



Mobile for Development
Utilities

Water and Sanitation: Innovative Mobile Solutions to Improve Service Delivery

World Water Week
29 August 2017



About the GSMA



THE GSMA
WAS FOUNDED
IN
1987

12 OFFICES WORLDWIDE:



LONDON



DUBAI



ATLANTA



BRUSSELS



BARCELONA



HONG KONG



BRASILIA



BUENOS AIRES



SAO PAULO



NAIROBI



NEW DELHI



SHANGHAI



The GSMA
represents
the interests
of mobile
operators
worldwide



UNITING
NEARLY
800
MOBILE
OPERATORS



WITH
300+
COMPANIES
in the broader mobile ecosystem



The world's leading mobile industry events,
Mobile World Congress and Mobile World
Congress Shanghai, together attract

130,000+
people from across the globe each year

The GSMA works to deliver a regulatory environment
that creates value for consumers by engaging
regularly with:



MINISTRIES
OF TELECOMS



TELECOMS
REGULATORY
AUTHORITIES



INTERNATIONAL &
NON-GOVERNMENTAL
ORGANISATIONS



CONNECTING
27,000+
Industry Experts

Exclusively for GSMA Members,
InfoCentre² is your place to
connect with a global
community of industry experts

GSMA Working Groups
provide frameworks and
standards in commercial,
operational and
technical matters that help
maintain and advance
mobile industry ecosystems



**7.5
BILLION+**

MOBILE CONNECTIONS
WORLDWIDE



The Mobile Industry and the Sustainable Development Goals

“Mobile is about much more than technology — it’s about people and society, connecting people to essential services.”

- Mats Granryd, GSMA Director General, Mobile World Congress 2016





GSMA Mobile for Development Utilities

Our mission

To unlock **commercially sustainable** business models that leverage **mobile** to deliver affordable and improved **energy, water and sanitation** services in emerging markets.

The global opportunity

SDG 6: ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL BY 2030

SANITATION



2.4 BILLION

people lack access to improved sanitation facilities.

1.8 BILLION

are covered by mobile networks.

WATER



663 MILLION

million people lack access to an improved drinking water source.

289 MILLION

are covered by mobile networks.

ENERGY



1.2 BILLION

people lack access to energy.

772 MILLION

are covered by mobile networks.



The Global Opportunity

**MOBILE
MONEY**



is available in TWO-THIRDS of low-
and middle-income countries

Two-Thirds of World's
population, 5 billion people,
now connected

Latin America & the Caribbean:
23.0 million registered accounts
10.8 million active accounts

Middle East & North Africa:
44.1 million registered accounts
13.9 million active accounts

Europe & Central Asia:
10.4 million registered accounts
1.4 million active accounts

Sub-Saharan Africa:
277.4 million registered accounts
100.1 million active accounts

South Asia:
164.2 million registered accounts
40.4 million active accounts

East Asia & Pacific:
36.6 million registered accounts
7.1 million active accounts



Mobile Channels

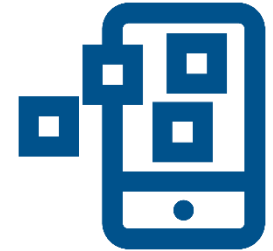
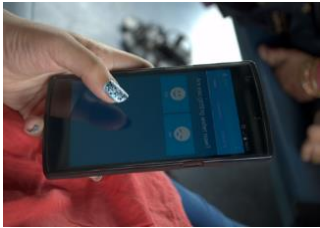
**Mobile
Services**

**Mobile
Payments**

**Machine-to-
machine
connectivity**

**Sales,
distribution
and
branding**

**Mobile
Operator
Customer
Data**





Speakers

- Case Study 1 – Optimising water utilities with mobile technology
Daniel Kamiri, Wonderkid
- Case Study 2 – Mobile and the sanitation value chain
Lindsay Stradley, Sanergy
- The mobile-enabled service provider journey
Mary Roach, Loowatt
- Q & A

Mobile Technology in Utilities

Lessons from Utilities leveraging on Mobile Technology

Daniel Kamiri

Team Leader

Wonderkid Multimedia LTD

www.wonderkid.co.ke



Mobile for Development
Utilities



Mobile Technology in Utilities



Source of lessons

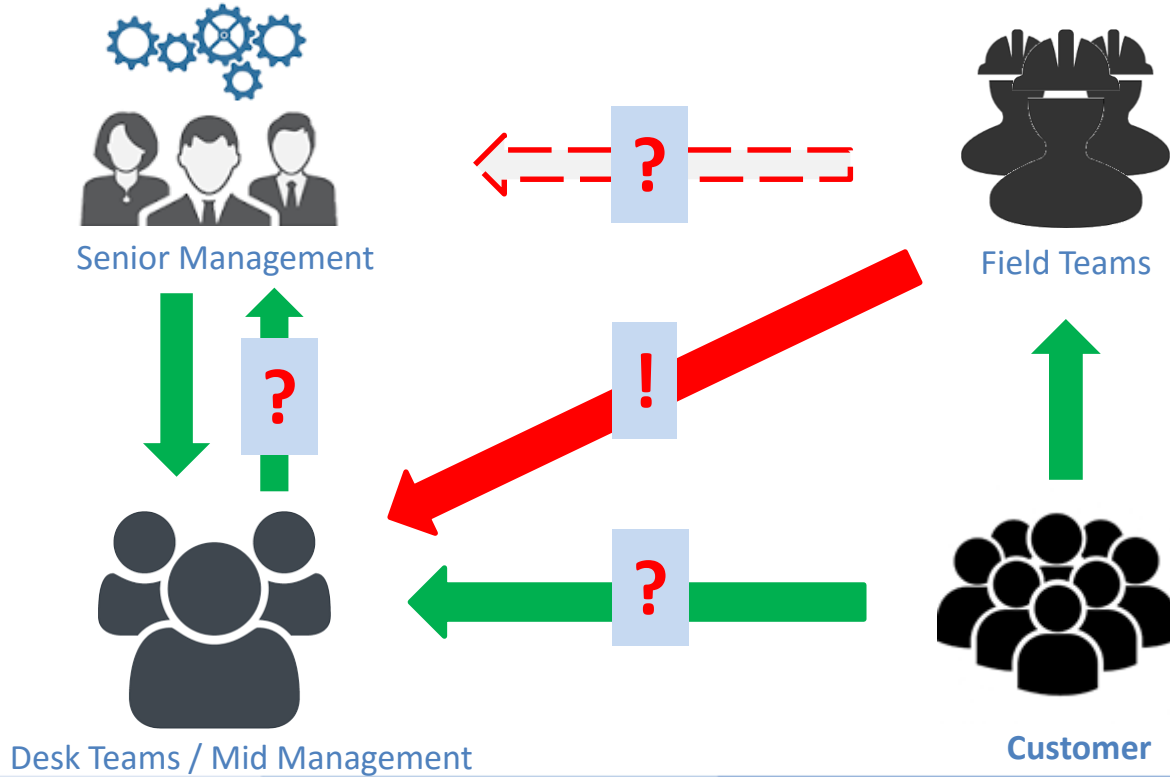
GSMA Mobile for Development Utilities Innovation Fund, 2015 / 2016
targeting 800,000 consumers



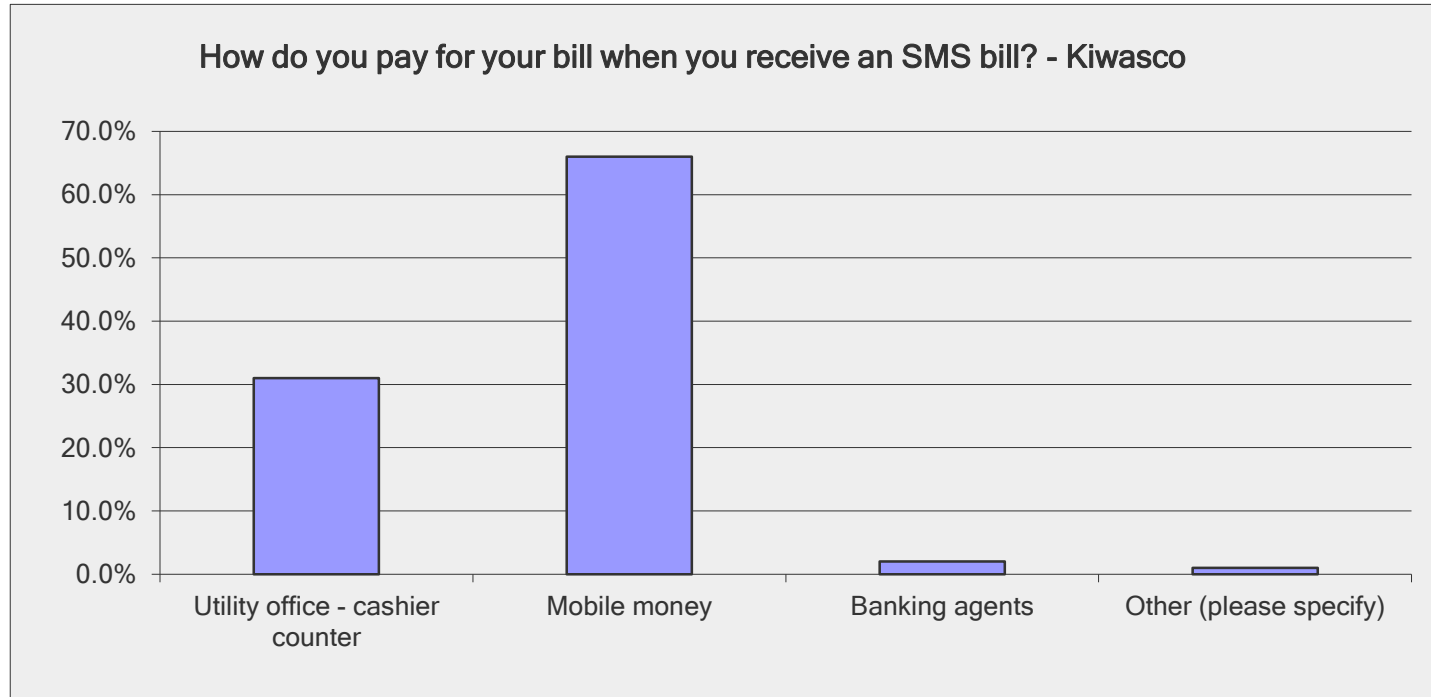
Lessons from Utilities

1. Customers are willing to pay*
2. Management Teams appreciate data*
3. Staff do not mind supervision*
4. Leadership determines success of solutions*
5. Less Complaints = Bills Paid on Time*
6. Availability of Timely Data = better decisions*

Transformation Process...



Increased Mobile Money Transactions



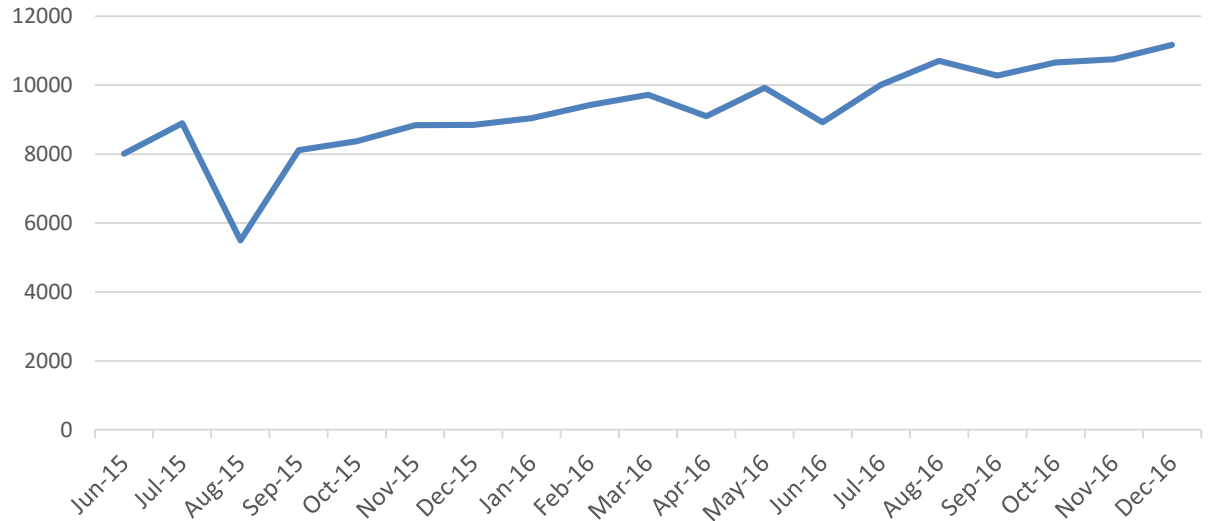
Increased Mobile Money Transactions

Customers trust the bills; and mobile phone as a medium of communication with utility




71% increase in the number and **50%** increase in value of mobile money transactions*.

Total number of MPESA transactions in a month for paying utility bill - Kiwasco



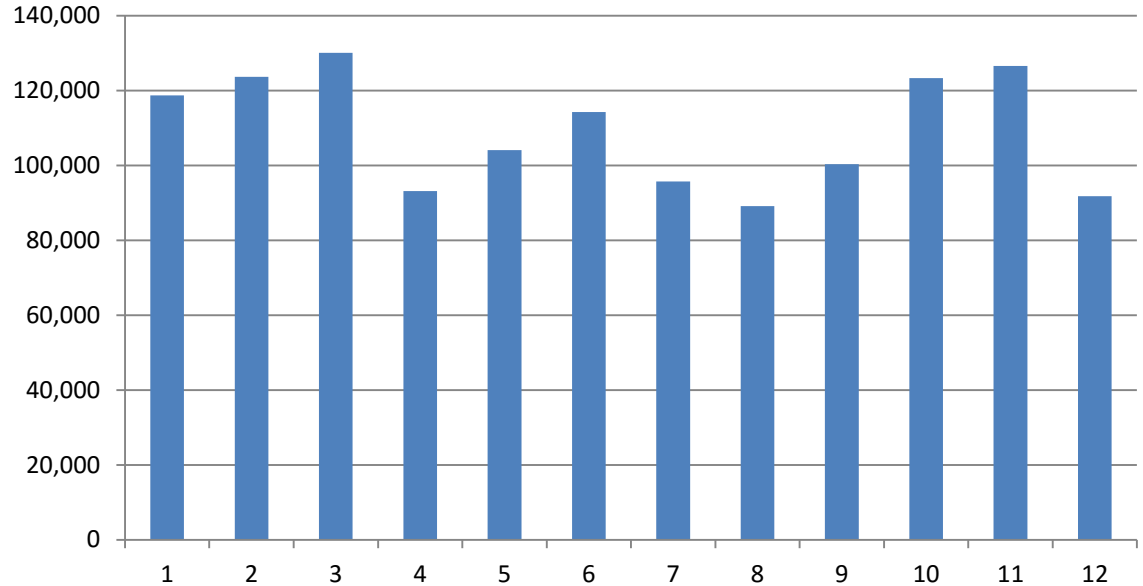
Increased Revenue per Month

Revenue increase from accurate bills and reduction in illegal connections; metered customers



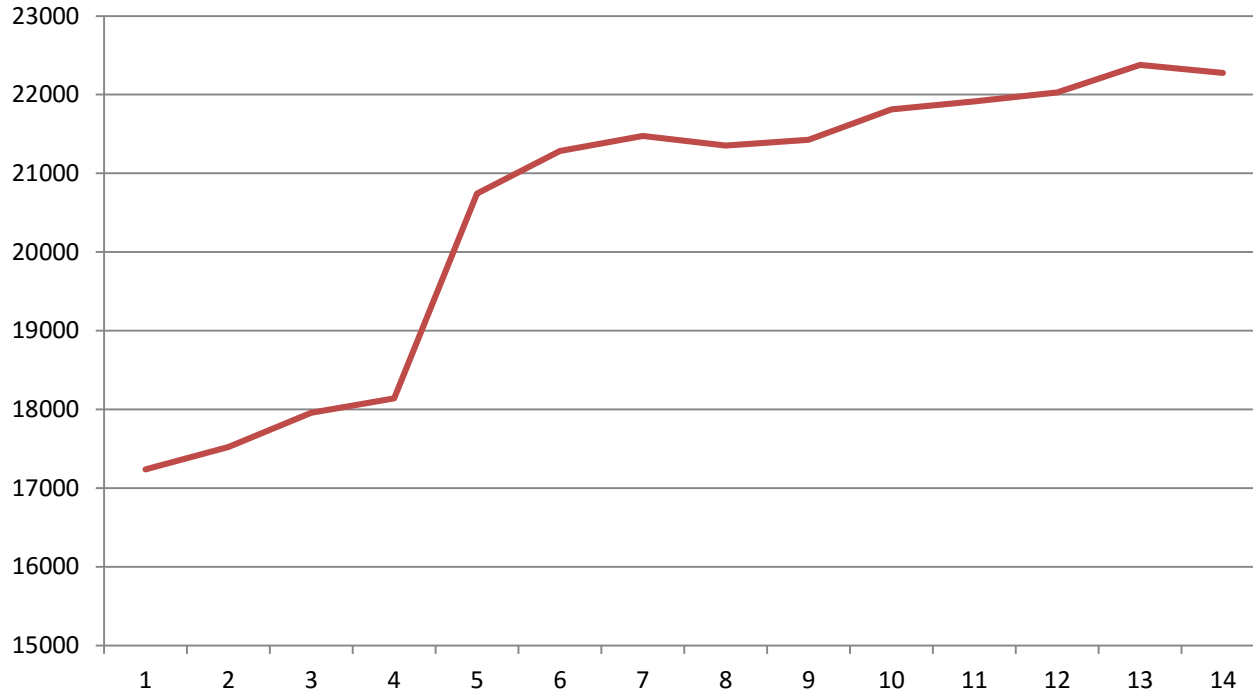
28% increase in revenue collected and **8%** increase in revenue billed*.

Revenue



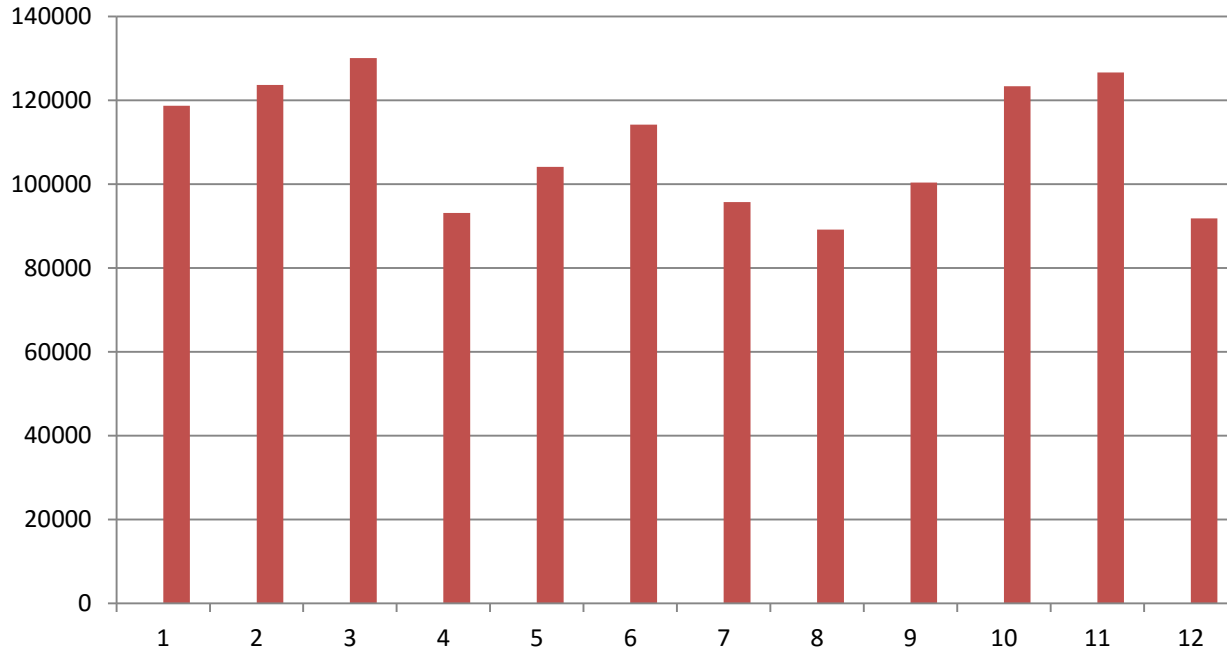
Bills on Actual Readings

Customers Billed on Actual Bills



Reduction in Customer Complaints

Less customer complaints, higher customer satisfaction; More productive staff hours



Success Factors

The Mobile Technology is not a solution in itself but just part of a bigger strategy



Leadership / People is everything



All Inclusive Approach



Define the Processes



Leverage on Partnerships

Challenges & Opportunities

The landscape is quickly changing – and there is enormous opportunities for industry players

MNOs

1. Service rates
2. Device Security
3. Additional Services
4. Quality of Service

OEM

1. Customized Devices
2. Better Pricing

Knowledge Sharing

1. Colloquiums
2. Benchmarking

Asante

Danke

dankjewel

Shukran

Thank you

kiitos

Merci

Gracias

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Mobile Tech for Scaling Safe Sanitation

Lindsay Stradley, Sanergy
World Water Week – August 2017



Sanitation crisis in Kenya

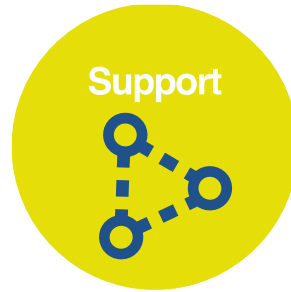
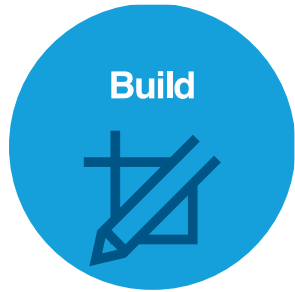
8 million
in Kenya's
urban slums

17,000
Sanitation
related child
deaths per
year

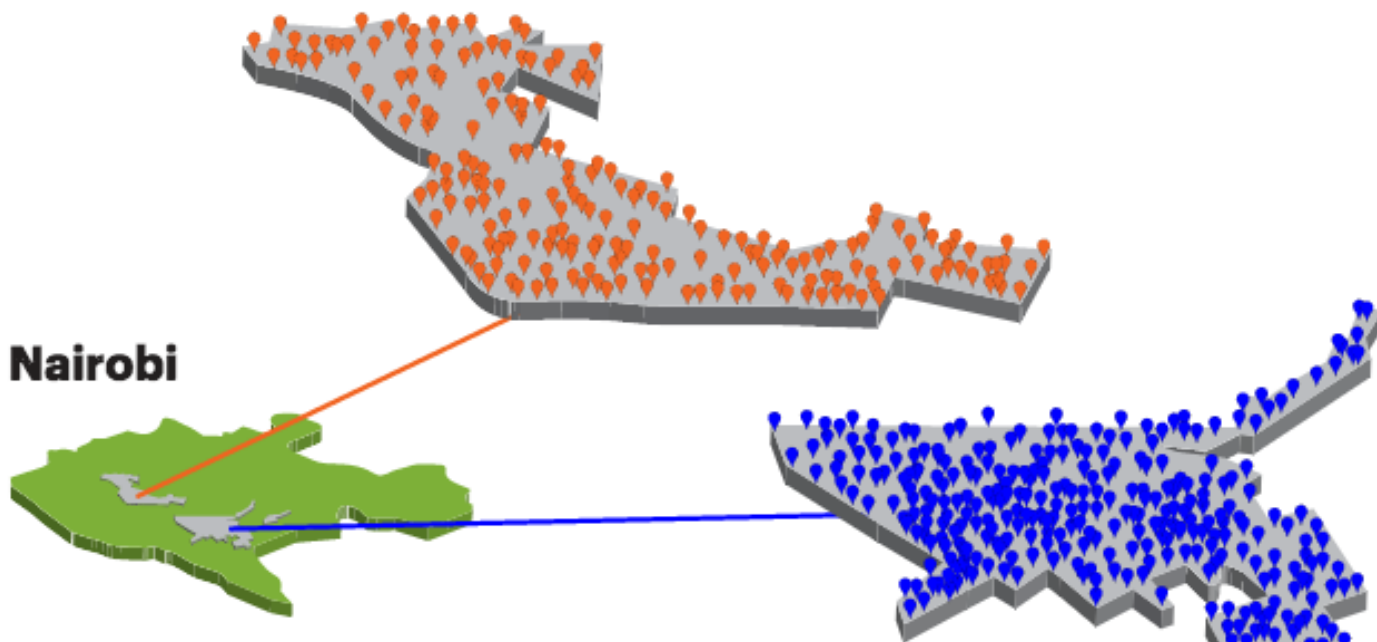
**\$270
million**
Lost in GDP
each year



We take a full value chain approach to tackling the sanitation crisis



Sanergy Impact to Date



555
FLOs

1,200
Fresh Life
Toilets

50,000
Uses per
day

4,000
Tones of
waste per
year

Why invest in mobile?

EFFICIENT SYSTEMS FOR SCALE



Improved Customer Experience



Improved Employee Experience



Improved Operations



Improved Customer Experience

PROBLEM: On-time loan payments at 50% in 2015.

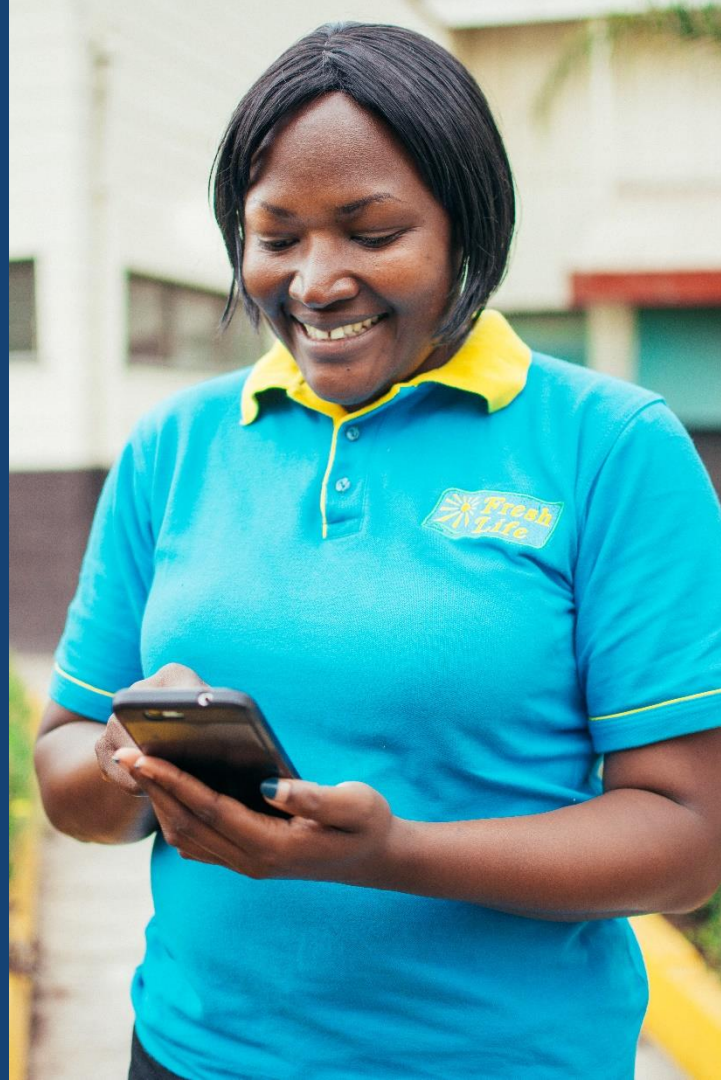
TECH OPPORTUNITY: Better communication through automatic SMS reminders.

RESULT:

- On-time loan payments improved to 75%.
- Credit officers now working at a ratio of 275:1 FLOs: Credit Officer
- Received a 5x increase on our credit line.

Payment made easy

1. 99% of customer payments made using **M-PESA**
2. User experience – seamless and reliable for our customers
3. Accountability – easy to track payments and eliminate fraud





Improved customer and employee experience

PROBLEM: Customers were frustrated with how long it was taking to fix problems, with 20% cases resolved on target timeline.

TECH OPPORTUNITY: Develop a mobile integrated system for employees to report problems, assign tasks, and track updates.

RESULT:

- Key insight: triaging system was not properly calibrated.
- Now 80% customer cases resolved on target time.
- Employees can clearly set expectations for their customers and plan their work schedules more effectively.



Improved Operations

PROBLEM: With rapidly growing network – >60 facilities per month – optimal waste collection routes always changing.

TECH OPPORTUNITY: Use mobile to continually update GPS map, allowing for optimized route collections.

RESULT:

- From June 16-July 17, network expanded 40%; waste collection personnel stayed the same.
- Cost / kg of waste collected dropped by 20%.



Improved Operations

PROBLEM: Cartridges are not always filled daily, so daily collections not optimally efficient.

TECH OPPORTUNITY: Deployed GSM and NFC-enabled sensors in toilets; sensors also had RFID chip to allow waste collection team to swipe in and customers to swipe to report any issues.

RESULT:

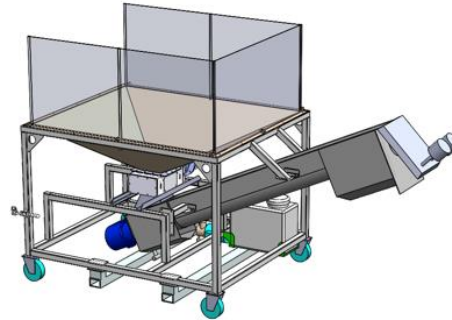
- Proved to be more difficult and expensive than viable for scaling across our network.
- Leverage learning to create mobile app to track collections and report customer support issues.



Loowatt

Sanitation Solutions for a Water Scarce World

Mobile Technology Journey



Powerful Motivation

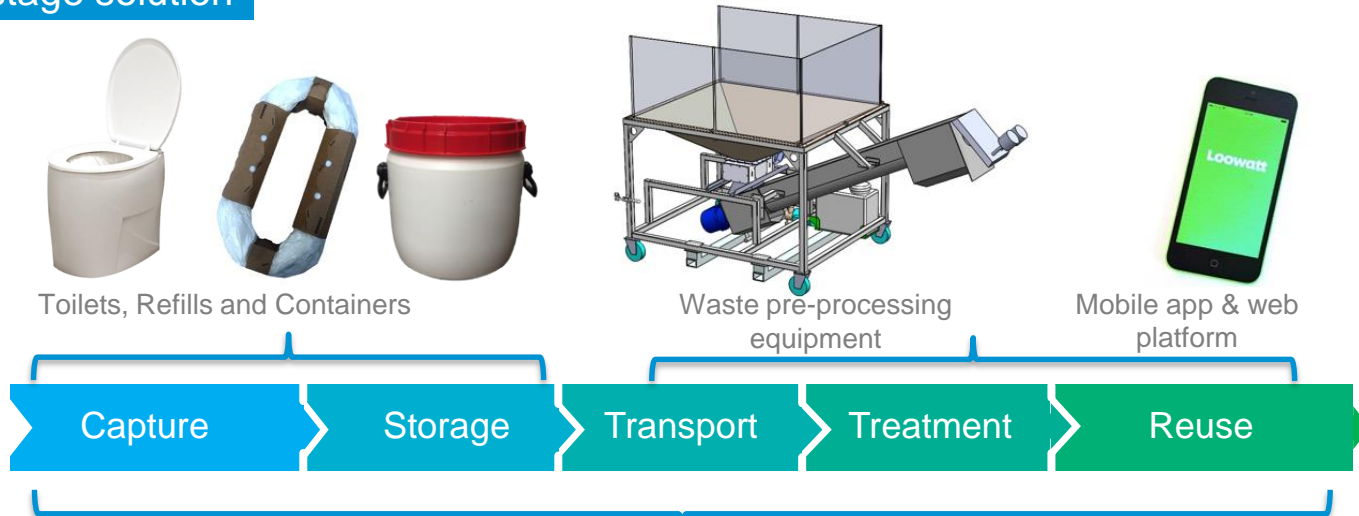
Mission

Loowatt develops safe, closed-loop sanitation solutions that provide high-quality access for all



21st Century Sanitation Value Chain

Every stage solution



Toilets, Refills and Containers

Waste pre-processing equipment

Mobile app & web platform

Capture

Storage

Transport

Treatment

Reuse

Expertise and Standard Operating Procedures Across Value Chain



Proof of Concept

Global Underserved

Urban pilot system in Antananarivo, Madagascar:

- 100 household toilets installed, 600 toilet users a day
- 25 m³ anaerobic digester including CHP generator, pasteurisation system, and net energy yield of 40 kWh/day, and vermicompost
- 1.4 tons household toilet waste processed every week
- >95% Roso toilet customers purchase a refill every week for c. US\$ 1.00
- 75% contract holders are women



Why use mobile?

- **Streamline operations:** collection routes
- **Improve customer service:** customer service number
- **Integrate mobile payments:** reduce costs and transparency
- **Capture Data:** Customer files, productivity of our operations ...

Mobile Context:

	Kenya	Madagascar	Haiti
HDI Ranking (2014)	147	157	164
SIM Penetration (Q4, 2015)	78%	31%	68%
% internet users (IWS-03/17)	81.8%	5.1%	12.8%

Our Partners



MNO Partner:

- Mobile Money
- Green Line
- SIMs



Developer:

- Architecture
- On-going support

Every Interaction.

UX Design:

- User friendly

The Solution



Web Platform &
Mobile Application



Dedicated SMS line



Mobile Money

The Good, the Bad and the On-going

The Good:

- Office has real-time information on field-operations
- Customers feel their voice is being heard.
- Improved perception by our clients on “professionalism” of our service, and of our household collectors
- Field staff realise the value of their work
- Household collectors have improved status in community but some struggle with use of mobile application.

The Good, the Bad and the On-going

The Bad:

Challenge	Choice of what to prioritise
Piloting service and building a platform	Flexible back-end we could adapt
Limited mobile money experience	Invest in education
Tech provider with sanitation experience	Prioritise good tech over experience
Mobile literacy of our field team	Design with user in mind (QR codes etc..)

The Good, the Bad and the On-going

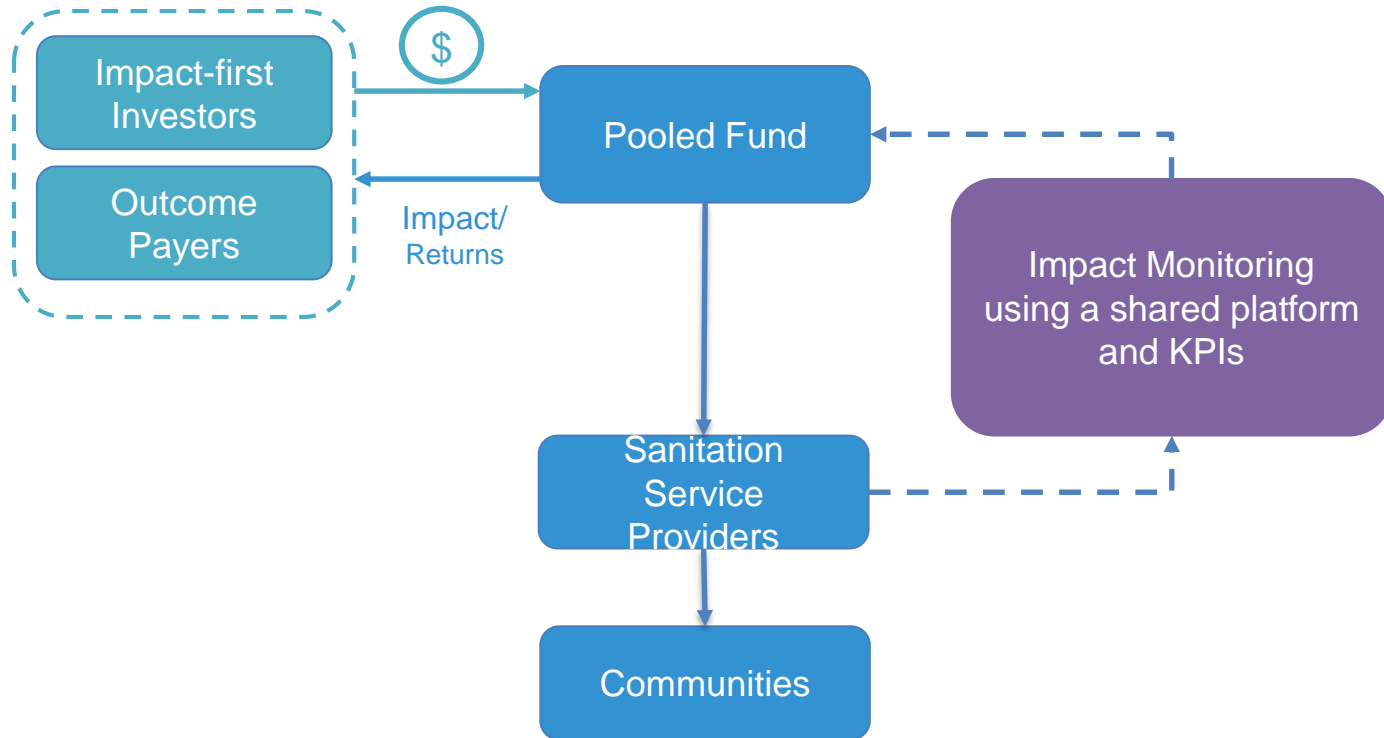
It's more of a journey than a one-time project. We need to invest more time and resources to refining the solution

On-going challenge	Current thinking
Mobile money usage	New approaches beyond direct from customer
Network outages	Change partner? At what cost?
Upkeep costs	Switch to local supplier?
More development	Work with others!

Looking ahead

- Limited advantage of a proprietary solution in the sanitation space
- There are benefits in co-operation:
 - Reduces cost burden to any one service provider
 - Removes barriers to entry
 - Supports compliance to standards and rating systems
 - Can be used in developing PPPs
 - Can be used to provide targeted subsidy for specific geographic areas, to provide services to the most disadvantaged etc...
 - Aggregate demand and ease supply of funding

Looking ahead



Questions?

Contact Us

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Transforming Sanitation Marketing through Mobile

Erica Lloyd, SOIL Systems Director
World Water Week, August 2017

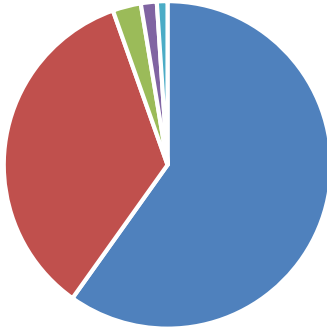
Using Mobile to collect and analyze detailed data about:



Prospects and clients

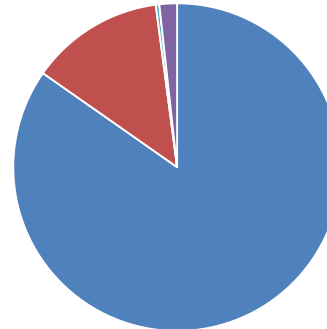


Employees



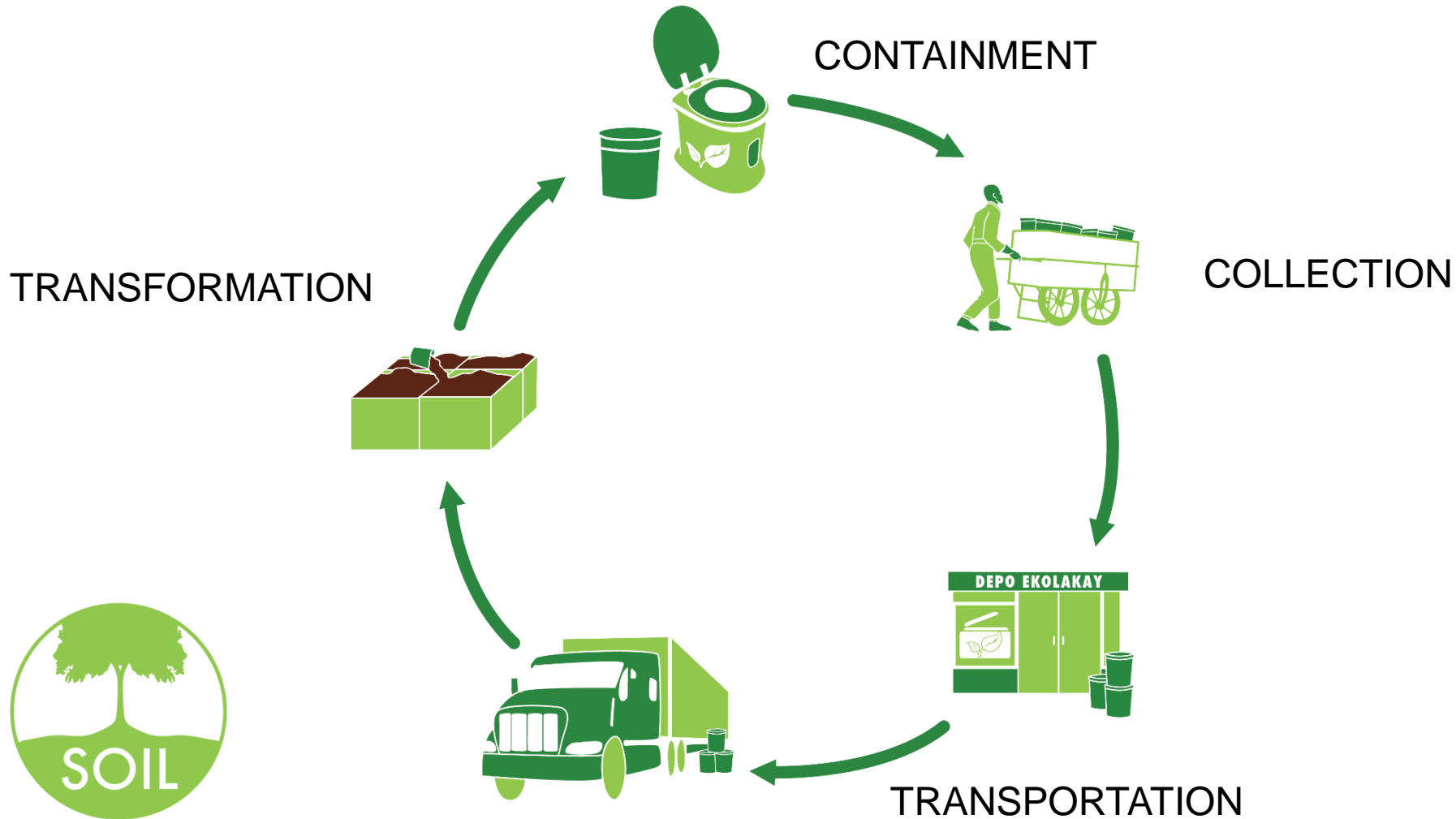
Marketing channels

- Normal operations
- Client Referral
- Community Events
- Door-to-Door
- Special Offers



Related Services

- Purchase at a Kiosk
- Well
- Water Delivery Service
- Catch Rain water





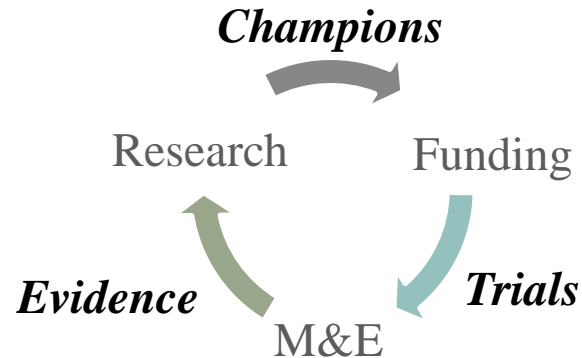
Panel

- **Erica Lloyd** SOIL
- **Mary Roach** Loowatt
- **Lindsay Stradley** Sanergy
- **Daniel Kamiri** Wonderkid



Programme Activities

- Knowledge Sharing and Convening
 - **Asia Working Group**: 15-16 November
- Advisory Services
- Innovation Fund
- Market Building





Publications



The role of mobile in improved sanitation access



Unlocking access to utility services: the transformational value of mobile



The IoT development Journey for utility enterprises in emerging markets



Mobile money payment toolkit for utility service providers



Innovation Fund



SCALING
OFF-GRID
ENERGY:
A GEMFUND CHALLENGE
ON-REDEMPTION

£5.9 million
Disbursed

4 million
Beneficiaries

£142 million
Raised in follow-on
investment

£1.4 million
Left to disburse



Contact Information

Innovation Fund deadline September 3rd!

<https://www.gsma.com/m4dutilities-innovation-fund>



GSMA Mobile for Development

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