

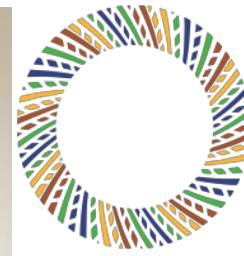
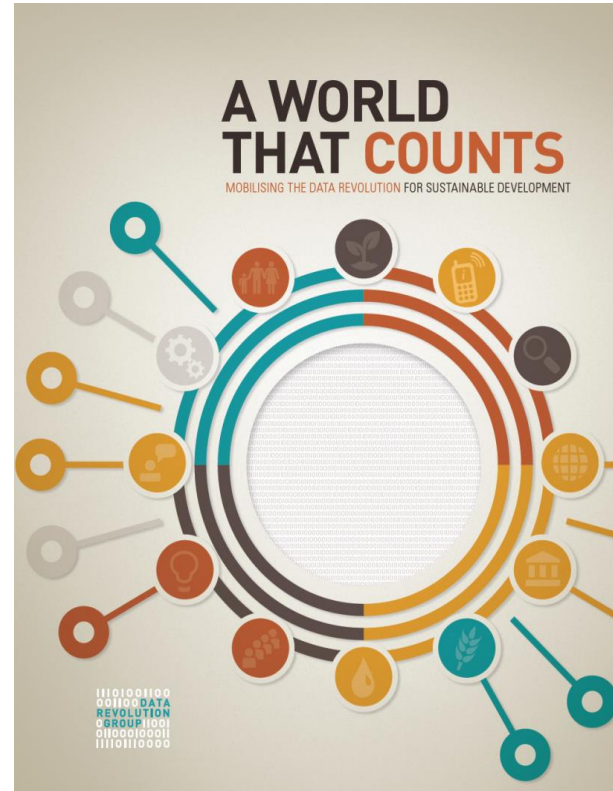


bring the code to the data

Open Algorithms (OPAL) Project

The Law, Politics and Ethics of Cell Phone Data Analytics

April 2015



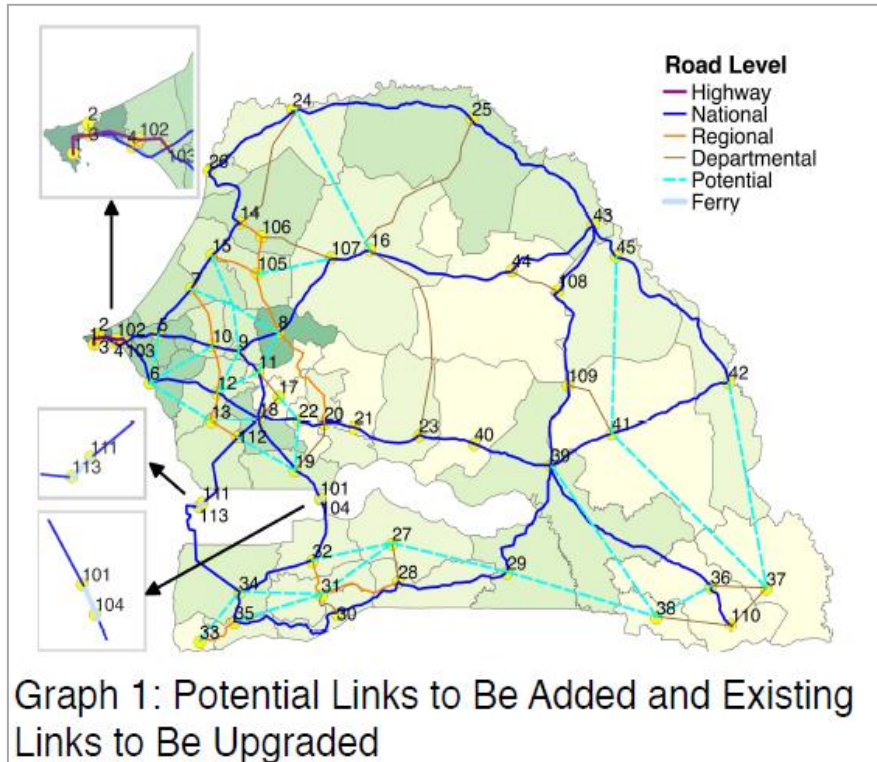
GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT DATA



The Economist article snippet: 'Ebola and big data: Waiting on hold'. Includes sub-headline 'Mobile-phone records would help combat the Ebola epidemic but it has proved hard' and a book cover for 'The Main Face of Big Data'.

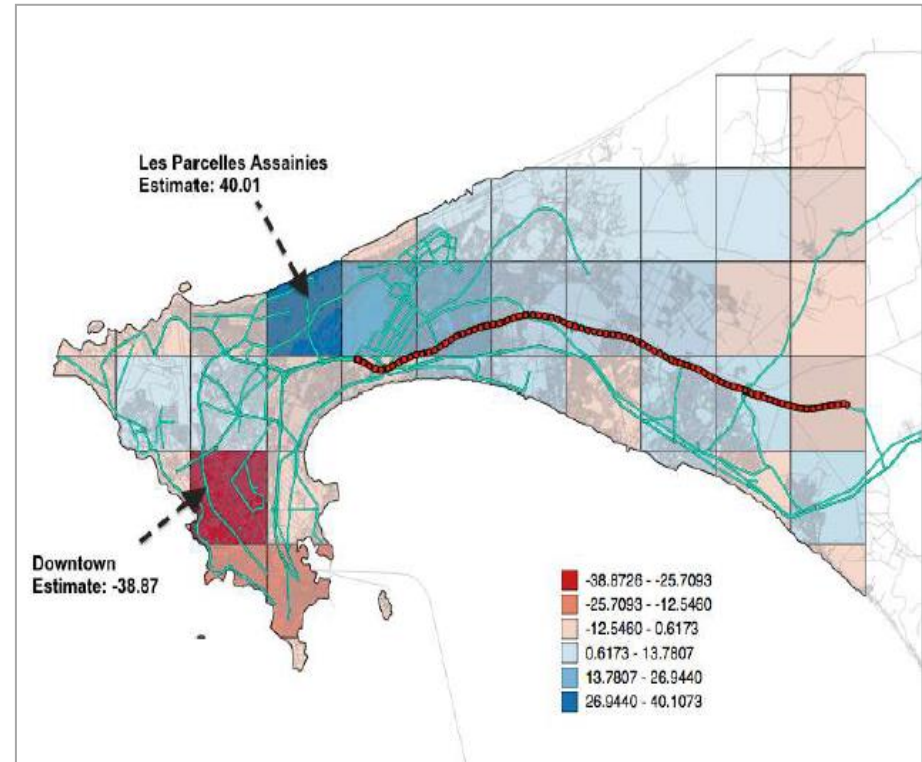
Mobility

Optimizing a road network



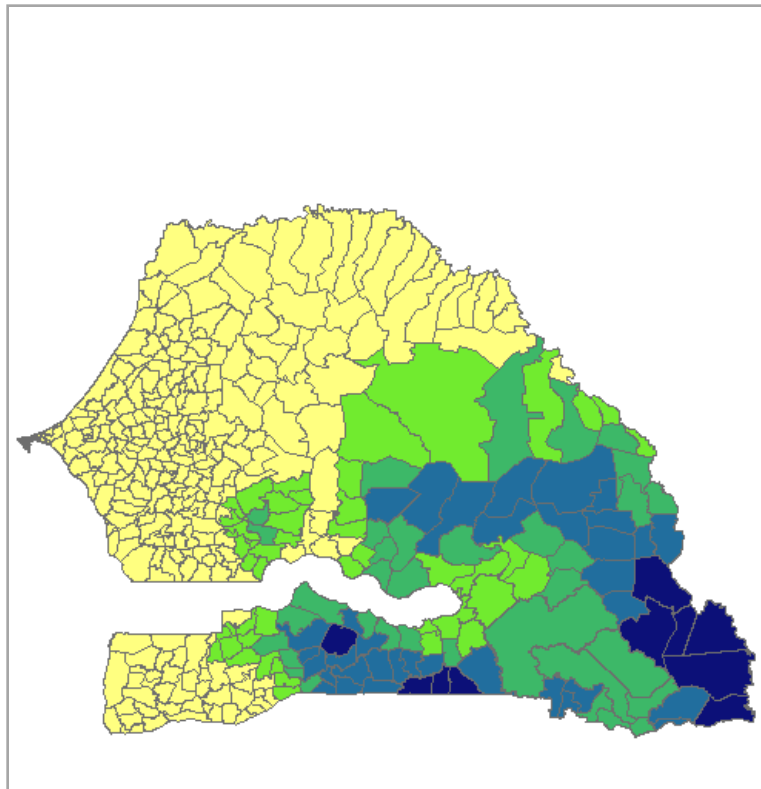
Erik de Romph, Yihong Wang, Department of Transport and Planning, Faculty of Civil Engineering and Geosciences, Delft University of Technology

Analysing the impact of a new highway

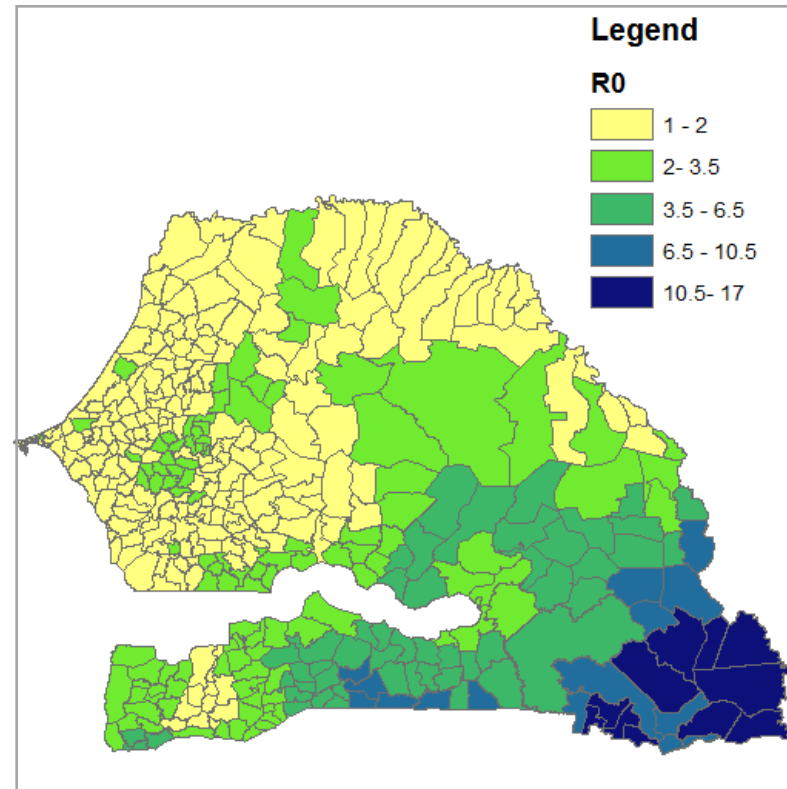


Fetzer, Thiemo, London School of Economics (Lead Author), Sy, Amadou, Brookings Institution, Arezki, Rabah and Chan-Lau, Jorge, IMF

Disease Modeling



R0 Based on Traditional Epidemiological Models Done by the Malaria Atlas Project



R0 with Traditional Models Modified to include Movement



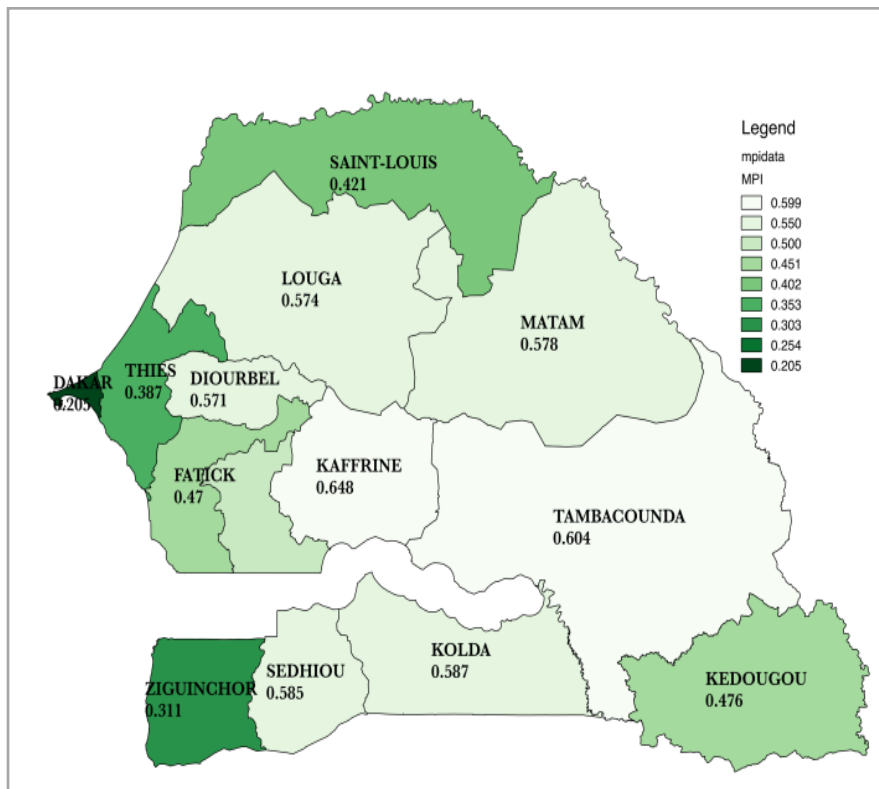
Sveta
Milusheva

R0: Reproductive Number: expected new case for 1 case of Malaria

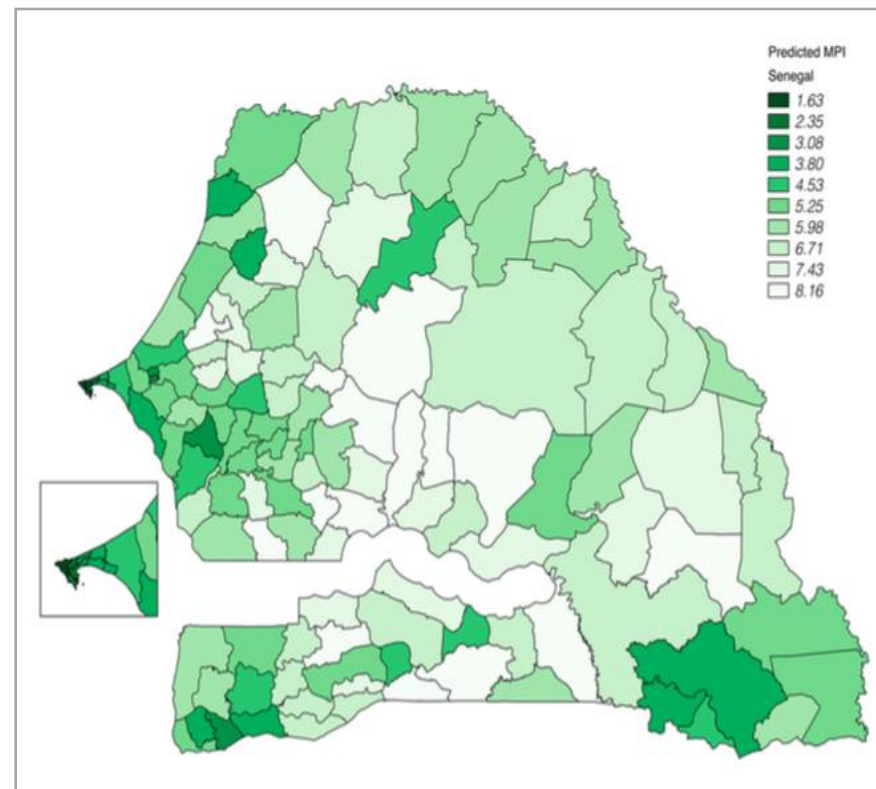


Proxies of poverty index

Going from a field survey



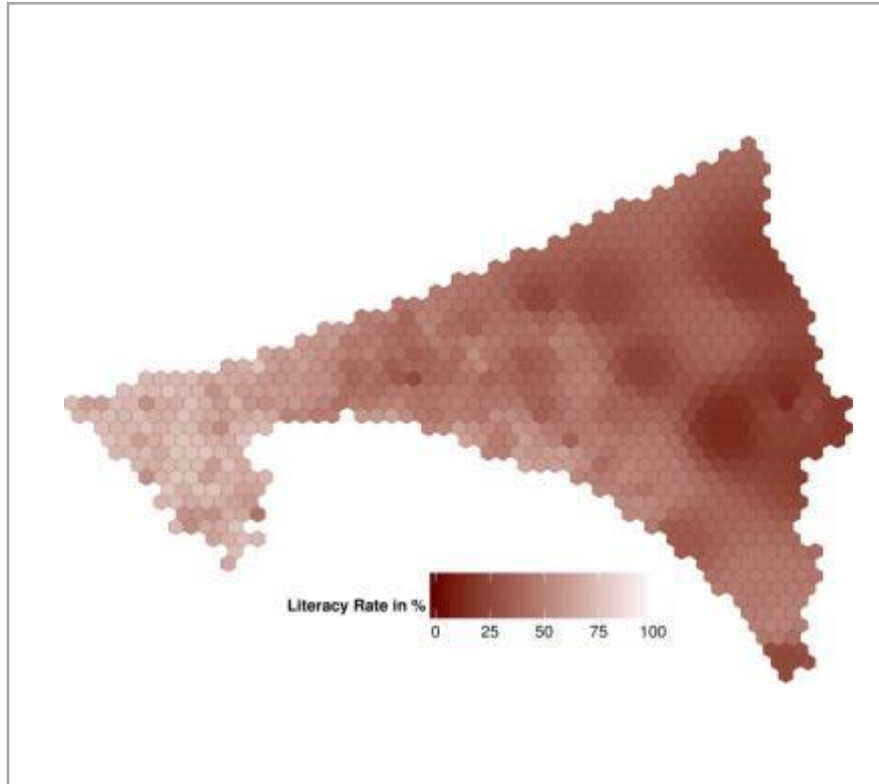
...to a fresher, and more granular proxy



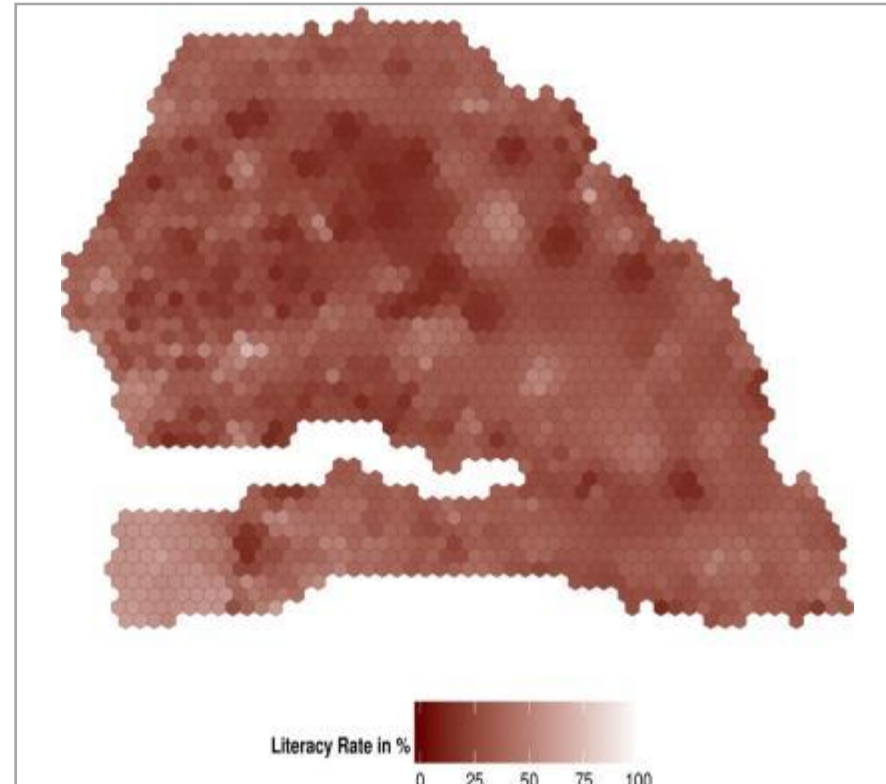
Neeti Pokhriyal, Buffalo University, NY
currently deepening the analysis with ANSD in Senegal.

Proxies for Literacy rate

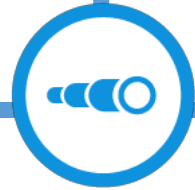
Dakar Literacy rate proxy



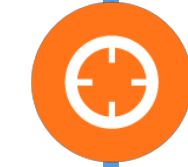
National Literacy rate proxy



Till Zbiranski, Fabina Bruckschein Univ Berlin
for ANSD in Senegal.



TODAY



2012 - 2015

Optimise the deployment and analyse the impacts of new transport infrastructures

Graph 1: Potential Links to Be Added and Existing Links to Be Upgraded!

Optimise the deployment of the electric grid, to reduce its cost and improve the quality of service

Using Mobile Phone Data for Electrification Planning

Level of electrification

Level of electrification	Health	Travel	Business	Other
0%	Very Low	Very Low	Very Low	Very Low
10% - 20%	Low	Low	Low	Low
30% - 40%	Medium	Medium	Medium	Medium
50% - 70%	High	High	High	High
70% - 80%	Very High	Very High	Very High	Very High
80% - 90%	Extremely High	Extremely High	Extremely High	Extremely High
90% - 100%	Extremely High	Extremely High	Extremely High	Extremely High

Fig. 1: Comparison of mobile activity and electricity consumption

Fig. 2: Electrification recommendations

Creating proxies of poverty index level, to better focus the efforts

Going from a field survey ... to a free

R0 Based on Traditional Epidemiological Models Done by the Malaria Atlas Project

R0 with Traditional Models Modified to include Movement

Including mobility in the models help Malaria and those due to travelers



bring the code to the data

OPAL platform **unlocks** the potential of private data for **public good** in a privacy-conscious, scalable, socially and economically sustainable manner.

Privacy



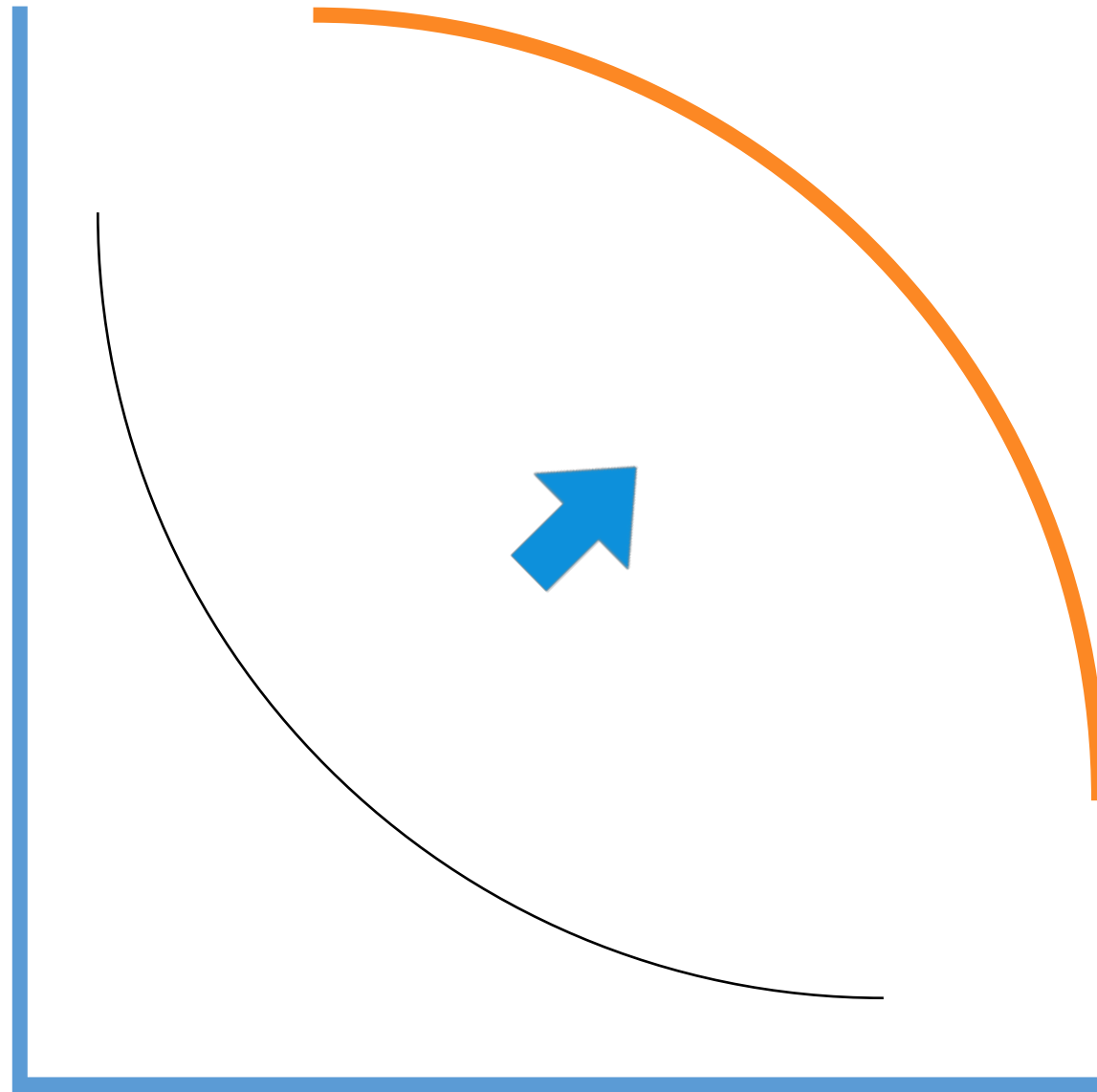
Individuals



Society



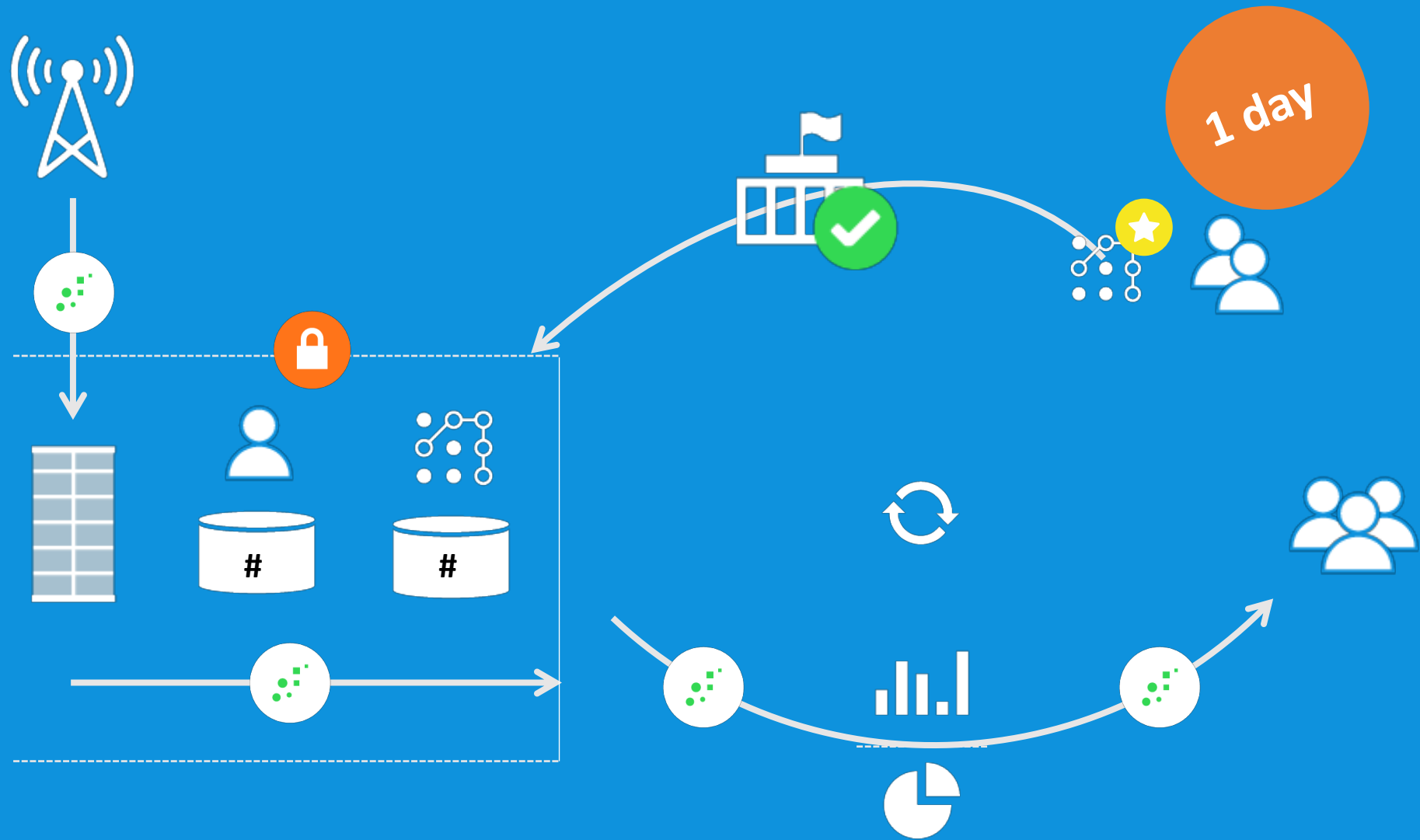
**Commercial
(Data donor)**



Utility



Today



Tomorrow with OPAL



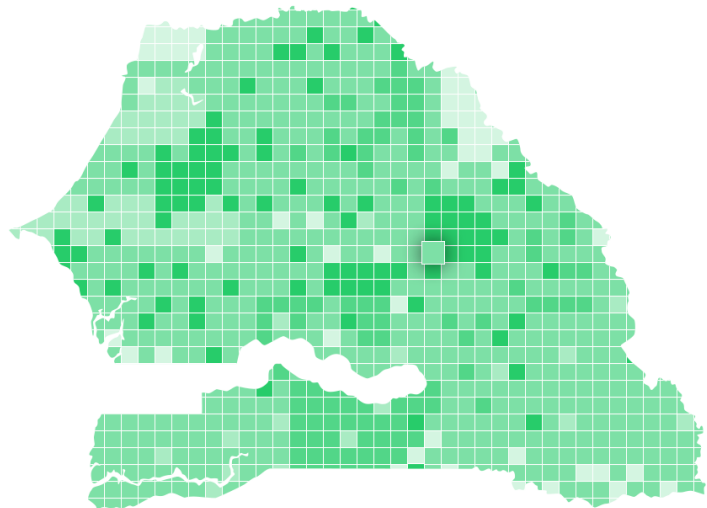
OPAL'S ANSWER

Subtitle - shorttfo about data type

- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Aenean convallis tortor vitae purus suscipit, nec lobortis urna
- Tincidunt mauris in justo non eros interdum vehicula a a nunc.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Aenean convallis tortor vitae purus suscipit, nec lobortis urna
- tincidunt mauris in justo non eros interdum vehicula a a nunc.

Short explanation

- +
-
- 🕒
- 🏠
- 👤
- ➡
- Color scale legend



Jan Feb Mar **Apr** May jun Jul Aug Sept Oct Nov Dec 2013

Search 🔍

- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune

Download



OPAL'S ANSWER

Subtitle - shorttfo about data type

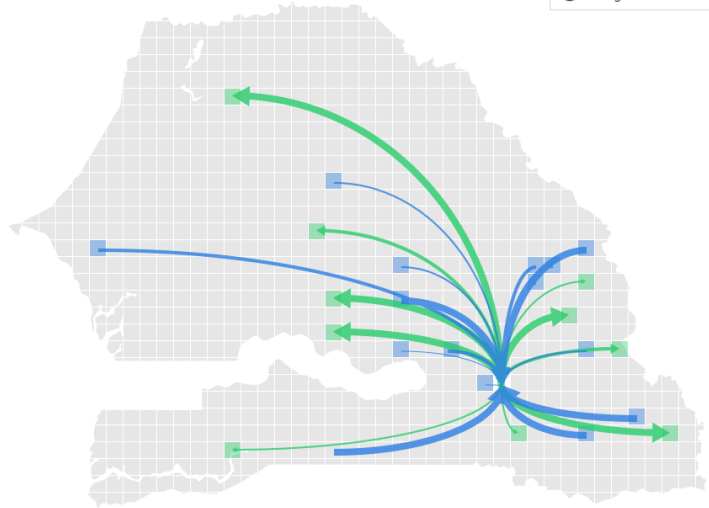
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Aenean convallis tortor vitae purus suscipit, nec lobortis urna
- Tincidunt mauris in justo non eros interdum vehicula a a nunc.
- Lorem ipsum dolor sit amet, consectetur adipiscing elit.
- Aenean convallis tortor vitae purus suscipit, nec lobortis urna
- tincidunt mauris in justo non eros interdum vehicula a a nunc.

Short explanation

- +
-
- 🕒
- 🏠
- 👤
- 🔗
- ➡
- ➡
- +

👁 15 biggest flux

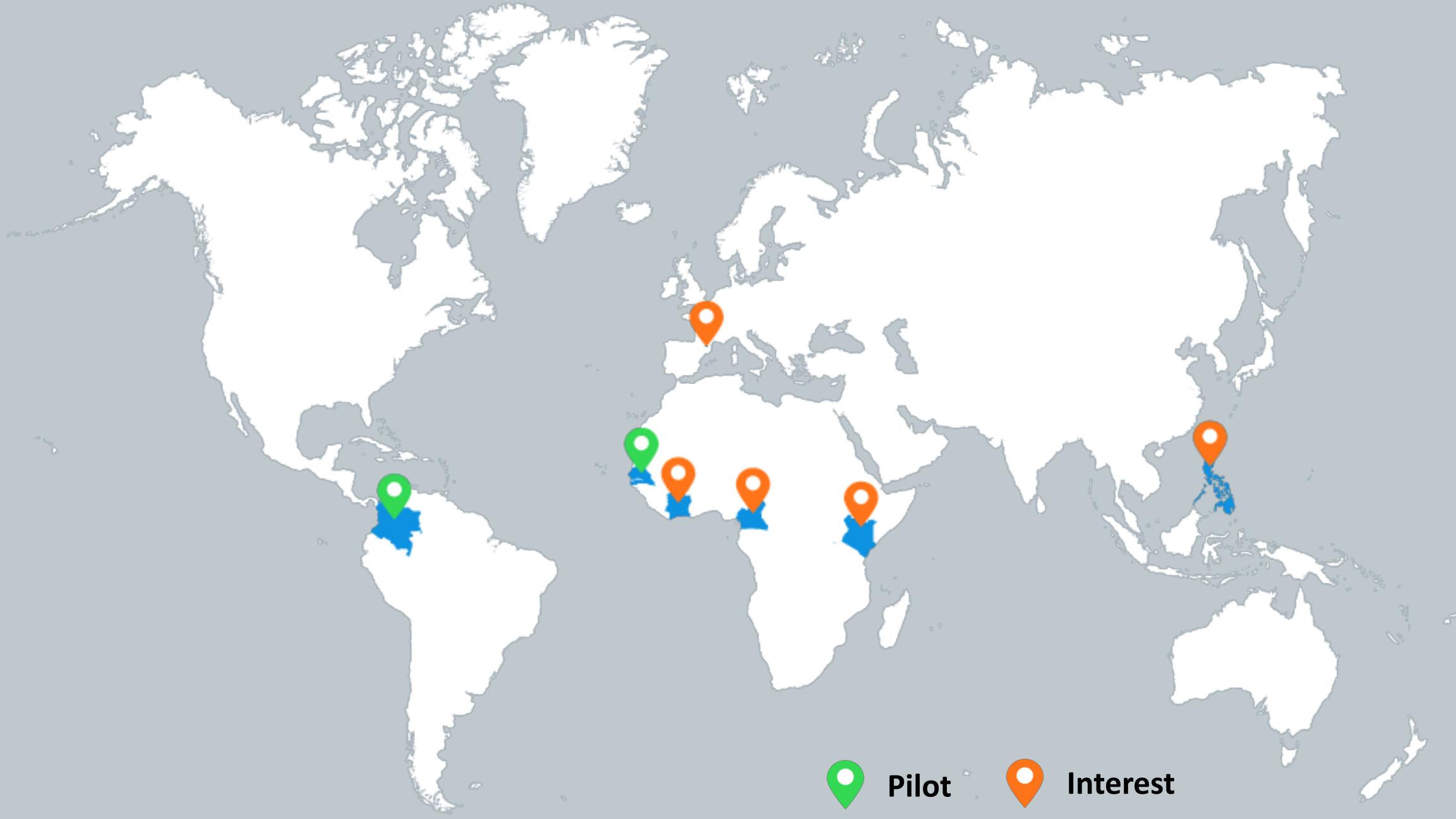
Search 🔍



2013

- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune
- Commune

Download



 **Pilot**  **Interest**

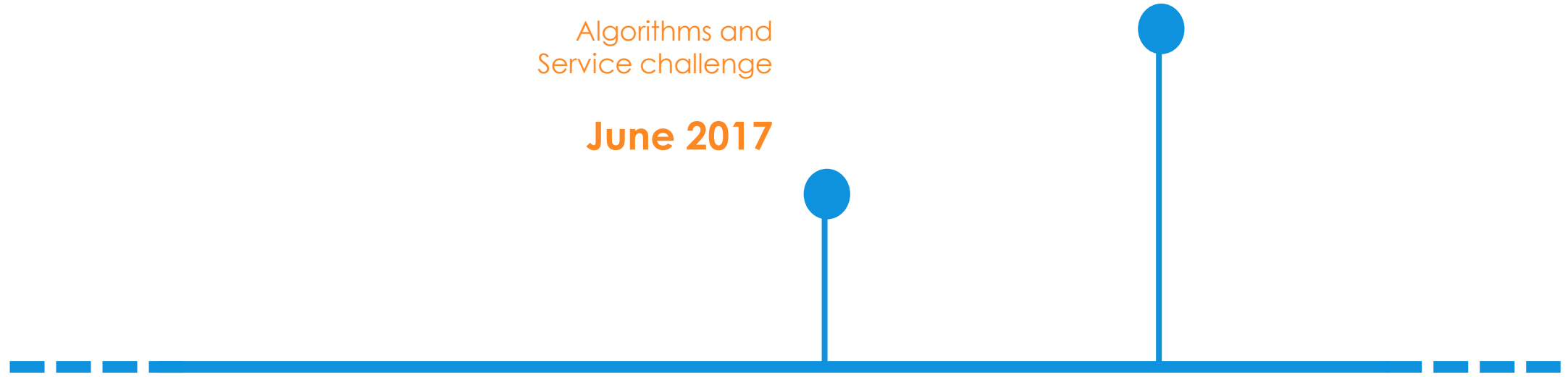
MVP 2

Dec 2017

MVP 1

Algorithms and
Service challenge

June 2017



2016 : Conception

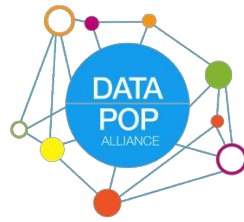
2017 : Development

2018 : Launch

OPAL Senegal is about to get started...

- Sonatel confirmed its decision to launch D4D/OPAL as a service
- AfD and World Bank funding is in progress, requiring Ministry expression of interest
- Just starting to identify local actors to involve in Senegal,
 - Local key actors for User Needs and platform Design
 - Local Project Manager (looking for candidates)
 - Local Advisory Board (First discussion to be held next month)
 - Local developers interested to develop Data services (grass roots up to mid-size SME)
 - Local Institutions and business interested to become end-users (Expression of interest)
 - aiming at a 1st workshop early Nov
- Preliminary Results and 1st Prototype being tested in Labs
 - Orange Labs, Telefonica, MIT-Imperial,...

- ?
- ?
- ?
- ?
- ?
- ?
- ?
- ?



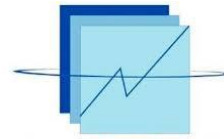
GLOBAL PARTNERSHIP
FOR SUSTAINABLE DEVELOPMENT DATA



THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP



Microsoft



ANSD
Agence Nationale de
la Statistique et de la Démographie



Thank you

opalproject.org | #OPALproject