partnerships are required for innovative digital solutions to be adopted at scale?
- How to maximise social, commercial, and climate impacts in delivering urban services?
- Where mobile operators can support the scaling of these models, and how to structure partnerships to ensure commercial sustainability and accessibility?

The last decade has seen tremendous innovation in essential service delivery. For instance, in under a decade, the PAYG solar sector has evolved from a handful of start-ups to a global industry serving millions of customers and attracting billions in investment. Lessons from this model are now being adopted to a range of other use cases, while the growing adoption of digital technologies in LMICs, coupled with flourishing start-up ecosystems, are also enabling the emergence of other innovations and business models that are making essential urban utilities more accessible, affordable, reliable, safe and sustainable.

However, there is still much further to go. Innovation has been concentrated in a few key markets and in major cities, and there is the need to further develop ecosystems across regions and within countries. Decentralised solutions and solutions aimed at supporting public sector service providers require continued assistance to thrive. We're looking forward to using the learnings from this cohort to continue working with our donors, strategic partners, and the mobile industry to support impactful urban innovators in their journeys to scale.

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