

# DATA-POP ALLIANCE



## Leveraging Big Data, Open Algorithms and AI for Human Development

Doha | 17 February, 2019  
Julie Ricard | Data-Pop Alliance





# DATA-POP ALLIANCE

For a people-centered 4th Industrial Revolution



**FLOWMINDER.ORG**



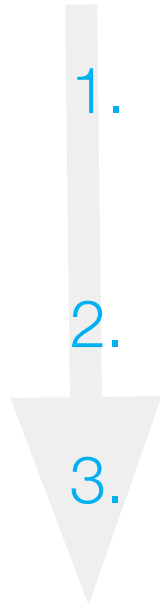
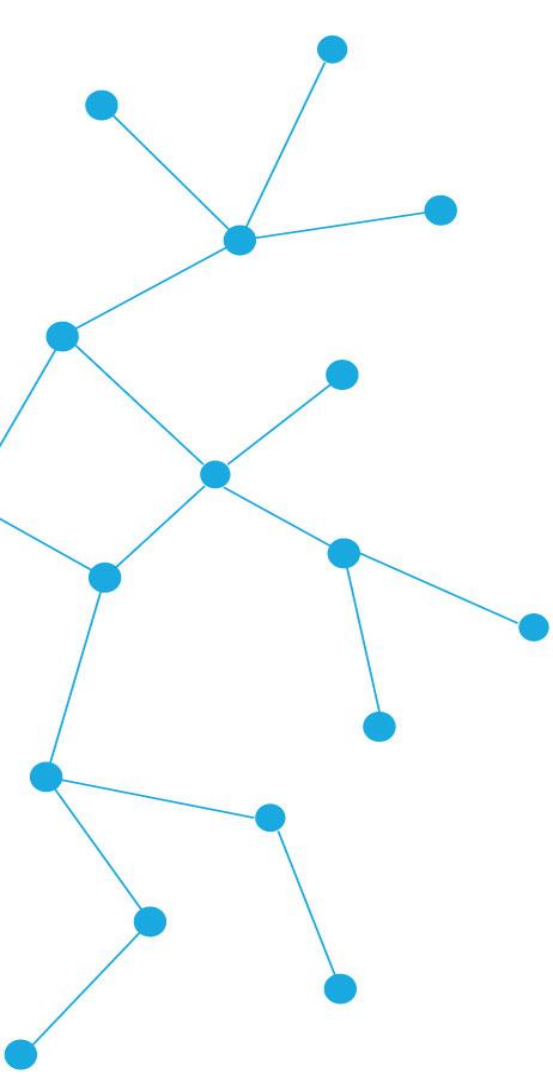
Research



Training



Strategy



1. The promises of AI for sustainable development
2. Requirements for implementation
3. Use cases: Ciudata Segura



1

# The promises of AI for sustainable development

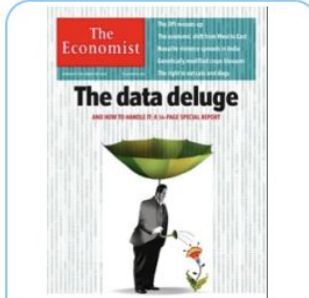
Data revolution for 2030

AI for SDGs

# A Decade of Data Revolution



2009      2010      2011      2012      2013      2014      2015      2016      2017      2018      2019



*"We are at the beginning of what I call The Industrial Revolution of Data."* Joe Hellerstein  
Nov. 2008

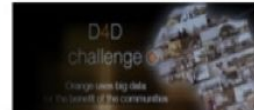
SOCIAL SCIENCE  
**Computational Social Science**

David Lazer,<sup>1</sup> Alex Pentland,<sup>1</sup> Lada Adamic,<sup>1</sup> Simon Aral,<sup>1,2</sup> Albert-László Barabási,<sup>1</sup> Devon Brewer,<sup>3</sup> Nicholas Christakis,<sup>1</sup> Nandor Contractor,<sup>4</sup> James Fowler,<sup>5</sup> Myron Gutmann,<sup>6</sup> Tony Hahnel,<sup>7</sup> Gary King,<sup>8</sup> Michael Macy,<sup>9</sup> Dan Roy,<sup>10</sup> Marshall Van Alstyne<sup>11</sup>

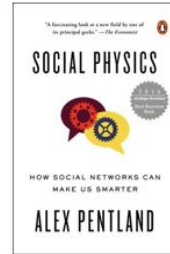


Big Data for Development:  
Challenges & Opportunities

May 2012



**SUSTAINABLE DEVELOPMENT GOALS**  
17 GOALS TO TRANSFORM OUR WORLD



**AFRIQUE** La révolution des données est-elle en marche ?  
**CONTEM-** Implications pour la statistique publique et  
**PORAINE** la démocratie  
Thomas Roca et Emmanuel Letouzé



ITU Journal: ICT Discoveries, Special Issue No. 2, 6 Dec. 2018

**TOWARDS A HUMAN ARTIFICIAL INTELLIGENCE FOR HUMAN DEVELOPMENT**

Emmanuel Letouzé<sup>1</sup>, Alex Pentland<sup>2</sup>

<sup>1</sup>Data-Pop Alliance, MIT Media Lab, and OPAL, <sup>2</sup>MIT and Data-Pop Alliance, and OPAL

**Abstract** - This paper discusses the possibility of applying the key principles and tools of current artificial intelligence (AI) to design future human systems in ways that could make them more efficient, fair, responsive, and inclusive.

**Keywords** - Artificial intelligence, big data, human development, open algorithms, fourth industrial revolution



## A WORLD THAT COUNTS


“A **data revolution** for all people and the whole planet”



MDGs		SDGs	
8 goals	vs	17 goals	
21 objectives	vs	169 objectives	
60 indicators	vs	232 indicators (without duplicates)	

# Mapping poverty using CDRs and satellite data | Bangladesh

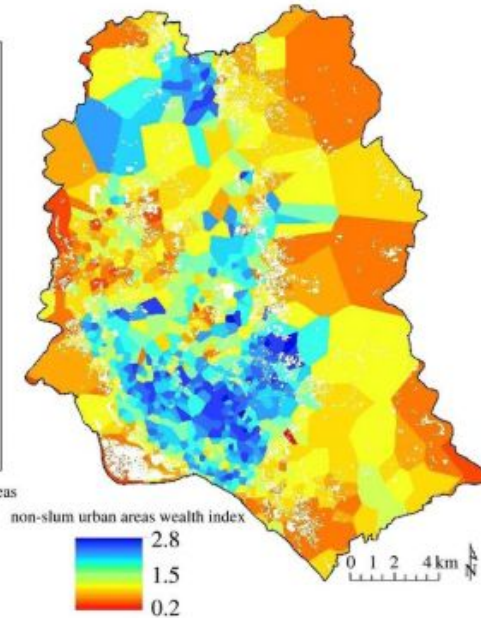
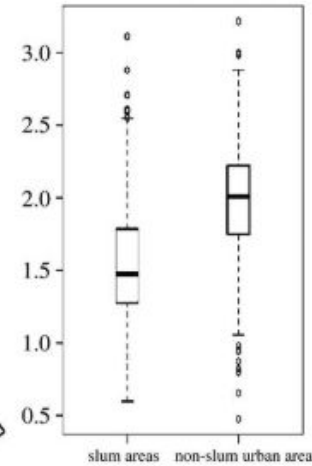
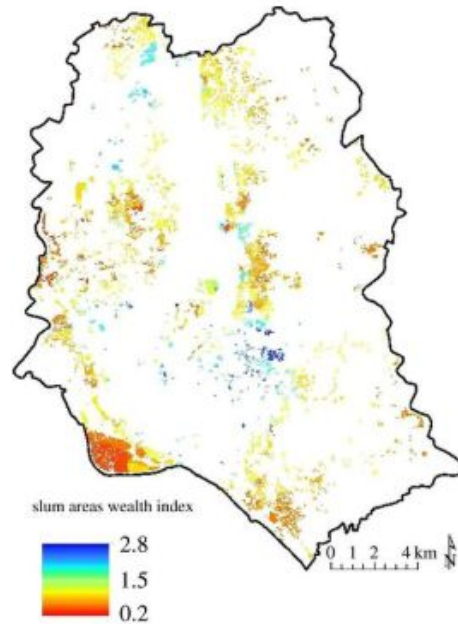
**1 NO POVERTY**



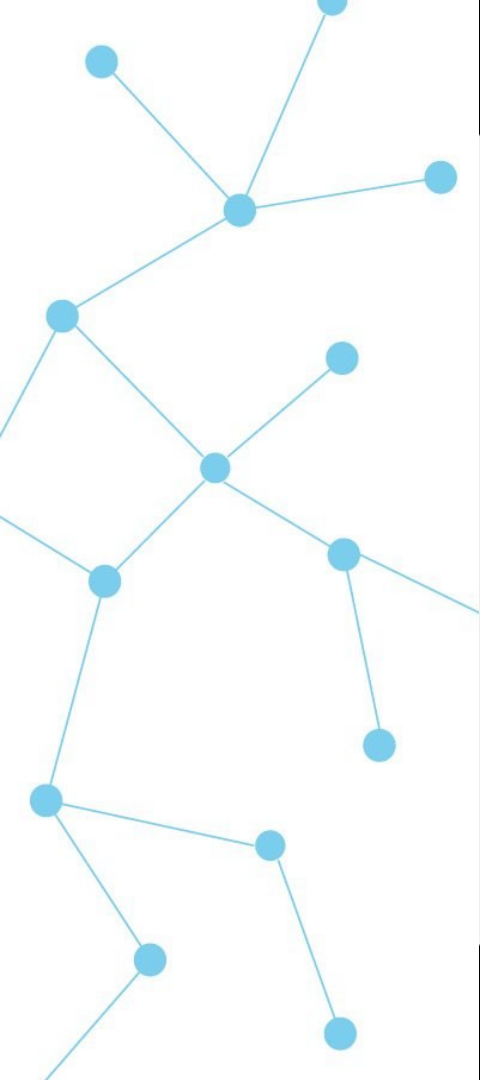
1.1.1 Tier 1  
1.2.1 Tier 1  
1.2.2 Tier 2

CALL DETAIL RECORDS /S

SATELLITE IMAGERY (NASA, TRMM, LANDSAT)



Source: Flowminder and the WorldPop Program at University of Southampton



**SUSTAINABLE  
DEVELOPMENT  
GOALS**





# 2

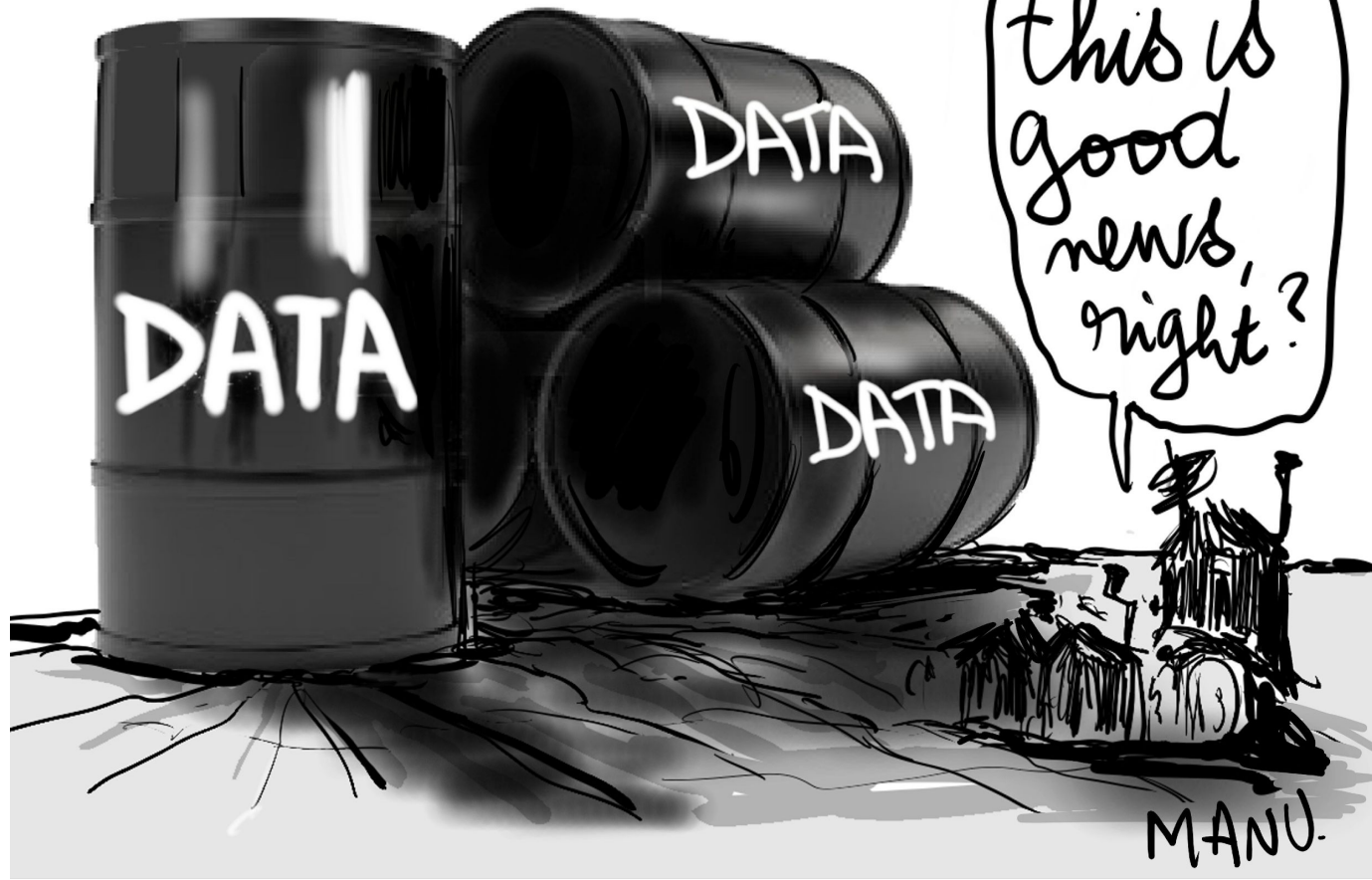
# Requirements for implementation

(Big) Data

Challenges for implementation

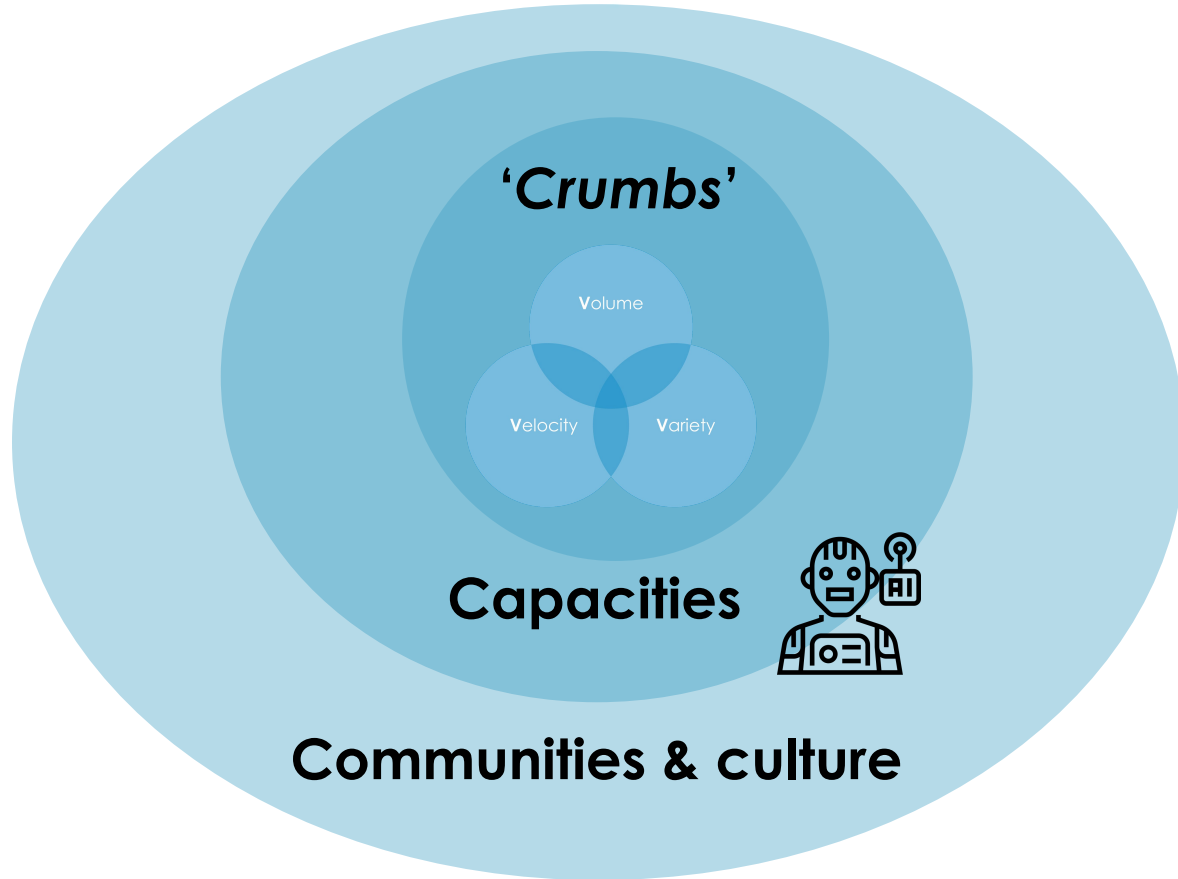
OPAL: next generation data systems

Data is the new oil



# Big data or 'digital breadcrumbs'







*Data protection and privacy?*



*International standards?*



*Representativeness?*



*Data access?*

# Developing standards and norms to leverage private sector data for good, ethically, at scale



open algorithms for better decisions

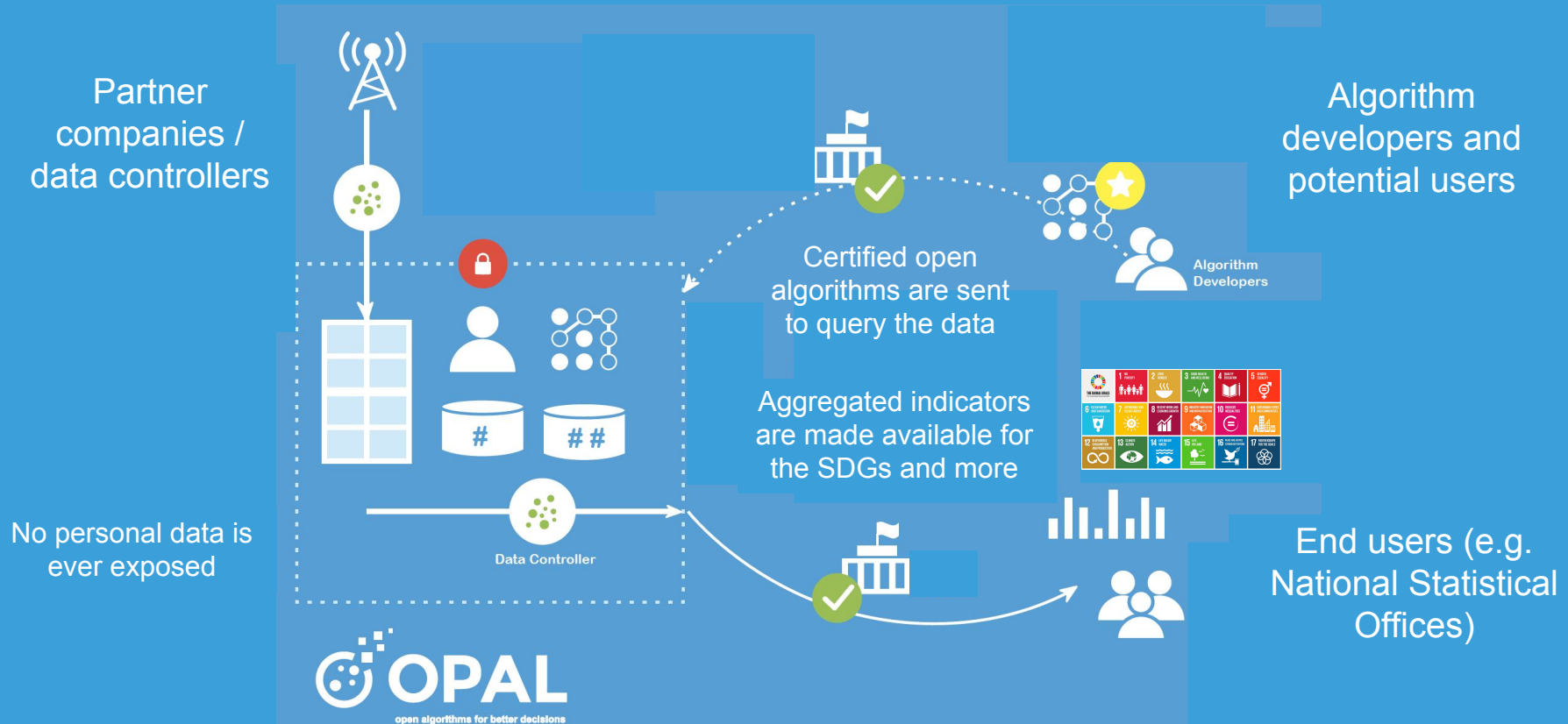
## OPAL Consortium



Telefonica



# Open algorithms for sustainable development



# OPAL started in Colombia and Senegal with their National Statistical Offices and telecom operators

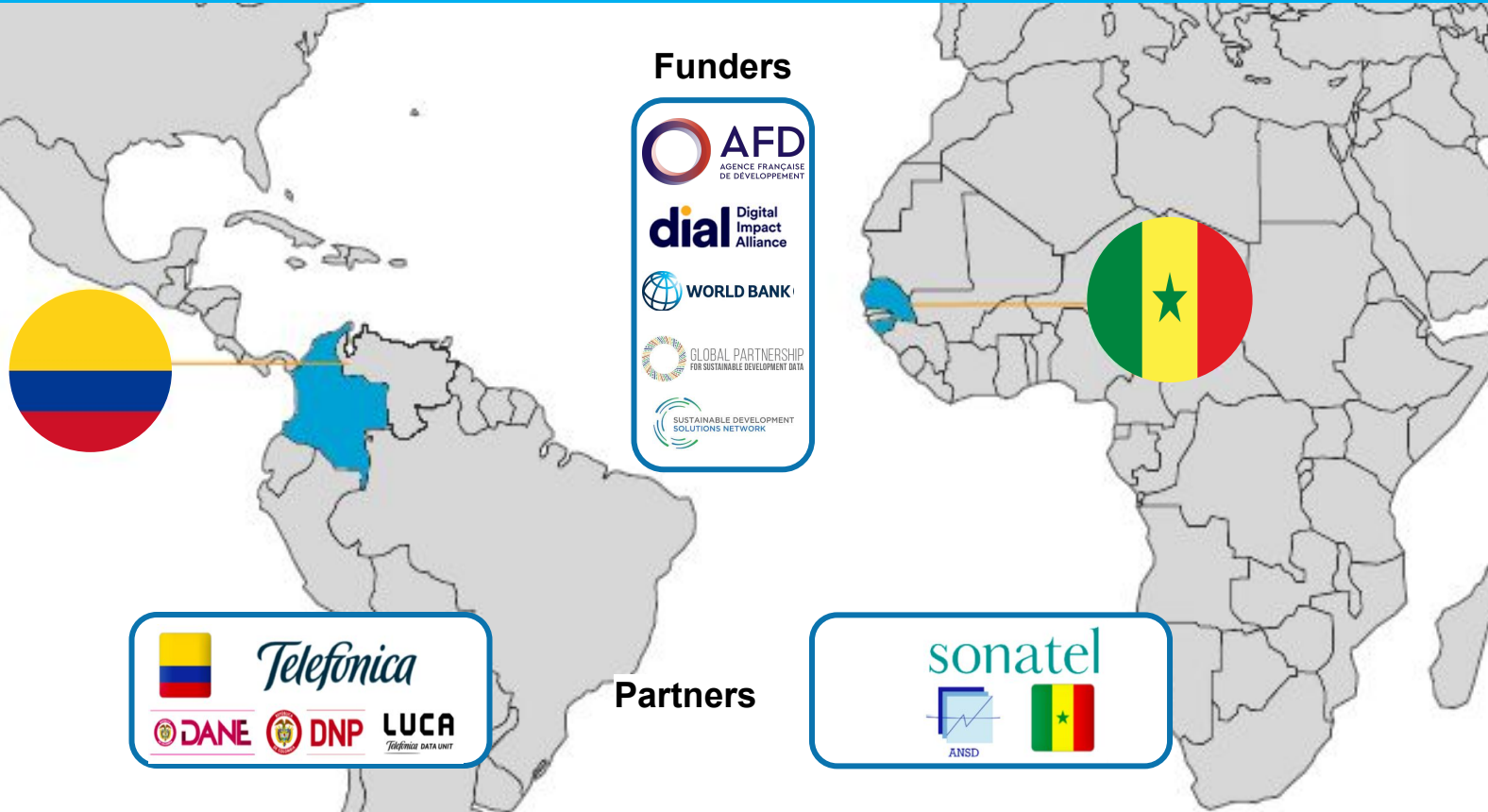
## Founders



## Funders



## Partners







# 3

## Use cases

Ciudata Segura

Building systems, capacities, connections locally



## Drivers of urban criminality | Colombia

Understand and  
address crime  
dynamics in 6  
cities

*through...*

**data-centric  
analysis**

(local urban predictors of  
crime, personal risk factors,  
impunity...)

*towards...*

**public policy  
options and action  
plans**

Why is crime concentrated in certain areas?  
Why some individuals deviate into crime and others don't?



# CIUDATA SEGURA

**11** SUSTAINABLE CITIES  
AND COMMUNITIES



11.7.1 T. 3  
11.7.2 T. 3

**16** PEACE AND JUSTICE  
STRONG INSTITUTIONS

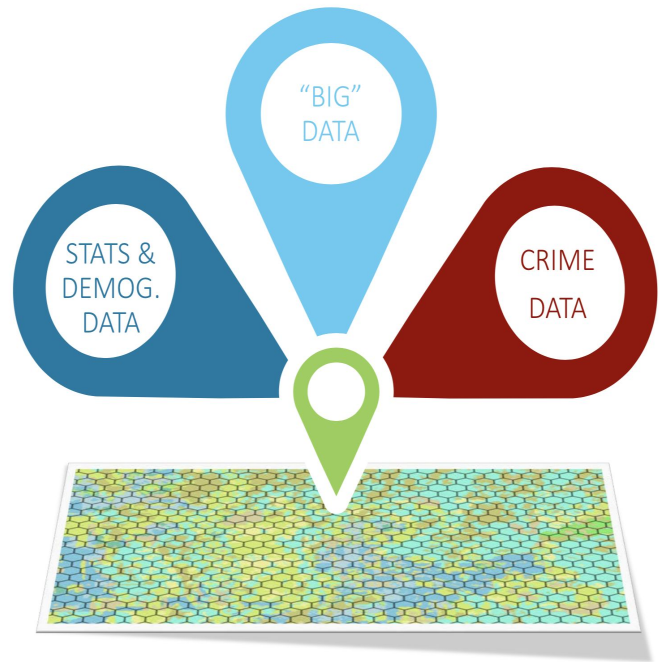


16.1 T. 1-3  
16.a T. 1

CALL DETAIL  
RECORDS

STRUCTURED  
ONLINE CONTENT  
(OPEN STREET  
MAP)

METADATA  
FROM POSTS  
(TIMESTAMP,  
LOCATION, ETC)





**DATA-POP  
ALLIANCE**

Coordination and technical  
expertise



**HARVARD  
HUMANITARIAN  
INITIATIVE**



**FONDAZIONE  
BRUNO KESSLER**



**mit  
media  
lab**

Technical and academic  
expertise



**IDB**

Inter-American  
Development Bank

*Strategic and financial support*



**CITIZENS CRIME COMMISSION  
OF NEW YORK CITY**

Strategic support

## Instituciones a nivel nacional



Policía Nacional



Fiscalía General de la Nación



Fundación Ideas para La Paz

## Instituciones locales en Bogotá



Secretaría de Seguridad y Convivencia  
[Enlace directo](#)



Centro de Estudios sobre Seguridad y Drogas  
[Enlace directo](#)



Observatorio de Lavado de activos  
[Enlace directo](#)

## Instituciones locales en Medellín



Alcaldía de Medellín

Secretaría de Seguridad  
[Enlace directo](#)



MEDATA  
[Enlace directo](#)

## Entidades locales en Valledupar



Policía de Valledupar  
[Enlace directo](#)



Secretaría de Gobierno  
[Enlace directo](#)

## Entidades locales en Barranquilla



Oficina de Seguridad y convivencia  
[Enlace directo](#)



Observatorio del delito  
[Enlace directo](#)



Oficina de la mujer  
[Enlace directo](#)

## Entidades locales en Montería



Policía de Montería  
[Enlace directo](#)



Secretaría de Gobierno

## Entidades locales en Tumaco

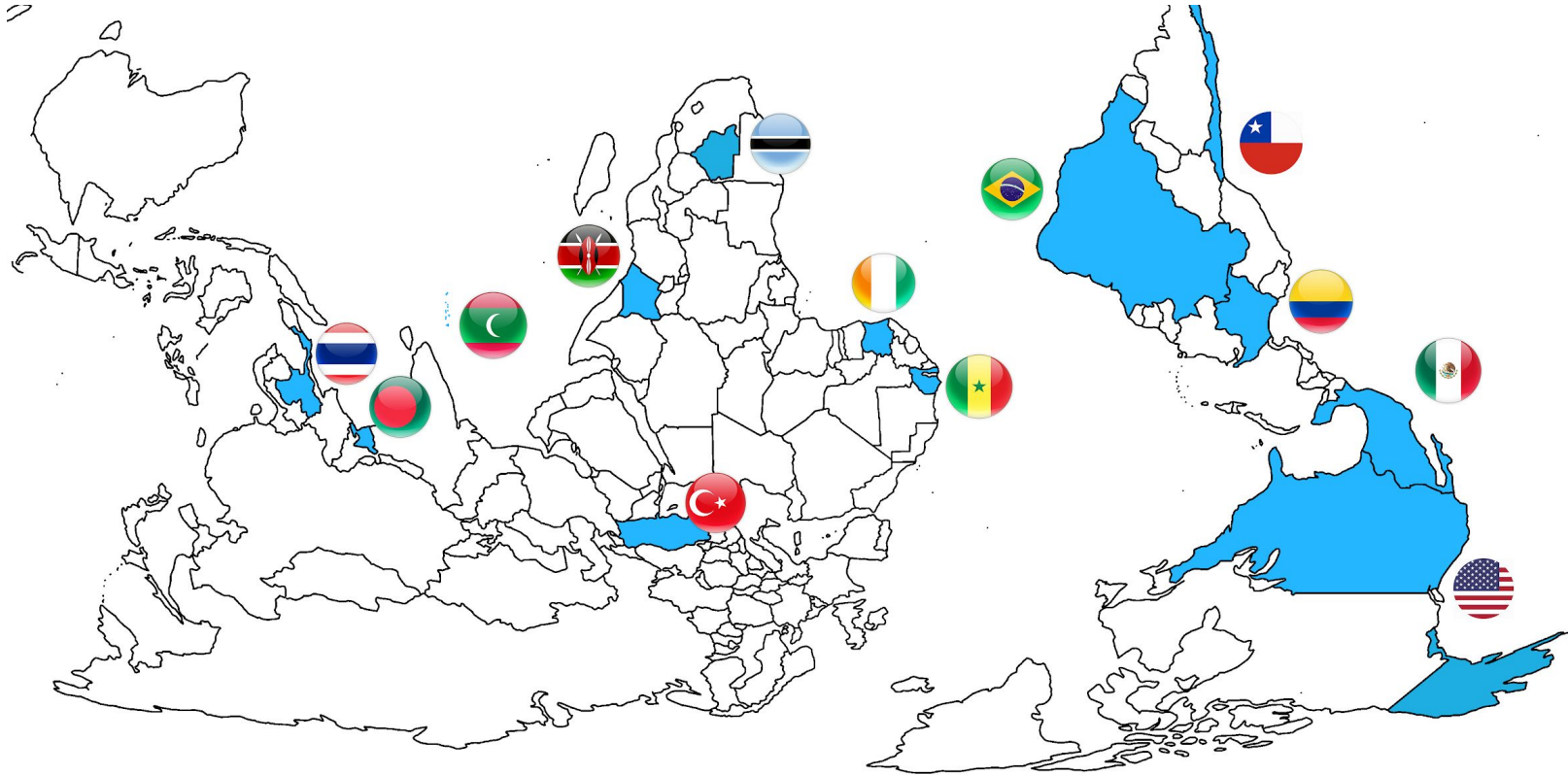


Oficina de Desarrollo e Integración Social  
[Enlace directo](#)



Policía de Tumaco  
[Enlace directo](#)

## Building systems, capacities, connections locally





# DATA-POP ALLIANCE

For a people-centered 4th Industrial Revolution

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