AI for Accelerating Sustainable Development & Humanitarian Action in the Asia Pacific

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Pulse Lab Jakarta

PULSE LAB JAKARTA

About Pulse Lab Jakarta

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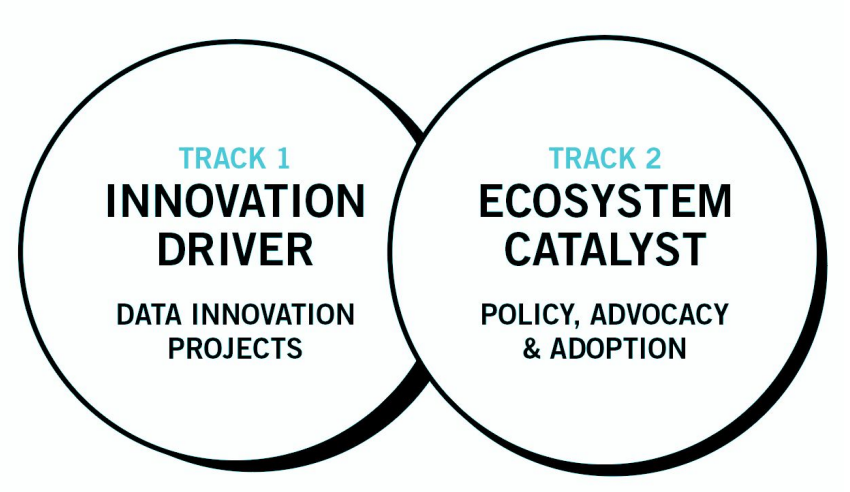
Pulse Lab Jakarta (PLJ) combines **data science** and **social research** to help make sense of our interconnected, interdependent, and complex world.

The Lab is a joint initiative of the United Nations and the Government of Indonesia, via United Nations Global Pulse and the Ministry of National Development and Planning (Bappenas) respectively.

Pulse Lab Jakarta adopts a two-track innovation strategy for all its activities, in line with UN Global Pulse's overall strategy and the Sustainable Development Goals:



UN Global Pulse Services

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

Helping UN agencies, governments and development partners make **better use of their data**

Advocating for the **ethical use of data** and technological platforms in line with the protection of individual privacy

Ongoing Projects in The Asia Pacific

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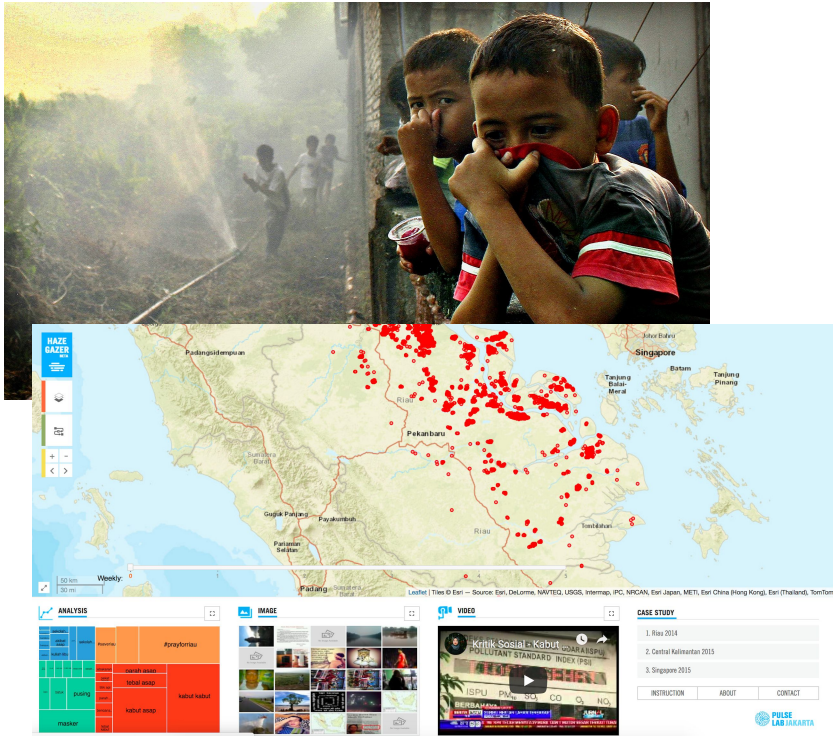
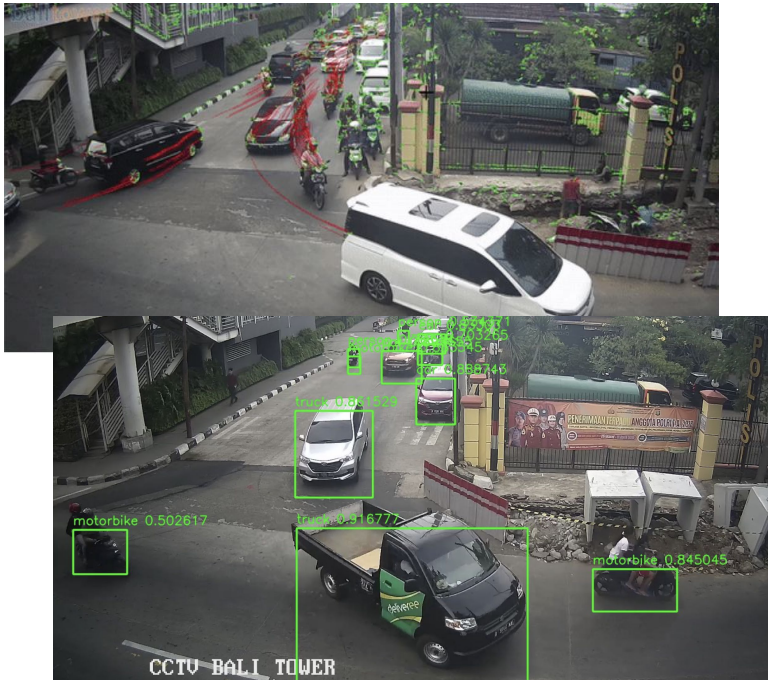


Nowcasting Air Quality Using Social Media Photos

In some communities in Indonesia, real time air quality information is not available. This inspired us to develop **a deep learning model that combines social media photos and conventional data (satellite and ground sensors).** Our research shows that it can add real time properties and also improves prediction accuracy based on 2014 data from Pekanbaru, Indonesia.

This model is now being integrated into our crisis management platform called haze gazer (http://hazegazer.org)



Using Deep Learning to Tackle Traffic Safety in Jakarta

Together with Jakarta Smart City and the University of Chicago's DSSG fellowship programme, Pulse Lab Jakarta analysed CCTV data in Jakarta for the purpose of improving traffic safety. The project relied on deep learning to identify objects in video frames, **aiding in the realisation of a pipeline that converts raw, unstructured footages into data on traffic flows and traffic safety.**

The approach is now being integrated into Jakarta Smart City's information systems, and scaled to cover the over thousand CCTV cameras in Jakarta.

Poverty Mapping

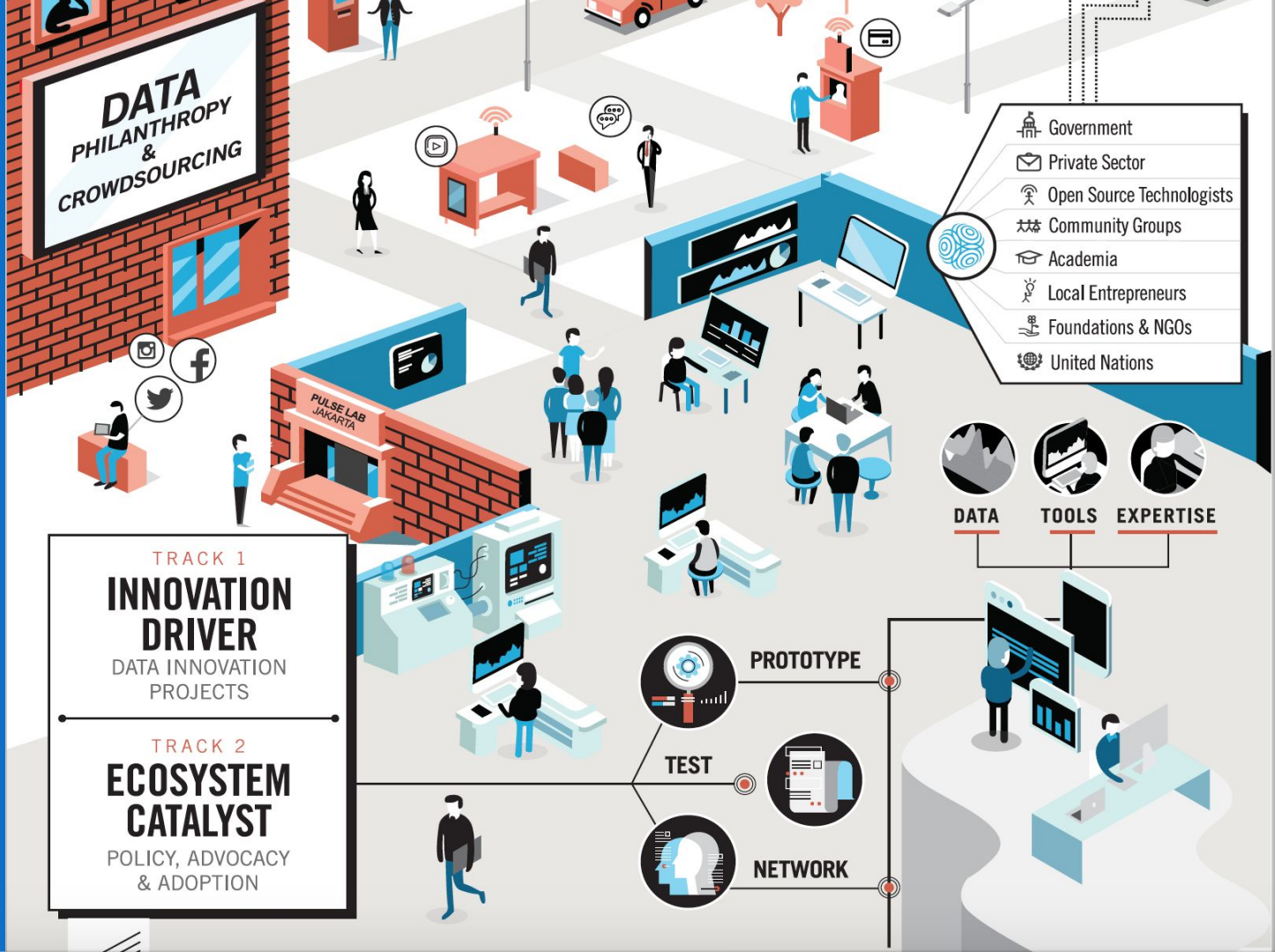
A join collaboration with UN Delivering Together Facility, UN DOCO, the UN Country Team in Papua New Guinea, and Digicel. Engaged in a research project, **developing a model to predict wealth and poverty at a high degree of spatial granularity based on mobile network data** and a survey of mobile network users.

Inspired by similar work conducted in Rwanda by a team of academics, and our aim was to replicate the methods and operationalise the approach to inform development practice

Opportunities for collaboration

1. **What do you have**
   a. Open access platforms
      - Haze gazer - http://hazegazer.org,
      - CCTV analysis - available on github, and
      - Cyclomon - http://cyclomon.org/cyclonehome
   b. Expertise on data science and AI
   c. Replication to other places
2. **What do you need**
   a. Data
   b. Valuable inputs from experts, academia, and practitioners
3. **Examples of collaboration**
   a. Data sharing with Jakarta Smart City, Digicel, etc
   b. Join research with University of Chicago
   c. Expertise mentoring with NIRS of South Korea Govt.

Becoming a Pulse Lab Partner



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Get In Touch with Us

Harnessing data for development. Translating insights for social innovation.

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