HARNESSING BIG DATA FOR OFFICIAL STATISTICS

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Kementerian PPN/ Bappenas

PULSE LAB JAKARTA

United Nations

Australian Government
Department of Foreign Affairs and Trade

Pulse Lab Jakarta employs a **mixed-method approach**, through which it harnesses alternative data sources and **advanced data analytics** methods to obtain actionable insights and applies **human-centered design** to ground-truth insights from its data analysis and research, providing evidence to inform policy makers.

The Lab functions to:



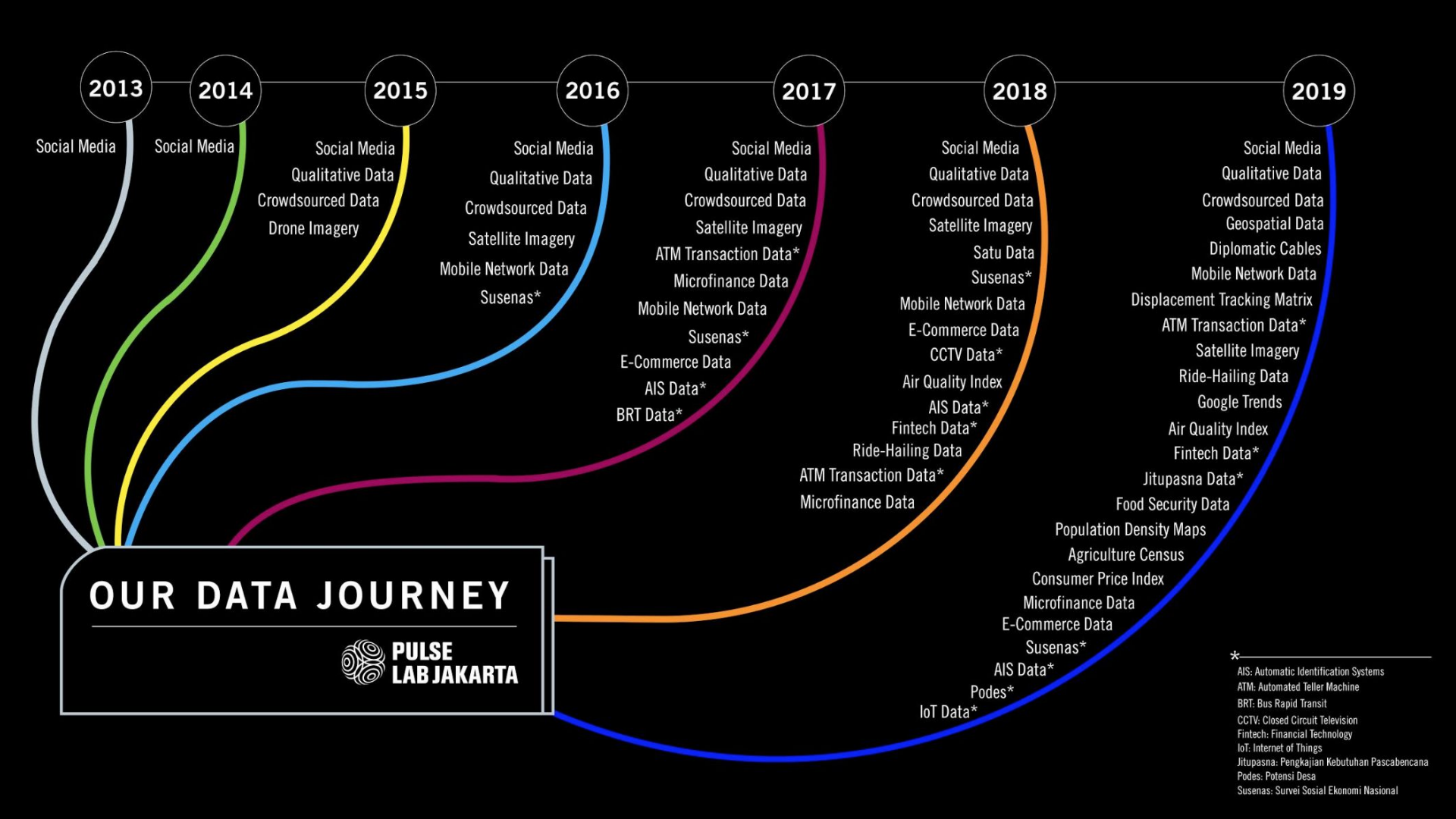
Drive **exploratory research** on new insights that can be gleaned from unconventional data sources



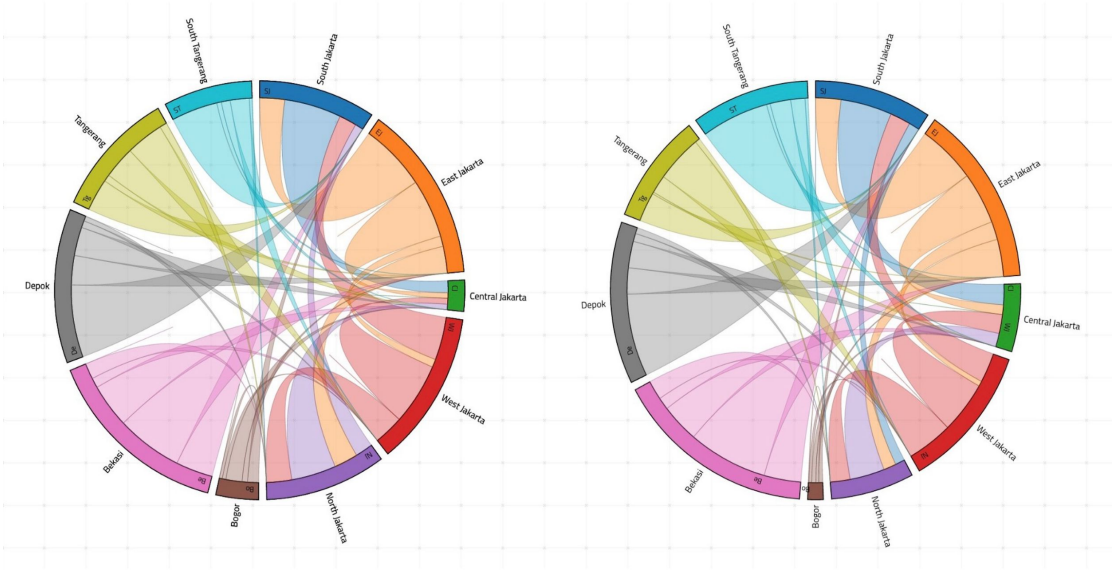
Facilitate **partnerships** between governments, development agencies and private sector to optimise use of data



Identify **new data sources** and their potential for development while ensuring ethical use of data


2013
Social Media
2014
Social Media
2015
Social Media
Qualitative Data
Crowdsourced Data
Drone Imagery
2016
Social Media
Qualitative Data
Crowdsourced Data
Satellite Imagery
Mobile Network Data
Susenas*
2017
Social Media
Qualitative Data
Crowdsourced Data
Satellite Imagery
ATM Transaction Data*
Microfinance Data
Mobile Network Data
Susenas*
E-Commerce Data
AIS Data*
BRT Data*
2018
Social Media
Qualitative Data
Crowdsourced Data
Satellite Imagery
Satu Data
Susenas*
Mobile Network Data
E-Commerce Data
CCTV Data*
Air Quality Index
AIS Data*
Fintech Data*
Ride-Hailing Data
ATM Transaction Data*
Microfinance Data
2019
Social Media
Qualitative Data
Crowdsourced Data
Geospatial Data
Diplomatic Cables
Mobile Network Data
Displacement Tracking Matrix
ATM Transaction Data*
Satellite Imagery
Ride-Hailing Data
Google Trends
Air Quality Index
Fintech Data*
Jitupasna Data*
Food Security Data
Population Density Maps
Agriculture Census
Consumer Price Index
Microfinance Data
E-Commerce Data
Susenas*
AIS Data*
Podes*
IoT Data*
OUR DATA JOURNEY
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*
AIS: Automatic Identification Systems
ATM: Automated Teller Machine
BRT: Bus Rapid Transit
CCTV: Closed Circuit Television
Fintech: Financial Technology
IoT: Internet of Things
Jitupasna: Pengkajian Kebutuhan Pascabencana
Podes: Potensi Desa
Susenas: Survei Sosial Ekonomi Nasional

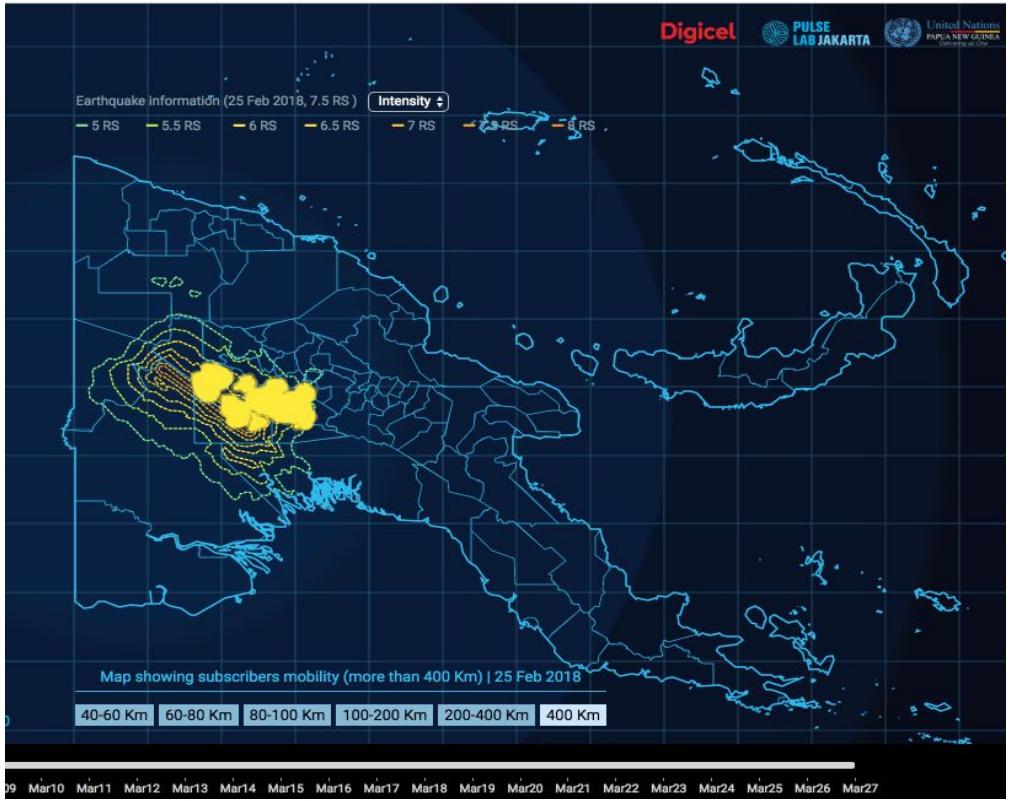
Human Mobility



Chord Diagrams visualising Official Commuting Statistics (left) and Commuting Statistics Based on Twitter Data (right)

- **Inferring commuting statistics** in the Greater Jakarta Area with Twitter data (conference proceeding).
- **Tracing rural-urban migration** patterns in Indonesia with mobile phone data (blog).
- **Quantifying population exposure to air pollution** in Bangkok with Grab mobility data (blog).

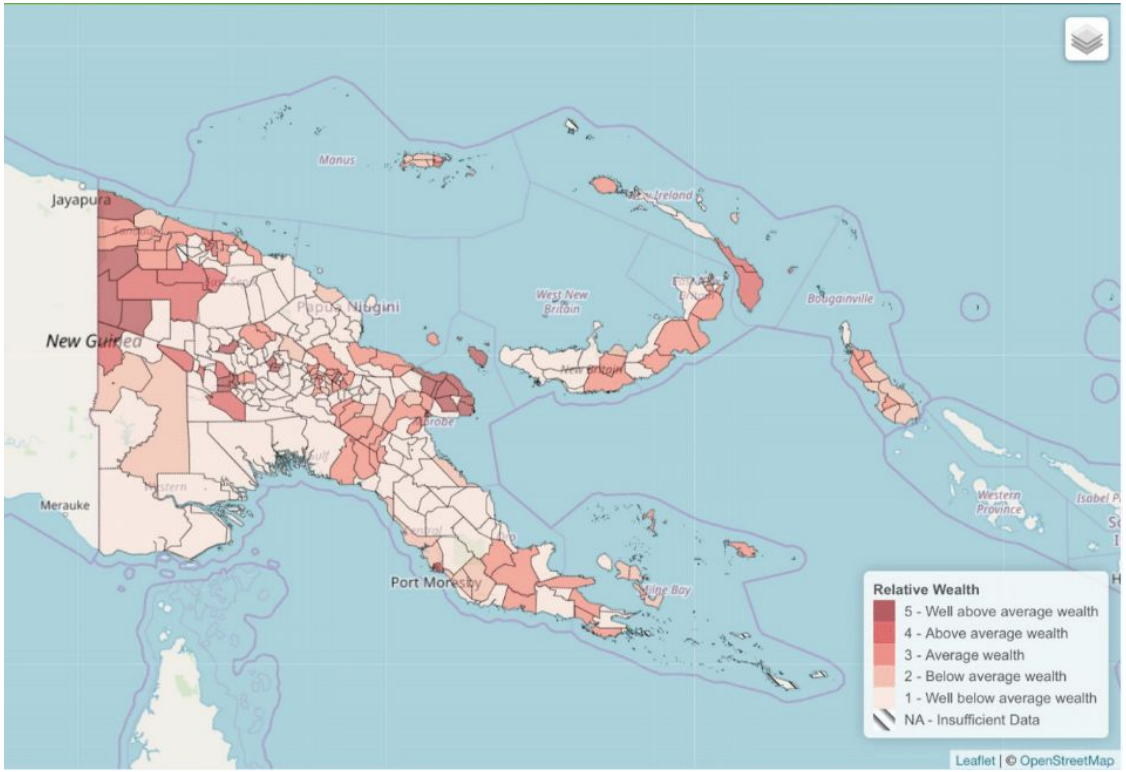
Population Movement



- **Tracing population flow related to Cyclone** Donna in Vanuatu (conference proceeding) and Cyclone Gita in Samoa (blog) with mobile phone data.

- **Mapping population displacement after an earthquake** in Palu, Indonesia (blog) and Papua New Guinea (PNG) with mobile phone data (background paper).

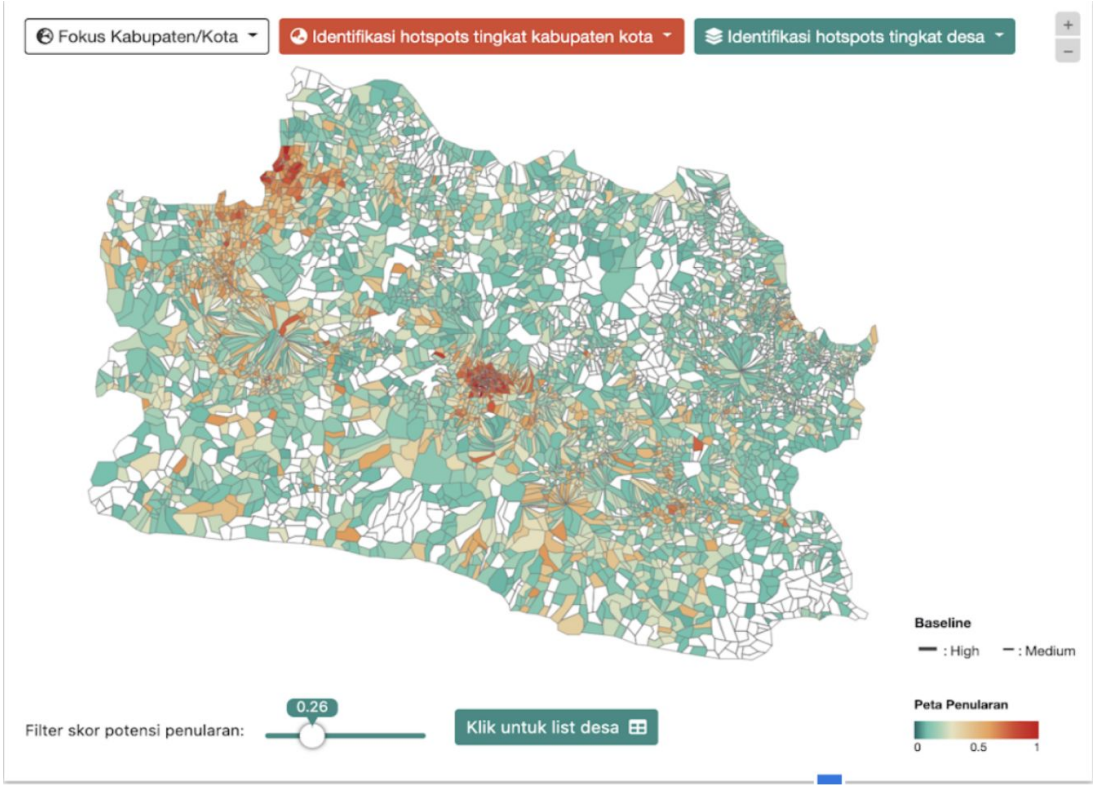
Socio-Economic Indicators



- **Developing proxy indicators of education, household characteristics and expenditure** in Vanuatu with mobile phone data (poster presentation).

- **Mapping wealth distribution at high resolution** in PNG with the combination of telesurvey and mobile phone data (conference proceeding).

Combining Conventional & Non-Conventional Data



- Finding alternative use of traditional data (blog) to **identify potential hotspots for COVID-19 spread** in West Java, Indonesia through a combination of data from PODES and Facebook Population Density Maps.

- Vampire (Vulnerability Analysis and Mapping Platform for Impact of Regional Events) combines surveys, precipitation data and vegetation health index to **identify priority areas on food insecurity** (blog and scaling up potential).

A Guide to Data Innovation for Development

Download Here:
bit.ly/GuideDI

Data Privacy, Ethics and Protection

(Guidance Note)

Scaling Up Big Data Projects

(blog)



Data Partnerships for Development and Humanitarian Action

Data Sharing
Insights Sharing
Modalities

1

Supporting Shared Value Partnerships

Any Public-Private Partnership should be aligned to **achieve impact centered on the SDGs** through a Shared Value approach, especially as private companies are often the custodians of the big data sets from which we develop valuable development and humanitarian insights.

2

Shared understanding of The Proposition and the benefits for all parties.

Through partnership and shared understanding, we can attract innovative finance, deliver big data for development programmes, measure impact and **create sustainable solutions to development challenges**.

3

Strategic Alignment

Development, humanitarian and commercial strategies should be more aligned to create an enabling environment for data innovation adoption and scaling. There needs to be a **move from a transactional to a strategic partnership.**

#AcceleratingAnalyticPartnerships

Get in Touch With Us:

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