

# D4D

PRIZE Digital for Development



## ABSTRACT BOOK

INNOVATION FAIR AND AWARD CEREMONY  
Wednesday November 30, 2016

ROYAL MUSEUM  
FOR CENTRAL  
AFRICA

Afrika

TERVUREN

With the support of  
THE BELGIAN  
DEVELOPMENT COOPERATION



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# INTRODUCTION

Prize 'Digital for Development (D4D)' rewards outstanding initiatives that use digitisation and (new) technologies as a lever for development towards achieving the Sustainable Development Goals (SDGs).

Prize D4D is a biennially initiative of the Royal Museum of Central Africa (RMCA) with the support of the Belgian Directorate-General for Development Cooperation (DGD).

The combination of both responsibilities, 'Development Cooperation' and 'Digital Agenda', in the portfolio of Minister Alexander De Croo offers a range of unique possibilities. One of these new opportunities is the Prize D4D.

Prize D4D consists of three categories:

- the innovative idea / startup – 'iStartUp'
- the success story – 'iStandOut'
- the public award – 'iChoose'

Both in the category 'iStartUp' (innovative idea) and the category 'iStandOut' (success story) the jury nominates three initiatives and one of them is selected as the winner. In the category 'iChoose', a third winner is chosen online by the public.

All 3 winners will receive their prize at the award ceremony on Wednesday November 30<sup>th</sup> 2016 in the Colonial Palace in Tervuren.

# KEYNOTE PRESENTATIONS

## SUSTAINABLE ICT 4 DEVELOPMENT

Inge Knapen

Close the Gap

Theme D4D  
e-Education

### Summary of the keynote presentation

With the introduction of the UN Sustainable Development Goals, the global efforts to achieve more sustainable, environmental and human development reached a new level. There is no doubt that ICT can bolster these efforts and help us to meet these goals. At Close the Gap, our work mainly focuses on bridging the global digital divide by increasing availability of ICT equipment for the developing world to be used in education, health, employment and other development projects. Education is the key to achieve other global goals, when it is strengthened by ICT the positive social impact becomes greater. However, there are many challenges, especially in Africa, to provide access to ICT-enabled facilities to accelerate development.

Supporting development in Africa can be challenging; while trying to overcome these challenges, it is important to make sure that the impact you create, promotes sustainability and environmental protection, meets the immediate needs of the communities in the short and long-term and empowers future generations. In all cases, Close the Gap will select projects that share a common denominator: empowerment of the individual and his or her community.

At end of life, IT equipment does not have to become an environmental liability. Through responsible recycling options available in these beneficiary communities IT recycling can pose new opportunities creating green jobs, stimulating local economies and recovering precious material that can be used in new IT equipment.

Many friends of Close the Gap take a leadership position supporting sustainable electronics recycling by participating in Close the Gap's voluntary offsetting programme. This programme ensures that a similar asset in a developing country is recycled responsibly by Close the Gap's partner WorldLoop.

The circular model of Close the Gap and WordLoop focuses on re-use, recycle and reducing impact on the environment.

# COLLECTIVE INTELLIGENCE AS A DIGITAL TOOL TO TACKLE SOCIETAL PROBLEMS

Nadia El-Imam

Edgeryders

Theme D4D

OpenCare

## **Summary of the keynote presentation**

Done right, sustained digital interaction between networked individuals has far-reaching (and not always obvious) consequences on internal processes, power dynamics, management of the funding cycle and other deep features of the development sector's landscape. Digital solutions do not exist in a vacuum, nor are they ever drawn on a blank slate. They are small pieces of large ecosystems with different organisations at their centres. The cultural differences between the culture of any large organization and networked individuals make it inevitable to navigate trade-offs, reach compromises, and incorporate constraints.

The purpose of this presentation is to introduce participants to key concepts to help them reach a shared understanding, so that any new digital for development initiatives can be radical and innovative, while not clashing with their parent organizations.

# **IMEC.ISTART BOOSTS DIGITAL TECHNOLOGY**

Eric Van Der Hulst

imec (before iMinds, fused with imec)

Theme D4D

Embracing a better life through digital technology and startup acceleration

## **Summary of the keynote presentation**

Imec (the merger of imec and iMinds) is one of the biggest digital research organisations in Europe (and the world).

Through research, startup incubation and acceleration and living lab methodology it aims at enhancing life through the use of nanoelectronics and digital technology.

Imec supports the D4D initiative in pursuing development through digital technology.

# THE STRATEGIC POLICY NOTE OF THE BELGIAN DEVELOPMENT COOPERATION ON DIGITAL FOR DEVELOPMENT

Bruno van der Pluijm

Director-general for development cooperation and humanitarian aid,  
FPS Foreign affairs, external trade and development cooperation

Theme D4D

Strategic policy on D4D

## **Summary of the keynote presentation**

Mr. Bruno van der Pluijm will introduce the recent strategic policy note of the Belgian development cooperation focusing on ‘*Digital for Development*’ (D4D). This policy note sets out the reasons and ways in which digitalization can make a decisive contribution to the realization of the sustainable development goals (SDGs). Digitalization is not seen as a goal in itself, but as an *enabler* and *accelerator* whose transversal integration could benefit to all sectors where the Belgian development cooperation is active. The note describes the vision, the priorities and the principles which define the ‘*digital for development*’ policy. Special attention is also given to the risks inherent to such an approach and how to best contain them. The importance of partnerships (with international organizations, the private sector, ...) is highlighted as well, as these partnerships are considered vital in fully exploiting the incredible potential of digitalization for development.

# INNOVATION FAIR

## PARTICIPANTS

Prize Digital for Development (D4D) / RMCA

VITO

Bluesquare

AKVO

Philips

Close the Gap / WordLoop

Edgeryders

BTC / Be-cause Health

VLIR-UOS

# ABSTRACTS OF THE NOMINATED PROJECTS FOR THE PRIZE D4D

## CATEGORY 'iSTANDOUT'

### THE DIGITRUCK

Close the Gap International VZW,  
Robert Mafie (Affordable computers and technology for Tanzania Limited)

Countries involved

Tanzania, South-Africa, DR Congo

Target group(s)

Kids and adults in remote areas who do not have access to the electricity grid and thus also not to ICT

Theme D4D

e-Education

Objective

By being a mobile classroom with high quality IT equipment and digital enabled learning materials, the Digitruck adds to both the quality and the availability of education in remote off grid areas.

#### Summary of the project

The Digitruck is a solar-powered, mobile IT unit which aims to reach remote parts of Africa where reliable electricity infrastructure is not available. Close the Gap is an international non-profit organisation that aims to bridge the digital divide by offering high-quality, pre-owned computers and mobile devices donated by large and medium-sized corporations or public organisations to educational, medical, entrepreneurial and social projects in developing and emerging countries. All the projects are demand-driven and share the common denominator of being non-profit-oriented initiatives. A Digitruck is a refurbished 40ft sea container on a trailer to function as a mobile IT classroom. It is completely insulated in order to protect students from the heat during the day. The Digitruck is powered by 10 solar panels installed on the roof of the container, which provides self-sufficient, carbon-free electricity. A Digitruck contains 20 refurbished, high-quality laptops (2 extra for teacher and backup), a large LED screen, a printer and other essential IT equipment for a fully functioning IT-lab. According to our project statistics, a Digitruck can provide IT-education up to 540 people per week. The Digitruck has been designed as a mobile and multifunctional unit. Besides as a classroom, the Digitruck can also serve as a healthcare centre, a business centre, a community centre, or a general IT lab which can be used in both child and adult education.

## **OPENCLINIC**

Marc Nyssen, Gustave Karara (Vrije Universiteit Brussel / ICT4D)  
Nabila Nazir (Comprehensive Community Based Rehabilitation in Tanzania)

Countries involved

All countries, Sub-Saharan Africa in particular

Target group(s)

Hospitals and health centres

Theme D4D

e-Health

Objective

1) To introduce a patient-centric electronic medical record, 2) to foster the organisation of care in the institution, 3) to improve the quality of care and streamline administrative procedures to the benefit of both the patients and the institutions, 4) to make “hard data” available for research and management support.

### **Summary of the project**

OpenClinic is a modular software package for hospital management. It is specifically designed to satisfy the needs in countries with limited resources, according to the patient-centric model. Via the “open-source” concept, a very wide adoption was realized (currently more than 500 installs) and the contributions of many end-users were integrated. Besides the medical record and modules for all specialities (including PACS image management and a LIMS for the lab), OpenClinic also provides administrative support for sound hospital management, taking care of external reporting and financial modules for invoicing and applying the appropriate insurance schemes in accordance with the local legislation. Finally, a “cloud application” (“Global Health Barometer”) collects all daily (anonymized) reporting packets that OpenClinic installs into a data warehouse at the VUB. These data allow, amongst other applications, to monitor the extent of universal coverage, based on real life data.

OpenClinic is suited for small centres as well as for large hospitals with more than 2000 beds. For successful deployment, a methodology was developed, taking into account the typical environmental problems of the South: frequent current breaks, high temperatures and humidity.

# **E-LEARNING CURRICULUM IN PALESTINIAN PRIMARY AND SECONDARY EDUCATION (E-LEARNING PROJECT)**

dr Basri Salmoodi, Deputy Minister,  
Palestinian Ministry of Education and Higher Education,  
Thierry Foubert & Jan De Ceuster, (Belgian Technical Cooperation)

Countries involved

Palestine

Target group(s)

Students (age 10 to 15); teachers; 288 schools; departments and directorates of the Ministry of Education and Higher Education (concerned with ICT, e-learning student-centred approaches); education district offices

Theme D4D

e-Education

Objective

To introduce the use of ICT in 288 pilot schools in Palestine in order to enhance student-centred learning and allow students to acquire 21<sup>st</sup>-century skills.

## **Summary of the project**

From 2010 until 2015, the Palestinian Ministry of Education and Higher Education (MoEHE) and the Belgian development agency (BTC) have jointly implemented an e-learning project with funding from the Belgian Development Cooperation. E-learning and ICT were not a goal in itself, but a means to enhance student-centred learning and allow students to acquire 21<sup>st</sup>-century skills (critical thinking, learning to learn, problem-solving, global citizenship, digital literacy...).

The main achievements of the project are 1) school-led initiatives, where 288 schools defined their own ICT needs and were provided with ICT material, 2) student-centred learning through the use of ICT, 3) development of a digital teacher portal hosted by the Ministry, the Palestinian Gateway, where teachers can share their learning objects and experiences with each other ([www.elearn.edu.ps](http://www.elearn.edu.ps)), 4) Mobile Learning Training on innovative teaching methods using mobile devices (tablets), 5) mobile applications developed by about 500 students with guidance from 25 trained Ministry experts, 6) training and equipment for the use of robotics for STEM education (science, technology, engineering & mathematics) and 7) upstream policy advice was provided based on a large action research to learn from the activities and pilots supported by the project.

# CATEGORY 'iSTARTUP'

## AKSANTIMED

Serge Mbela Sedi (Université de Liège),  
Hélène Mavar (Université Libre de Bruxelles – Phytoconsult H.Y. sprl) and  
Riziki Maneno (Université de Kinshasa, SOS Médecins de Nuit)

Countries involved  
Sub-Saharan Africa (RD Congo)

Target group(s)  
Sub-Saharan Africa

Theme D4D  
e-Health

### Summary of the project

The plague of counterfeit medication has resulted in failed treatments, poisonings, increased resistance to antibiotics, and sometimes even death. According to data from OMS and the American Journal of Tropical Medicine and Hygiene over 120,000 Africans were killed in 2013 as a result of this industry. AksantiMed uses the rise of the mobile phone (GSM) and the internet on the African continent to put patients in the difficult task of checking the medication. The patient can use the application Aksantimed to validate the unique 12-digit code printed on a non-transferable label placed on each medication box. This can be done either by SMS or through the application AksantiMed. When the patient validates this code, he or she will immediately receive more information related to the product (type, commercial name, expiration date, safety alerts ...).

Initial tests have been received with great enthusiasm by pharmacies and telecom providers, but also by patients who now have the possibility to validate their medication via SMS.

The data retrieved at the time of the validation are of precious help to the (local) producers. They now have the possibility to track whether their products are being counterfeited, with financial losses as a consequence. The authorities and health professionals can get different statistics, services and documentation as well as a specialized search engine for medication. Finally, the platform is accessible via a web interface, subject of course to access rights.

## **SOUNDIATA PAYMENT GATEWAY**

Louis MANGA, Venturelab / HEC-Liège,  
Ousmane Ndao (Agence de Services Manages)

Countries involved

The countries of the UEMOA (Economic and Monetary Union of West Africa):  
Benin, Burkina Faso, Ivory Coast, Mali, Niger, Togo, Guinea Bissau, Senegal

Target group(s)

e-Merchants in West Africa

Theme D4D

e-Government

Objective

One of the main obstacles to the development of e-commerce in Africa is the lack of reliable and secure online payment solutions. Soundiata wants to reinforce mobile banking to promote safe North-South but also South-South exchanges on the internet.

### **Summary of the project**

Soundiata is an online payment method for e-commerce in Africa. The goal is to accept online payments from merchants via mobile phone from Africa. Only 23% of Africans have access to basic financial services (bank account, credit card, etc ...). These circumstances make it difficult to ensure the development of e-commerce on the continent. Soundiata Payment Gateway is an application that allows for e-merchants to safely receive their payments via mobile. The strength of Soundiata lies with the universality of the application. Currently two people in West Africa can only carry out a mobile money transaction if they have the same mobile operator. The Soundiata application however exceeds these limits and offers a universal solution for online payments, regardless of the mobile operators. The solution will be deployed in eight UEMOA countries sharing a common currency (Franc CFA). In addition, many commercial sites in Europe block trades from Africa. Soundiata provides an opportunity for businesses, organizations and governments with African ambitions to advance in secure transactions. Our solution will contribute to the growth of e-commerce in Africa adapted to local realities.

## **GEO-DOMAINES COOPÉRATION**

Daniel and Ghislain MULLER (IT-International Development)  
Claude Bernardini (Ultima Technologies)

Countries involved

All African countries and other countries in need for geolocalisation by means of ICT

Target group(s)

Cooperants, local institutions (national or private), individuals wishing to produce surveys, maps, etc. in order to carry out studies, land and cadastral claims, etc.

Theme D4D

e-Governance, Big Data

Objective

Geo-Domains program facilitates tracking plans, areas and various points positioned by GPS without any geographical or territorial restrictions via PC and mobile phone.

### **Summary of the project**

Elements in the field or produced by various channels can be modified and shared with other users or supervisors wherever they are on land. These statements can be supplemented by photos, sound recordings, Excel tables that are automatically linked to a point or zone. The addition of visual layers (orthophotos, advanced satellite images, cadastral boundaries, etc.) in various formats is foreseen.

Exchanges between different applications, such as mapping or geographic information systems, are already active.

The strength is the use of standard mobiles (smartphones, tablets) and conventional PCs (no purchase of expensive equipment). The readings are very accurate thanks to their info (written, visual, sound) and thanks to an automatic GPS location.

The possibilities are very wide because remote teams can share information almost instantaneously in the field: for example, TECHNIQUES (state of dikes, roads, parcels divisions, cadastral control ...) AGRICULTURE (management of crops between villagers and local authorities, follow-up of insect invasions, animal census and migration, fishing zones ...) MEDICALES (areas of disease and intervention, location of treatment stations ...), LEGAL NEEDS (legal, cadastral, territorial).

## **CATEGORY 'iCHOOSE'**

### **BOSCO SCHOOL MANAGER**

VIA Don Bosco ngo  
Antenne de Développement ADAFO / Africa,  
Yao Tsedi (Via Don Bosco)

Countries involved

Mali and Benin

Target group(s)

Schools management & teachers

Theme D4D

Development of a management software for schools

Info & Communication via a video reel

Objective

Digitalising of the school data

#### **Summary of the project**

In West Africa, partners have chosen to develop software to improve school management: BOSCO SCHOOL MANAGER. This software is a customized platform for our various "Centres de Formation Professionnelle" (Vocational Training Centres). This is a unique project as the digitisation of school data is known to be low in most African countries. This digital data management system makes it possible for schools to gain a clear insight into their own performance, in addition to monitoring the evolution of their students. The software was developed by Africans for Africans. Although it was originally developed for seven schools within the DGD program of VIA Don Bosco, the software is now used in 7 countries and 22 schools in the West Africa region.

VIA Don Bosco is a Belgian NGO that supports education and employment for young people in Africa and Latin America. For over 45 years Bosco School Manager offers educational and financial assistance to local schools. Developing social and professional skills among disadvantaged youth is the focus of our projects. Bosco School Manager helps them to become active global citizens and to find a place in the job market. At the same time Bosco School Manager builds bridges between schools in Belgium and elsewhere in the world. In this manner VIA Don Bosco paves the way for a just society that meets the Sustainable Development Goals.

[www.viadonbosco.org](http://www.viadonbosco.org)

[www.facebook.com/VIADonBosco.vz](https://www.facebook.com/VIADonBosco.vz)

## **LET'S TALK TRASH**

WorldLoop / Close The Gap,  
Griet Hendrickx,

Roger Ouedraogo (Great Lakes Initiatives for Communities Empowerment)

Countries involved

Kenya - Tanzania - Congo - Burundi

Target group(s)

General public

Theme D4D

Awareness raising

Objective

Educate and enlighten as many people as possible on the importance of bridging the digital divide while creating sustainable solutions for the challenge of the e-waste cycle in Africa.

### **Summary of the project**

ICT has the ability to change the world. It raises the standard of living and provides new workplaces and jobs, creating dreams and opportunities. High-quality reused IT equipment gives access to information at unprecedented levels, empowering poor and disadvantaged communities living in developing and emerging countries. At end-of-life, IT equipment does not have to be an environmental liability. Through responsible recycling it can pose new opportunities in communities creating green jobs, stimulating local economies and recovering precious material that can be used in new IT equipment. Through interviews and visits, the web documentary “Let’s Talk Trash” is bringing a human voice and face to a world at the base of the pyramid benefiting from reused ICT equipment and e-waste in Sub-Saharan Africa. By giving the most impacted a voice, Let’s talk trash aims to bring awareness about the positive and negative realities of ICT and e-waste on a global scale and encourage people to measure their own possible impact and take action.

More than 2000 tonnes of e-waste has been collected and responsibly recycled ensuring sustainability of the digital for development agenda. International attention has been given to the negative impacts ICT equipment can have on the environment and communities when it becomes e-waste. This story can develop misconceptions on the social benefits high quality reused equipment brings to the most vulnerable communities. Those benefiting and impacted are given a voice thanks to “Let’s Talk Trash”.

## **SOLARLY**

Orban de Xivry Jean-Grégoire (co-founder) – Julien Riat (co-founder) –  
Maxime Dolberg (co-founder), David Oren (co-founder),  
Koh Crystel (Better World Cameroon)

Countries involved

Cameroon

Target group(s)

Rural households in Sub-Saharan Africa

Theme D4D

e-Development - renewable energy

Objective

Energy is the breeding ground for development. Without energy there is no possible growth. Solarly develops a solution in order to make the electricity access easier for rural household in Sub-Saharan Africa.

### **Summary of the project**

Today in Sub-Saharan Africa, 2 out of 3 people do not have access to electricity (635 millions). The majority of households live in rural areas and spend around \$120/ year in inefficient, toxic, expensive and out-dated alternatives to get access to electricity. The WHO organization estimate that 600 000 people, of which 50% are children under 5, die each year following the indoor pollution generated by the use of fossil fuels (oil lamps, fire,...). Solarly develops and installs solar stations between 50W and 250W which are connected, autonomous and affordable providing an easy access to electricity for rural households who don't have access to electricity, creating opportunities for economic development and giving self-sufficiency to the people. Solarly also provides revolutionary services (including the block chain technology).

Solarly is connected to the Solar Stations allowing to provide :

- 1) an adapted payment plan called “Rent to Own” or “Pay-As-You-Go” (PAYG). This option allows them to buy the solar station without having to change their financial habits. According to the household’s budget, they pay a predetermined amount weekly or monthly for the use of the solar station. At the end of the payment plan they become the owner of the solar station.
- 2) a warranty on the equipment of the solar station and
- 3) a real-time monitoring of the use of the solar stations and providing revolutionary services.