

SCALING OUT FOR IMPACT 2020

OVERVIEW AND LESSONS LEARNED
#ScalingOut4Impact #SOFI2020



“Now is our time to
collaborate”

NDABA MANDELA

#SOFI2020 #ScalingOut4Impact



ONE PURPOSE

Innovating in
low-income
communities for a
sustainable future.

ABOUT SOFI

Scaling Out for Impact (SOFI) connects and builds equitable and innovation-focused partnerships between ventures in South Africa and the UK.

SOFI 2020 brought together a diverse group of innovators representing 38 ventures from South Africa and the UK to explore 3 key challenges facing low-income township and rural communities in South Africa – circular economy, digital economy and healthcare.

The goal: (1) to harness the innovation capabilities of ventures in both countries as well as the potential of local communities; and (2) to co-create new ideas and solutions that can drive local economic development whilst delivering positive social and environmental impact.

SOFI is a co-venture between Innovate UK, Newton Fund, and the Technology and Innovation Agency of South Africa. It is supported by the Black Business Council and the Department of Science & Technology (South Africa), and delivered by Liminal.

For more information about SOFI, visit

weareliminal.co/sofi or email

hello@weareliminal.co

For South Africa enquiries:

sofi@tia.org.za

For UK enquiries:

albertus.rensburg@innovateuk.ukri.org

THREE CHALLENGES

01

Circular
Economy



02

Digital
Economy



03

Healthcare



BRINGING TOGETHER 40 PIONEERS



FROM 2 COUNTRIES

3 PHASES

1. PREPARATION

5–9 October 2020



Growing in cultural awareness and understanding of townships and rural communities

2. MEET & EXPLORE

19–23 October 2020



Discovering complementary know-how and collaboration opportunities

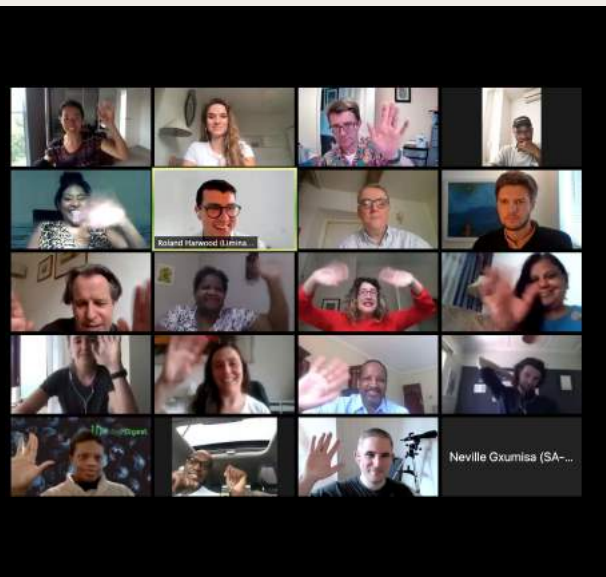
3. CREATE & REVIEW

9–13 November 2020



Co-creating new ideas that deliver equitable and inclusive outcomes for all


SOFI 2020



Over the course of an immersive 6-week online programme (in view of Covid-19 travel restrictions), innovators from 40+ South African and UK ventures came together to learn and collaborate.

Key features of the programme include:

- **Over 20 thought leaders and experts** from the field of inclusive innovation, and the challenge areas of *healthcare, circular economy and digital economy*. Participants also had access to first-hand insights and experience from local community leaders and organisers in South Africa.
- **A separate onboarding phase for UK and SA participants**, ensuring necessary learning and understanding of what it takes to form truly equitable partnerships. For the UK cohort, this meant ensuring innovators had a nuanced understanding of the current and historical complexities of South Africa.
- **An opportunity to collaborate in real-time**, building relationships and bringing together diverse expertise and experience to co-create new ideas, opportunities and business models.

A person wearing a red shirt and a hat is walking on a dirt road in a rural, hilly area. The background shows utility poles and power lines, with a large transmission tower visible in the distance. The scene is set against a backdrop of green hills and a clear sky.

“Through SOFI, it’s clear to see that having the consciousness to see and share problems, and the creativity to imagine the solutions is the only way we will address the challenges we face in our communities and on our planet.”

EMMA WADE-SMITH OBE
Department for International Trade (UK)
#SOFI2020 #ScalingOut4Impact

SOFI 2020

15 PROJECTS CO-CREATED

As part of the SOFI programme, 84% of ventures went on to form **collaborative teams** comprising of UK and SA innovators, bringing together complementary technologies, capabilities and local knowledge to develop **15 inclusive and innovative solutions** ready to be launched and scaled in South Africa and beyond.

The projects are wide-ranging and feature:
















- **Breakthrough technologies** including drones, 3D printing, blockchain, VR, and IoT – localised and adapted to suit the constraints and operating contexts of low-income communities
- **Inclusive business models** including open-sourcing, digital platforms and marketplaces as well as education, training and employment opportunities that serve local communities

We are incredibly proud that, of all 15 projects developed through SOFI 2020, so far:

- 5 projects received an initial grant from InnovateUK and TIA
- 2 projects have been approved for external innovation grants in the range of £30–50k
- 2 South African innovators have been approved for funding of up to £50k through the innovation refinement and skills they gained through SOFI

We are now looking for other funders and supporters who can assist our other project teams to implement and scale their innovations. There is an overview of all 15 projects on the following page, with detailed descriptions of all projects, including the progress of the 5 funded projects, on pages 12 to 18.

15 PROJECTS

<p>PROJECT 1 WASTE TRANSFORMED INTO NECESSITIES THROUGH 3D PRINTING</p>	<p>PROJECT 2 IOT MONITORED ACID MINE DRAINAGE WATER TREATMENT</p>	<p>PROJECT 3 DIGITAL PLATFORM EMPOWERING RURAL SMALLHOLDERS</p>	<p>PROJECT 4 COMMUNITY HEALTH HUBS</p>	<p>PROJECT 5 COMMUNITY BIOMATERIAL EXPLORATION AND SKILLS CREATION</p>
				
<p>PROJECT 6 DIGITAL HEALTHCARE PLATFORM USING DRONE DELIVERY</p>	<p>PROJECT 7 BENEFICIATION OF BIOMATERIAL WASTE INTO PAPER AND PACKAGING</p>	<p>PROJECT 8 SMART TOWNSHIP HEALTH DEMONSTRATOR</p>	<p>PROJECT 9 LEVERAGING SUPPLIER SUPPORT FOR CARBON YIELDING COMMUNITY PROJECTS</p>	<p>PROJECT 10 SUSTAINABLE BIODIESEL PRODUCTION FROM KEY LOCAL FEEDSTOCKS</p>
				
<p>PROJECT 11 OPEN-SOURCE SOLAR POWERED MICRO FORGE FOR MULTI-MATERIAL RECYCLING</p>	<p>PROJECT 12 HOME-BASED HEALTHCARE PLATFORM FOR CHRONIC DISEASE</p>	<p>PROJECT 13 BLOCKCHAIN-CERTIFIED SURF WAX MADE FROM WASTESTREAM SUGARCANE</p>	<p>PROJECT 14 VR ENABLED INFECTION & HYGIENE AWARENESS</p>	<p>PROJECT 15 4IR SMART TECHNOLOGIES FOR WATER SECURITY AND SUSTAINABILITY</p>
				

WASTE TRANSFORMED INTO NECESSITIES THROUGH 3D PRINTING

THE CHALLENGE: Plastic and bio-waste pollution. South Africa has limited upcycling capability to create growth through recycling, with only 16% of plastic waste recycled across the country.

PROJECT DETAILS: Using TechforTrade's UK based technology in collaboration with two South African innovators working in 3D printing and organic chemistry, the project is centred on the **transformation of recycled PET and bagasse** (one of the main biomass wastes from sugarcane production) **into cheaper, robust filament** for the exponentially growing **3D printing industry** to make a range of high value products.

IMPACT: This project seeks to provide dual socio-economic and environmental benefit by engaging communities and informal waste pickers in PET and bagasse waste collection and upskilling graduates through filament production opportunities.

PROGRESS: The project is making good progress; currently identifying sustainable sources of PET and has hired a chemical engineering student from a university categorised as previously disadvantaged in South Africa.



FUTURE MATTERS: COMMUNITY BIOMATERIAL EXPLORATION AND SKILLS CREATION

THE CHALLENGE: South Africa is ranked the 11th worst for **plastics pollution** globally. Stifled rivers, polluted communities, and everlasting toxic material impact the health and wellbeing of communities.

PROJECT DETAILS: Future Matters is a community engagement programme centred around **substituting petroleum-based materials for organic materials**, focusing on **open knowledge and biomaterial development**, conducting organic-waste stream analysis and material mapping, through **grassroots community co-creation**. The co-creation adapts Materiom's UK based innovation of open-source, open-access biomaterial recipe database and network, into viable solutions for South Africa's plastics dependency through co-design with 2 South African partners.

IMPACT: Pilot workshops in a community in Johannesburg will target women; youth; teachers; entrepreneurs; and smallholder farmers to explore the market's potential using their organic waste to develop biomaterials and products that benefit them economically, as well as the planet. Wider impact is to minimise national plastic dependency, accelerate research and development for South African Entrepreneurs and communities who have an abundance of organic waste.

PROGRESS: Currently building and solidifying networks to prepare for the community engagement research stage, including empathy mapping.



DIGITAL HEALTHCARE PLATFORM USING DRONE DELIVERY

THE CHALLENGE: Digitised healthcare has been adopted for the private healthcare sector whilst the majority of the low income population have been left behind.

PROJECT DETAILS: An integrated framework that includes remote monitoring, wearable devices and drone delivery to support children with epilepsy in hard to reach communities.

CONTACT DETAILS:

Yolanda Dolly Nxumalo (RaAzi) – yolanda.nxumalo@alumni.uct.ac.za

Obuchinezia Anyanwu (Aparito) – obuchinezia@aparito.com



4IR SMART TECHNOLOGIES FOR WATER SECURITY AND SUSTAINABILITY

THE CHALLENGE: South Africa will become water-scarce by 2023. Contamination has been identified by the Ministry of Water and Sanitation as the primary threat to regional water security and low quality water has huge human and economic costs across the country.

PROJECT DETAILS: The **4IR Aqua Security Project** will drive strategic deployment of smart technologies to create systemic change across the South African water sector, using complementary expertise across its five South African and UK members. In tandem, the **4IR-AquaTech Accelerator Programme** will deliver tailored support and mentoring to entrepreneurs and innovators to deliver positive impact around water security and sustainability.

IMPACT: Combining leading water quality technology with a programme of tailored support for local water innovators to accelerate the provision of **clean, safe drinking water and sanitation in SA**. The project will support innovators into leadership positions within the international water ecosystem, deliver revenue for UK and SA company growth, including through job creation, R&D and marketing and impact activity.

PROGRESS: 20 candidates have been selected for the 4IR-AquaTech Accelerator Programme and the boot camp programme has started. Visit the project's [website](#) for more info.



BLOCKCHAIN-CERTIFIED SURF WAX MADE FROM WASTESTREAM SUGARCANE

THE CHALLENGE: 1000+ tonnes of waste are landfilled from a specific SA sugarcane biorefinery.

PROJECT DETAILS: This project brings together expertise from Surochem's South African based innovation to develop vegan-based surf wax from sugar cane waste and BlockMark's UK-developed blockchain certification technology to authenticate sourcing, reduce counterfeiting, and provide supply chain integrity.

IMPACT: As well as creating sustainable products from waste, creating jobs in rural areas, and expanding a UK based technology to verify the produce through blockchain, the project will engage and support grassroots surfing and sponsorship/ upliftment of township youth surfers. The long term plan is to invest in development of further verified products using the sugar cane waste wax.

PROGRESS: The project has faced delays due to shipment issues related to Covid-19 but sugarcane wax initial piloting and formulation has been completed and contact has been made with local youth surf engagement organisation.



10 ADDITIONAL PROJECTS (1/2)

PROJECT 2 IOT MONITORED ACID MINE DRAINAGE WATER TREATMENT



Mobile water treatment plant capable of treating 20,000 litres of acidic mining wastewater to drinkable stage, including IoT sensors that will monitor the performance, reliability and output of the plant.

PROJECT 3 DIGITAL PLATFORM EMPOWERING RURAL SMALLHOLDERS



A digital platform and an online marketplace supplying smallholders' products to local township consumers & businesses, while utilising local taxis to deliver the products to consumers.

PROJECT 4 COMMUNITY HEALTH HUBS



Supporting adults with Musculoskeletal disorders by leveraging digital, human and physical assets to create community health hubs of two forms; 1) solar-powered shipping containers 2) public swimming pools.

PROJECT 7 BENEFICIATION OF BIOMATERIAL WASTE INTO PAPER AND PACKAGING



A method of locally producing 100% biodegradable, compostable, recyclable, marine-degradable, energy-saving based material for the paper and packaging industry.

PROJECT 8 SMART TOWNSHIP HEALTH DEMONSTRATOR



A health/wellness service that integrates advanced healthtech-fintech to create compelling user-experiences that benefit young, low-income citizens in townships, whilst generating jobs and commercial Insurance opportunities.

10 ADDITIONAL PROJECTS (2/2)

PROJECT 9 LEVERAGING SUPPLIER SUPPORT FOR CARBON YIELDING COMMUNITY PROJECTS



Adapting a proven UK technology for South African corporate customers to assist their Scope 3 carbon emissions, by financially incentivising their suppliers to support community led projects to improve the health of Upper Jukskei River.

PROJECT 10 SUSTAINABLE BIODIESEL PRODUCTION FROM KEY LOCAL FEEDSTOCKS



Exploring the opportunity for the production of sustainable biodiesel, from two key feedstocks in South Africa. This will enable South Africa to meet the national mandated demand, but through the use of local feedstocks processed in distributed scale biorefineries, rather than imports.

PROJECT 11 OPEN-SOURCE SOLAR POWERED MICRO FORGE FOR MULTI-MATERIAL RECYCLING



The cheap, open source solar powered micro-forge machine (designed by Elvis & Kresse) machine is adaptable for multi-material recycling using heat. Collaborating with 2 South African partners to localise the circular technology, recycle local waste and build local zero carbon manufacturing.

PROJECT 12 HOME-BASED HEALTHCARE PLATFORM FOR CHRONIC DISEASE



Access to affordable, customized, on demand, online / on call data driven, and evidence based home-based health care support services to low income patients with chronic disease conditions.

PROJECT 14 VR ENABLED INFECTION & HYGIENE AWARENESS



The IHAWV project objective is to issues of healthcare facilities hygiene with a unified approach combining state-of-the-art technologies and evidence based psychological interventions.

SOFI 2020

WHAT PARTICIPANTS SAY

Participant feedback on the programme was overwhelmingly positive.

93% of participants felt they had gained further insights on how to navigate the opportunities and challenges of working with low-income communities in South Africa.

87% of participants felt they had developed a good understanding of what it means to create inclusive impact for low-income communities in South Africa, and had greater access to potential partners and key actors, particularly in South Africa were part of a supportive cohort of innovators

60% felt they had developed new capabilities and skills and had increased the skills and capacity to deliver more inclusive positive impact.

80% felt they had gained access to new commercial opportunities

94% of participants would recommend SOFI

“We have learnt the power of collaboration and serving low-income communities.”

“Brilliant, given all the challenge of the pandemic, a really well designed and delivered programme.”

“The most fun we have had working on Zoom.”

“An opportunity to move your ideas forward and see how your innovation can add value to the society.”

“The joy of knowing how painless it was to collaborate towards a similar end goal.”


A scenic landscape featuring a dirt road in the foreground, a concrete wall on the left, and a large tree on the right. In the background, there are rolling hills and a clear blue sky. The sun is visible through the branches of the tree on the right, creating a lens flare effect.

“SOFI has opened our eyes to our ability to forge meaningful working relationships whilst being physically removed.”

KIERA CROWE PETERSSON

Big Circle (SA)

#SOFI2020 #ScalingOut4Impact



"In 1995 I went to South Africa to open up the Outward Bound centres in Hogsback working with Soweto and Khayeltisha youth. On my days off I would go surfing at Wilderness and Victoria Bay. There was always a young boy who followed me from his shack by the rubbish dump and watched me surf; always alone. I was grateful that someone would at least see me being eaten by a shark and report it. The waves were world class. But there were no kids surfing.

When I left SA I gave the boy my surfboard as a gift. I still remember his smile. I have been waiting for 25 years to do more of this. And am really grateful for the opportunity to support grass roots surfing in SA, support jobs in rural communities, innovate new upcycled products from green waste and knowledge share blockchain tech along the way building strong SA/UK trade relationships."

T O M A L C O T T

Eco Surf Wax (UK)

#SOFI2020 #ScalingOut4Impact

“We immediately discovered that there are partners for us in South Africa who although they have slightly different problems to us, have exactly the same values.”

KRESSE WESLING

Elvis & Kresse (UK)

#SOFI2020 #ScalingOut4Impact

SOFI 2020

WHAT DELIVERY PARTNERS SAY

As a diverse and experienced bilateral delivery team consisting of both government and private partners, there is a resounding feeling that the SOFI model represents a co-created development model with huge potential and varied applications.

“Through the first iteration of the SOFI Programme, we were able to uncover untapped innovation resource base of the country’s young people. Obviously there is still vast potential that has not been tapped and through the SOFI type programme, we have learned how best to collaborate with international partners and produce tangible results. SOFI is a model for future international collaborations. Each of the SOFI co-creations tackle a critical need in South Africa.”

Mphathi Nyewe
The Black Business Council

“In my 7 years at Innovate UK, this is the most gratifying project I’ve ever worked on”.

Niraj Saraf
InnovateUK

Scaling Out for Impact demonstrates **an inclusive and innovative model** for building equitable partnerships and fostering co-creation bilaterally.

SOFI

TAKEAWAYS AND LEARNINGS

- Building the **foundations for equitable partnerships**, including growing cultural awareness, developing an understanding of inclusive business models, and cultivating relationships, empathy and trust – is not only important, it requires time.
- Challenges facing low-income communities are systemic – **our solutions therefore also need to take into account the wider system**. Many of our project teams found ways to impact upon more than one challenge area, applying diverse experience and expertise from different sectors and contexts.
- In spite of the constraints posed by Covid-19, **pivoting to a fully online programme has opened up new possibilities and opportunities** for even more expansive participation, showing that partnership-building and co-creation across borders is not only possible, but is also welcomed and needed.

SOFI

A NEW MODEL OF COLLABORATION READY TO SCALE

Scaling Out for Impact addresses some of the pitfalls and power imbalances that often surround both international aid and trade missions; a step in the right direction towards development solutions in which both parties can benefit through the intentionally equitable and empowering nature of collaboration.

1. **Shared Value** – SOFI is a pivot away from the unidirectional *giving* that can surround Aid and international development projects, as well as the *taking* tendencies of trade missions. SOFI forges mutual shared value by creating a platform for innovators to work alongside each other.
2. **Collective Intelligence** – Instead of imposing *answers*, SOFI was designed for British and South African innovators to build joint *solutions*, recognising the necessary power of contextual knowledge and expertise but also the value of learning from novel technologies and skills from other parts of the world. SOFI successfully fostered the space for these two forms of intelligence to fuse and adapt, attuned to what is needed and what works in the context in which it will be scaled.
3. **Win, Win, Win** – As well as addressing specific social and environmental issues in South Africa and creating impact for communities, there are clear financial benefits for the innovators and their businesses, which translates into far reaching economic value for both countries.

SOFI

WHY NOW?

We are invested in bringing the SOFI model to different countries and different contexts.

1. **Inclusive innovation capacity** – Covid’s unprecedented economic and health crises have accelerated the evolution of innovation around the world, particularly in Africa which has developed 12.8% of novel pandemic response technologies globally. The United National Development Programme has emphasised the importance of the continent’s innovation capacity in offering transformative solutions in a context in which millions have lost jobs and livelihood. SOFI offers a model for scaling homegrown innovations in other regions too.
2. **A virtual collaboration model** – In a time in which innovation and collaboration is so critical, most of us cannot cross borders. SOFI enables a platform to foster relationships, stimulate innovation and create real developmental impact all through an online platform. This is all the more relevant given the need to sustain the drastic reduction in business travel stimulated by the pandemic for climate change agendas.
3. **Critical window for climate action** – The systemic and collective challenge of climate change requires transnational collaboration and innovation networks. The diffusion and locally driven adaptation of net-zero solutions and circular business models into different contexts will accelerate the just and sustainable transition of our economic systems.

“Design with the people,
not for the people.”

MURENDENI MAFUMO
#SOFI2020 #ScalingOut4Impact

WE NEED YOUR HELP!

1. Support and invest in the SOFI projects




2. Partner with us on the future of SOFI.



3. Make connections and spread the word





“During these times, more solidarity, more partnership, more friendship is what the world needs... SOFI is the type of partnership we want to see flourish.”

DAAN DU TOIT

Department of Science and Innovation (SA)

#SOFI2020 #ScalingOut4Impact

ACKNOWLEDGEMENTS

We would like to thank all the participants of SOFI for their enthusiasm and energy; the speakers, mentors and advisers who have contributed to the programme and supported our participants; as well as the organisations who have provided the resources to deliver the programme.

IMPLEMENTATION AND STEERING COMMITTEES

TIA

Anitha Ramsuran
Lindela Mzobe
Senisha Moonsamy
Patrick Krappie
Zipho Zwane

Black Business Council

Mphathi Nyewe
Tilson Manyoni

DSI

Busisiwe Ntuli
Khaya Sishuba

Innovate UK

Albertus van Rensburg
Niraj Saraf

Newton Fund

Aidan Darker
Dr Amelia Marutle
Katekani Chabalala

Liminal

Annette Kramer
Ella Weldon
Jacqueline Lim
Peter Hutchison
Roland Harwood

SPEAKERS, MENTORS AND ADVISERS

Adrian Dommissie

Aidan Darker
Babusi Nyoni
Daan du Toit
Deepa Prahalad
Desmond Musetsho
Emma Wade-Smith OBE
Ian Calvert
Irfan Pardesi
Gavin Weale
Gina Lucarelli
Janet Geddes
Kganki Matabane
Lara Allen

Lebo Gunguluza

Lyndsey Duff
Michael Mbogoro
Murendeni Mafumo
Ndaba Mandela
Nhlanhla Ndlovu
Nontombi Marule
Portia Mavhungu
Pule Setai
Sudhir Pillay
Tilson Manyoni
Tim Hart
Dr Wynand Goosen
Yogan Pillay

“It is an opportune moment for both our countries to collaborate in this way.”

TILSON MANYONI

Black Business Council (SA)

#SOFI2020 #ScalingOut4Impact

SCALING OUT FOR IMPACT 2020

Thank You | Enkosi | Ngiyabonga | Dankie
#ScalingOut4Impact #SOFI2020