Entrepreneurs Open Doors to Sustainable Future

Our mission is to address crucial development challenges through strengthening impactful social ventures that improve living conditions for underserved communities. Safe drinking water, uninterrupted clean energy supply or agri-technology for small holding farmers are just some examples of solutions from our global social entrepreneurship network.

Often starting in collaboration with local communities, these innovators, start-ups, and social enterprises come up with innovative and resourceful solutions that work to remove some of the biggest development roadblocks around the world. Empowering people. Award 2019 identified such pioneering talents from 800 entries from 86 countries. Expert teams in technical applications and financial sustainability thoroughly examined each submission to zero in on the best! All shortlisted projects strike a good balance between their practical business models and technical functionality to ensure that the targeted community benefits in the long run.

We are excited to present our 11 finalists who have successfully emerged on all counts of innovation, business feasibility, social impact, and teamwork. The finalists are a dynamic group of entrepreneurs whose social ventures are well spread across Asia, Africa, and the Americas. Though currently they serve locally, many solutions have the potential to be globally implementable. They feel the pulse of our changing times! We observed a definite shift from hardware to more software applications which will surely have a bearing on the future areas of focus in development cooperation.

Join me in wishing them luck as they battle it out before our multidisciplinary, international jury panel in Cairo. We thank our partners and jury members for their extensive support and knowledge that will ultimately help determine the winners of the Award 2019. It is a promising road ahead for them as they receive rewarding cash prizes along with memberships in empowering people. Network (epNetwork), a vibrant ecosystem of development professionals.

The ensuing pages introduce you to our finalists, capturing the development challenges they are addressing. Read and discover their journeys of transforming lives!

Rolf Huber
Managing Director of Siemens Stiftung
Jury

Iana Aranda  
President, Engineering for Change LLC (E4C)

Karen von Bismarck  
Co-Founder and CEO, Technology Exchange Lab, Inc. (TEL)

Dr. Maria Flachsbarth  
Parliamentary State Secretary, Federal Ministry for Economic Cooperation and Development (BMZ)

Patricia Jumi  
Managing Director and Co-Founder, GrowthAfrica

Christiane Laibach  
Chair, DEG Management Board

Deepak Menon  
Regional Director, Emerging Markets, Village Capital

Odin Mühlenbein  
Partner, Ashoka Germany and Lead of Advisory, Ashoka Globalizer

Oliver Nachevski  
President, Engineers Without Borders International

Amy Smith  
Founding Director, MIT D-Lab

Petr Skvaril  
Global Partnerships Director, Impact Hub

Martha Yaneth Rodríguez Merchán  
National Director, World Vision Colombia

Julia Thiele-Schürhoff  
Chair, Executive Board, Knorr Bremse Global Care e. V.

Expert Evaluation Partners

AT-Association
AT-Association supports advanced socially and environmentally-sound technologies that enhance the conscious choice by the users and enables them to develop or apply technical solutions that are in their own interest. The members of the non-profit organization are independent consultants, researchers, trainers, institutes and consultancy companies.

AT-Association carried out the first round of technological evaluation of all the award entries.

Intellecap
Intellecap is a pioneer in providing innovative business solutions that help build and scale profitable and sustainable enterprises dedicated to social and environmental change. Their unique positioning at the intersection of social and commercial business sectors allows them to attract and nurture intellectual capital that combines the business training of the commercial world with the passion and commitment of the social world to shape distinctive solutions.

Intellecap did the business evaluation of the longlisted organizations as well as the team interviews in collaboration with the epNetwork team.
empowering people. Award 2019
Milestones

800 entries from 86 countries until 31.10.2018

Categories
- Water & Sanitation
- Energy
- Food & Agriculture
- Waste Management
- Healthcare
- Mobility & Infrastructure
- Financial Technologies (FinTech)
- Education & Training

Expert Evaluation
AT-Association
Technology for Development
Intellecap
Business Approach and Team

Criteria
Technology
- Technical functionality and feasibility, and environmental performance
Social impact
- Potential to help solve basic supply problems, income generation, and job and training opportunities
Business
- Business model and financial resource, proof of concept, financial planning, and scaling options
Team
- Team competence and experience, and organizational structure

Award Ceremony in Cairo
Panel of 12 jury members representing international organizations from the development ecosystem

Real-time Jury Voting at the Award Ceremony
July 11, 2019 Cairo

Winner Special WASH Award

Community Prize Winner

TOP 3 WINNERS

empowering people. Network
Technologies for basic needs
**ADJUSTABLE PROSTHETIC PYLON**

**NONSPEC, UNITED STATES OF AMERICA**

**WWW.NONSPEC.ORG**

**SITUATION**
In the USA, there are 185,000 lower extremity amputations every year, with below-knee amputations being the most common. The situation in developing countries is similar where, due to financial constraints and lack of insurance, less than 10% of amputees have access to a prosthetic limb. Even simple devices without dynamic features are expensive resulting in amputees settling for an ill-fitting device.

**SOLUTION**
Adjustable Prosthetic Pylon is designed to provide an artificial pylon system for artificial limbs. It is developed with adjustment in mind to provide one system that can adapt to wide height ranges of users allowing them greater flexibility. The simple prosthetic allows a minimally-trained technician to fit an amputee in under an hour. It is easy to maintain and affordable supporting amputees improve their mobility and employability.

**SOCIAL IMPACT**
Adjustable Prosthetic Pylon is lightweight and comfortable facilitating the use of limbs to increase amputees’ physical activity tenfold compared to other prosthetic devices. Many users have managed to get back to playing their favorite sport and returned to their jobs. Nonspec has delivered 70 limbs in India and 12 in Rwanda, with over 200 clinics across the two countries participating in the development of this limb.

**SUSTAINABLE BUSINESS**
Nonspec is a for-profit business working directly with customers, meeting their needs to provide quality at a price suiting their target regions. The product can be manufactured in any location with basic job-shop resources and is affordable to over 80% of the world’s amputees. Manufacturing locally will reduce material and shipping costs as well as provide other economic benefits.
SNAPSHOT

Category
Education & Training

Used by Countries
Jordan

Team size
5–15

Requirements
Tablet with digital books and internet access

AVATAR
MIND ROCKETS INC., JORDAN
WWW.MINDROCKETSINC.COM

SITUATION
According to WHO, more than 5% of the world’s population suffers from hearing impairment. In many cases, access to written information has often been impossible to them. Since human interpreters are rare and expensive, literacy rates are low, and as virtual communications increases accessing textual information has never been more important to the deaf community.

SOLUTION
Avatar Sign Language Interpreters is an app that translates text and speech into Sign Language (SL) by taking a written input and providing SL interpretation as an output. The solution deals with one-way communication of information from websites, news, screens (front desks, kiosks etc.), and at libraries. The app software uses smart 2/3D avatars to help understand written content with seven SLs available so far: Unified Arabic, Saudi, Emirati, Jordanian, Egyptian, American, and British.

SOCIAL IMPACT
Reviews and feedback from online users of the solutions have lauded its ability to provide a meaningful difference to people’s lives. As an example, Avatars can be seen as a means for students who would otherwise sit in classrooms unable to understand what’s going on. With over 200,000 app downloads for its free version already, this tool can change the whole education environment for deaf people in developing countries. It also creates job opportunities for deaf people.

SUSTAINABLE BUSINESS
Mind Rockets Inc. is a small, for-profit company with a team comprised of both technical and business experts who are experienced in interacting with deaf communities. The solution can be purchased per annual subscription and is available in several user packages for different fees.
SITUATION
A significant part of the world’s population live in areas without internet connectivity particularly those in rural and remote areas in the developing regions. This threatens to exacerbate existing socio-economic inequalities, as the unconnected face chronic gaps in information, education, markets, financial and health services and to government programs.

SOLUTION
BLUETOWN offers a hybrid solution featuring last-mile Wi-Fi connectivity, local cloud access, and satellite communication in a unified, solar-powered base station. It is a complete one-box connectivity solution for remote sites with self-supporting mast, satellite terminal, Wi-Fi and rechargeable battery that has been specifically designed for easy installation. There, users can access a local cloud, which provides easy and affordable digital services at no data cost to the end-users.

SOCIAL IMPACT
BLUETOWN provides rural communities fast and easy avenues to e-learning, e-health, e-governance, agriculture and financial inclusion. End-users do not pay for consuming data. Its 800 sites in rural India facilitate financial services, even when internet credit is consumed. Students in rural public schools in Tanzania are now learning English through localized educational videos.

SUSTAINABLE BUSINESS
This for-profit social enterprise is at an expansion and mass production stage. It creates new business models through innovative multi-stakeholder partnerships with major telecom providers and investors in their countries of operation. The nature of the solution is critical for the development of emerging economies promising good growth potential.
The World Health Organization estimates 1.3 billion people globally live with some form of vision impairment, facing numerous challenges for quick and easy access to their books, files and notes. For years, braille has been their only script used to read. Technologies for the visually impaired have not managed to catch up with the overall digital shift, bringing to the fore the limitations of print material. This has led to a fall in literacy and employment for the visually impaired. Current digital devices remain largely unattainable due to their high price.

**SOLUTION**
BrailleMe is a digital tablet for the visually impaired with the paper touch feel of braille. It plugs into mobile phones or computers and enables users to easily browse the internet, read books, and use social media through translating the digital texts into braille. The device offers forward and backward translation and can support more than 50 languages. It is portable and designed with a long-lasting battery life which can be used anywhere at any time.

**SOCIAL IMPACT**
It comes at a 10 times better price in all major global languages and enables digital empowerment of students and professionals alike in developing regions. Students directly write their exams without using scribes, and professionals with computer skills have increased their employability by accessing modern digital devices in braille.

**SUSTAINABLE BUSINESS**
Innovision is a for-profit, early-stage enterprise. It has adopted a partnership approach to distribution and service provision. It has seven international distributors taking over the dissemination as well as language localization. This allows the business to maintain low overheads and costs for the solution.
GRAINMATE – GRAIN MOISTURE METER

SESI TECHNOLOGIES LTD, GHANA

WWW.SESITECHNOLOGIES.COM

SITUATION
Poor post-harvest management of food grains is one of the major challenges to food security in sub-Saharan Africa. One of the main factors which affect food grains during storage and determine their longevity is the moisture content at which they are stored. Too much moisture leads to fungal growth and aflatoxin contamination which destroys the grain, making it unsafe for storage, feed or consumption. Current commercial grain moisture meters are expensive making it unaffordable for average smallholder farmers.

SOLUTION
GrainMate is a low-cost grain moisture meter which helps crop aggregators, food processors, grain and poultry farmers to accurately measure the moisture content in grain crops before storage to help them reduce post-harvest losses. It is over 3 times cheaper than conventional grain moisture meters in the market. Its accuracy level is comparable to more expensive models which cost over $1,000 USD.

SOCIAL IMPACT
GrainMate is ideal for measuring the moisture content of several commodities including corn, rice, chickpea, wheat, and soya bean with the capacity to support up to 32 different crops. Its technology has the potential to drastically reduce post-harvest losses for cereal and grain farmers estimating a 10% crop savings per bag of grain stored. GrainMate is currently benefitting over 1,000 farmers in the middle and upper regions of Ghana, Kenya and Tanzania.

SUSTAINABLE BUSINESS
GrainMate is a product from Sesi Technologies, a for-profit start-up working extensively with donor agencies and farmer-based organizations. Its prize is even affordable for small cooperatives or individual farmers and traders. They offer training and work closely with potential customers in areas related to post-harvest losses.

SNAPSHOT
Category
Food & Agriculture

Used by Countries
Ghana

Team size
51–100

Components
A handheld unit and an aluminium probe
Requirements: 9v battery
**SNAPSHOT**

**Category**
Education & Training

**Used by Countries**
Brazil, Argentina, Peru, Mexico, Jordan, Egypt, Saudi Arabia, the USA, Portugal and Switzerland

**Team size**
5–15

**Requirements**
Internet, Android devices

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**LIVOX**

**LIVOX INTERNATIONAL, BRAZIL**

**WWW.LIVOX.COM.BR**

**SITUATION**

According to the World Health Organization, more than 1 billion people globally are affected by some kind of disability. A vast number suffer from cognitive impairment, verbal and learning disorders that put them at a high risk of exclusion. Current assistive devices remain largely unaffordable for low-income groups and require installation of additional hardware systems.

**SOLUTION**

Livox is a software application with intelligent algorithms that enable verbally challenged people to communicate and learn. It develops assistive technologies to understand a person’s specificities in order to facilitate a resolution to cater to the different needs of those with disabilities. Livox uses Machine Learning and Natural Language Processing to enable the user to speak up to 20 times faster and is available on Android devices.

**SOCIAL IMPACT**

Livox serves over 25,000 people across 10 countries and is available in 25 languages. Primarily, their beneficiaries are parents, families of disabled people, governments, institutions, schools and hospitals. The software improves social contacts, education and employment opportunities supporting the end-users to express themselves efficiently.

**SUSTAINABLE BUSINESS**

Livox is a for-profit enterprise at an expansion stage of manufacturing and distribution. Its regional dissemination is supported by distribution partners in the various geographies who use their local expertise support in translation and sales of the software.
SITUATION
According to a Pakistani children’s rights group, the country ranks second with the most out-of-school children in the world. Regarding the quality of education provided in public and low-cost private schools, there are critical gaps that still exist. The poor quality of public schools, inadequate teacher capacity, and outdated educational content are all reasons why children enrolled in public schools are mostly at risk for early dropping out or for not achieving essential, grade-level skills.

SOLUTION
SABAQ is an educational tech initiative from Pakistan that has developed applications software to offer access to quality education, even in remote regions where there are no schools. Conveniently accessible to millions of children on their Android device, the digital learning resources are available in English, Urdu, and other local languages. SABAQ aims to increase student engagement and improve learning outcomes through sound digital content, like quality instructional videos, exercises, and flipbooks.

SOCIAL IMPACT
SABAQ is the only organization in Pakistan that has 500 EdTech (Education Technologies) non-formal learning centers in rural areas where schools are either too far away or inactive. Third-party assessments of SABAQ’s impact show that children using the app compared to those who didn’t during the test period showed 3 times and 2.5 times improvement in learning outcomes in Math and literacy respectively.

SUSTAINABLE BUSINESS
With its business model, SABAQ is uniquely poised to gain access to the niche market of children from grades 1–5 and offers a solution much cheaper than books set for students. The technology is a maintenance-free solution, where users would only require spare parts for their device to ensure connectivity. Besides, SABAQ intends to encompass Early Childhood Development (ECD) material as well.
SITUATION
More than 50 million people in Bangladesh live in densely populated rural areas without electricity. Another 20 million villagers are equipped with a solar home system (SHS). They still remain unable to power their demands and under-utilize the solar systems, resulting in up to 30% lost generation capacity. This results in completely untapped resources averaging an excess supply of electricity of 600,000 kWh per day.

SOLUTION
SOLbox is a bi-directional, direct-current electricity meter that enables peer-to-peer electricity trading aiming to end energy poverty. Based on the already-existing 5+ million solar homes systems (SHS) in Bangladesh, SOLbox interconnects them linking producers, consumers, and large companies in smart-grids. It enables users to buy and sell electricity at a micro-scale in an off-grid setting and at the same time allows smart grid management, remote monitoring, mobile money payment and data analytics.

SOCIAL IMPACT
Operating in Bangladesh, one of the most climate vulnerable countries in the world, SOLshare creates resilient energy infrastructures. It has installed 15 grids in rural Bangladesh, benefitting over 15,000 people. The end-users like households and shopkeepers enjoy a more flexible, reliable and cheaper service than before and earn direct income from their SHS by cashing-in what they have fed into the grid.

SUSTAINABLE BUSINESS
In order to characterize SOLshare’s vision for the future of energy, the organization is passionately driving the principle known as the 5Ds: Decentralization, Decarbonization, Disruption, Democratization and Digitization. It leverages the SHS through B2B partnerships with local businesses, using their existing customer base, marketing, distribution channels and aftersales capacity to create value through microfinance.
SUMEWA|SYSTEM & INNOVATIVE BUSINESS MODELS

AUTARCON, GERMANY
WWW.AUTARCON.COM

SITUATION
According to a UN World Water Report, about 2 billion people lack access to safe drinking water globally. Drinking contaminated water can lead to the transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid, and polio. Inadequate or inappropriately managed water and sanitation services expose individuals to health risks that can be prevented.

SOLUTION
AUTARCON develops and implements a technology platform for the long term supply of safe drinking water in developing regions. With its SuMeWa|SYSTEM, it offers a very robust and solar driven technology adapting to local water conditions for pumping, filtering and disinfecting. The water is monitored online and safely stored for distribution.

SOCIAL IMPACT
AUTARCON water systems are currently serving over 50,000 people in 10 countries across Africa and Asia. The technology provides access to clean, safe drinking water free of harmful contaminants and disease-causing bacteria. It also reduces the carbon footprint of water treatment to nearly zero, as most of the stations run on solar. On average, about 2-3 jobs are created per water project.

SUSTAINABLE BUSINESS
It is a for-profit enterprise that uses partners to identify, set up and operate water points in all location they are presently. The partners take care of the infrastructure and can either buy a system upfront or receive it for free and payback via royalties generated from water sales.

SNAPSHOT
Category
Water & Sanitation

Used by Countries
India, Nepal, Tanzania and Egypt

Team size
5–15

Components
Electrolytic cell
SITUATION
UNICEF estimates that 62% of Africans lack access to adequate sanitation, and only 15% of Ghanaians have access to improved sanitation. Over 4 million practice open defecation leading to deep public health, and environmental issues followed by ancillary problems like risks of sexual assault, missed schooling and poverty. Where toilets exist they lack affordability, difficulties of emptying, huge area uptake, and pollution of water resources. People in low-income areas, especially the urban poor, suffer most.

SOLUTION
WASHKing's eco-friendly biodigester toilets aim to end open defecation and improve poor sanitation issues in low-income urban communities in Ghana. The technology uses an on-site treatment made of a sub-structure known a biodigester and privy (super-structure) which can be built with different materials such as pre-cast slaps, Ferro-cement and blocks. It is easy to maintain as it treats human waste onsite and does not require piping it offsite for treatment. The treated waste serves as manure and water for agricultural use.

SOCIAL IMPACT
WASHKing provides low-income and underserved communities with access to sanitation products at an affordable price. WASHKing started with 18 toilets benefitting about 150 people in Accra. They progressed to build 200 toilets that are being used by over 2,000 people. These toilets are enhancing health and income conditions along with protecting the environment.

SUSTAINABLE BUSINESS
A hybrid between a social purpose corporation, a low-profit limited and community interest company, WASHKing is at its early entrepreneurial phase. It reaches out to low-income NGOs, local municipal assembly and environmental health workers. They link clients to local subsidy programs and microfinance loans and run pay-as-you-use toilet services.
SNAPSHOT

1816 – FREEING ARGENTINA FROM HUNGER

NILUS, ARGENTINA

WWW.NILUS.ONLINE

SITUATION
The Food and Agriculture Organization roughly estimates one-third of the food produced in the world for human consumption gets lost or wasted, releasing massive gigatons of impure energy into the atmosphere. Argentina wastes 16 million tons while one-fifth of its children are undernourished. Its food banking network attempts to reduce food waste yet lack of technology and good logistics significantly limits the distribution to those in need.

SOLUTION
1816 is a real-time app that uses technology to retrieve edible food that is about to be discarded and distributes it among those in need of it. It uses crowdsourcing and geo-location technologies to connect food donors, community kitchens and registered drivers to match offer and demand and thus feeds people living in slums and low-income areas. It is a joint program of the National Foodbanking Network of Argentina and Nilus.

SOCIAL IMPACT
Through their network of 15 food banks and 7 associated groups in Argentina, 1816 reaches over 332,000 beneficiaries of which 70% are children. Their food dissemination to community and soup kitchens serve around 150 beneficiaries each day. They also generate income for the registered food-delivery drivers. Their technology allows combined distribution for 3-4 kitchens in one trip, saving money and reducing emissions.

SUSTAINABLE BUSINESS
Nilus is a non-profit social venture with a small but passionate team using community and economic models to reduce food loss and waste. The community kitchens pay a subsidized fee for the logistics and distribution of the food to their premises. For every kilo of food rescued Nilus and the food banks split the revenue in half.
Approach of empowering people. Network

What Our Network Looks Like

WATER & SANITATION | ENERGY | FOOD & AGRICULTURE
WASTE MANAGEMENT | HEALTHCARE | MOBILITY & INFRASTRUCTURE
FINANCIAL TECHNOLOGIES (FINTECH) | EDUCATION & TRAINING

83 Organizations

»Being an empowering people. Network member has been wonderful, as it connects us with like-minded experts, and mentors. They helped us shape our organization and maximize our impact.«
Maysoon Sharif, Aguaclara

»Learning with peers is so effective in terms of getting to know interesting projects and cultures. We challenge each other to think outside the box, which is very inspiring for a social organization’s work.« Wesley Meier, EOS International

»Application of the learning that I received from the epOnsite training on financial management totally changed the focus and development of my company. It will assist my organization to effectively compete in the rapidly growing renewable energy industry in Nigeria.« Omotayo Dairo, Quintas

Effective work of local actors needs sustainable support and promotion

14 countries of origin
14 epExpert placements
31 workshop participants
29 for-profit
23 non-profit
98 countries of deployment

Organizational Development
- Business coaching and consulting
- Knowledge on financing
- Access to funding programs
- Analysis of companies and organizations
- Peer-to-peer coaching

Professionalization
- Advanced training of the founders and entrepreneurs
- Advanced training of employees
- Specific entrepreneurial and technical expertise
- Pro-bono support by experts

Networking & Promotion
- Regional peer networks
- Networking with potential partners and sponsors within the ecosystem
- Promotion and communication
- Support of technology transfer
About Us

Siemens Stiftung

As a nonprofit foundation, Siemens Stiftung promotes sustainable social development, which is crucially dependent on access to basic services, high-quality education, and an understanding of culture. To this effect, the Foundation’s project work supports people in taking the initiative to responsibly address current challenges. Together with partners, Siemens Stiftung develops and implements solutions and programs to support this effort, with technological and social innovation playing a central role. The actions of Siemens Stiftung are impact-oriented and conducted in a transparent manner.

www.siemens-stiftung.org

empowering people. Network

empowering people. Network is an initiative of Siemens Stiftung that brings innovators and social entrepreneurs together and fosters the combination of technical and entrepreneurial concepts. The focus is on individuals and organizations who have developed simple technical solutions with potential to eliminate deficits in basic services as they face formidable challenges to expanding their much-needed impact in developing regions. The Network aims to promote the spread of suitable solutions, maintain a platform for knowledge transfer, foster entrepreneurial thinking for social development and enable networking with ecosystem organizations. Connecting social entities at different stages worldwide, it offers activities that are tailored to the specific needs of social developers at various points along their entrepreneurial development as they proceed to scale, replicate, increase capacity and develop viable internal structures.

www.empowering-people-network.org

The project descriptions provided are based on the information given by entrants for the empowering people. Award 2019 (July 5, 2018–October 31, 2018). Any project modifications made after the close of the award may not have been taken into consideration in this brochure. The business details specified by the entrants have also not been included here. Further details on this can be found on our website www.empowering-people-network.org
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