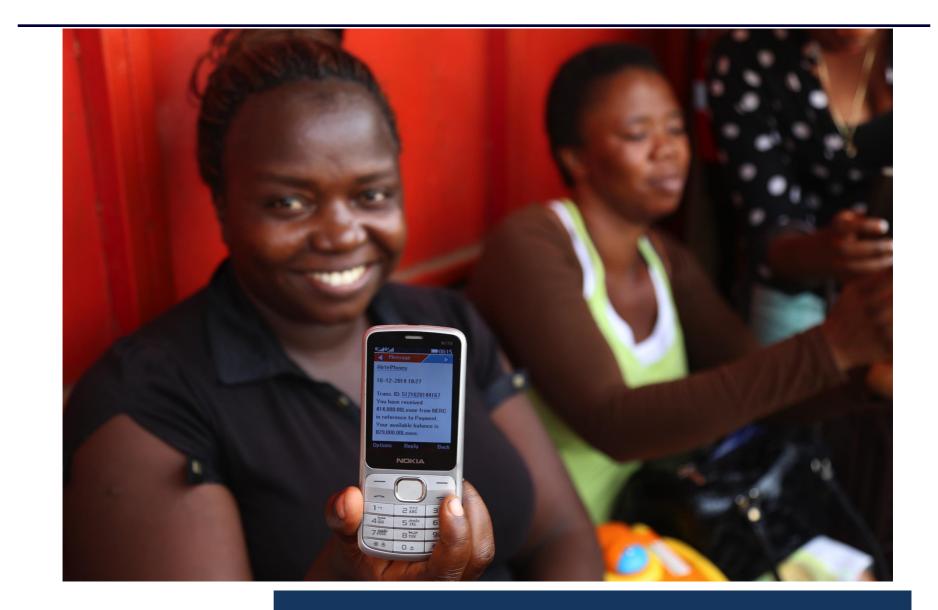
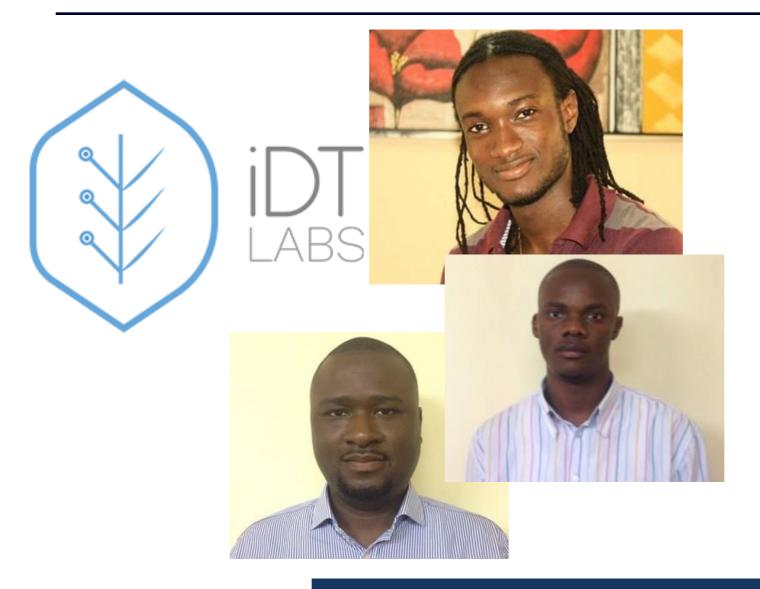
# The revolution (again)

**BitKom Berlin** By: Emerson Tan July 5<sup>th</sup> 2016 Open source enables what we take for granted but for others is miraculous.



### Open source enables local talent to deliver real change



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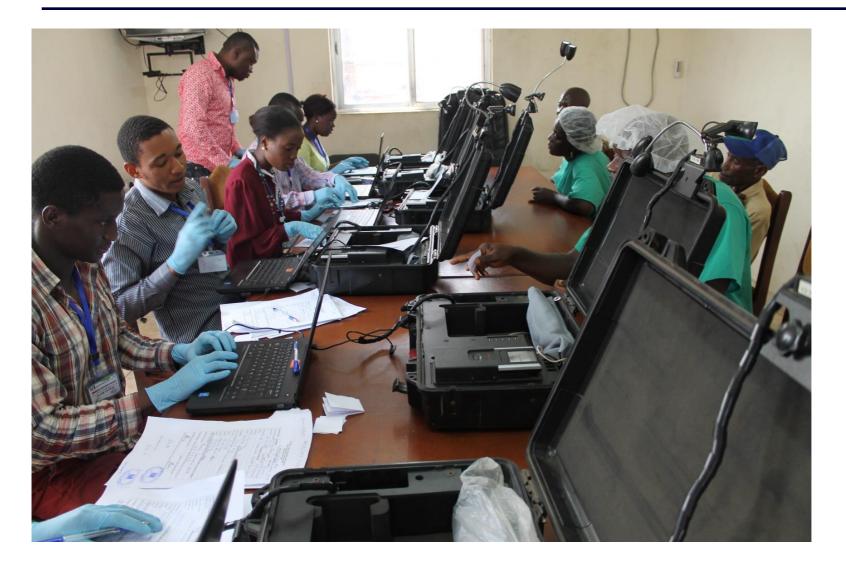
Open Source has solutions for problems we take for granted as solved in the west

Problem	Complications	Open Source Solution
No Worker ID scheme	Can't use finger print based biometrics (cross contamination risk)	ODK makes developing enrollment applications very fast Open source facial recognition framework
Data Repository	Must store profiles, payment histories, generate pay lists, manage issues	OpenERP/Odoo
1000's of duplicate and ghost entries from Gov lists (corruption)	Very limited variation in names nationwide Lots of missing and inconsistent data	Dedupe, a python library that uses machine learning to quickly perform de- duplication and entity resolution on structured data
Communications	Must be SMS based, and scale to 30K users flawlessly. Must allow interaction	Kannel SMS and WAP gateway
Leakages, system gaming and patronage	Corruption is a way of life	Audit module included and code is available for audit! Transparency win!

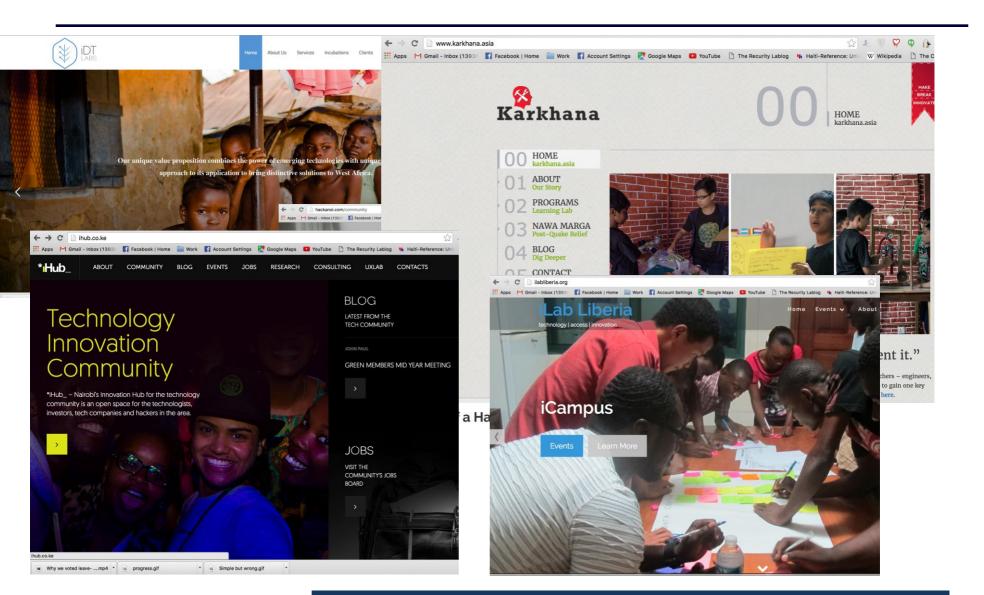
We now have solutions to fully leverage the power of open source.

Problem	Complications	Solution
Local hosting difficult	No power grid, No data centers, No good system admins, No infrastructure. No servers in the country.	Use cloud computing. Amazon takes care of everything. Only have to hold up an internet connection.
Infrastructure	Had to be instantly available 99.999 reliability	OpsWorks Amazon EC2 Amazon RDS Amazon Route 53 Amazon SQS Amazon SES
Deployment management	Must be robust	Berkshelf/Chef
Development	Constant scope change	Coffee, Energy Drinks, Camp beds in office, no showers, not enough sleep

Open Source Software restored faith in ability of government systems to be run honestly



### They're doing it for themselves.



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## **Questions?**

