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Data Analytics Platform For Logistics Planning and Information Management Following Natural Disasters

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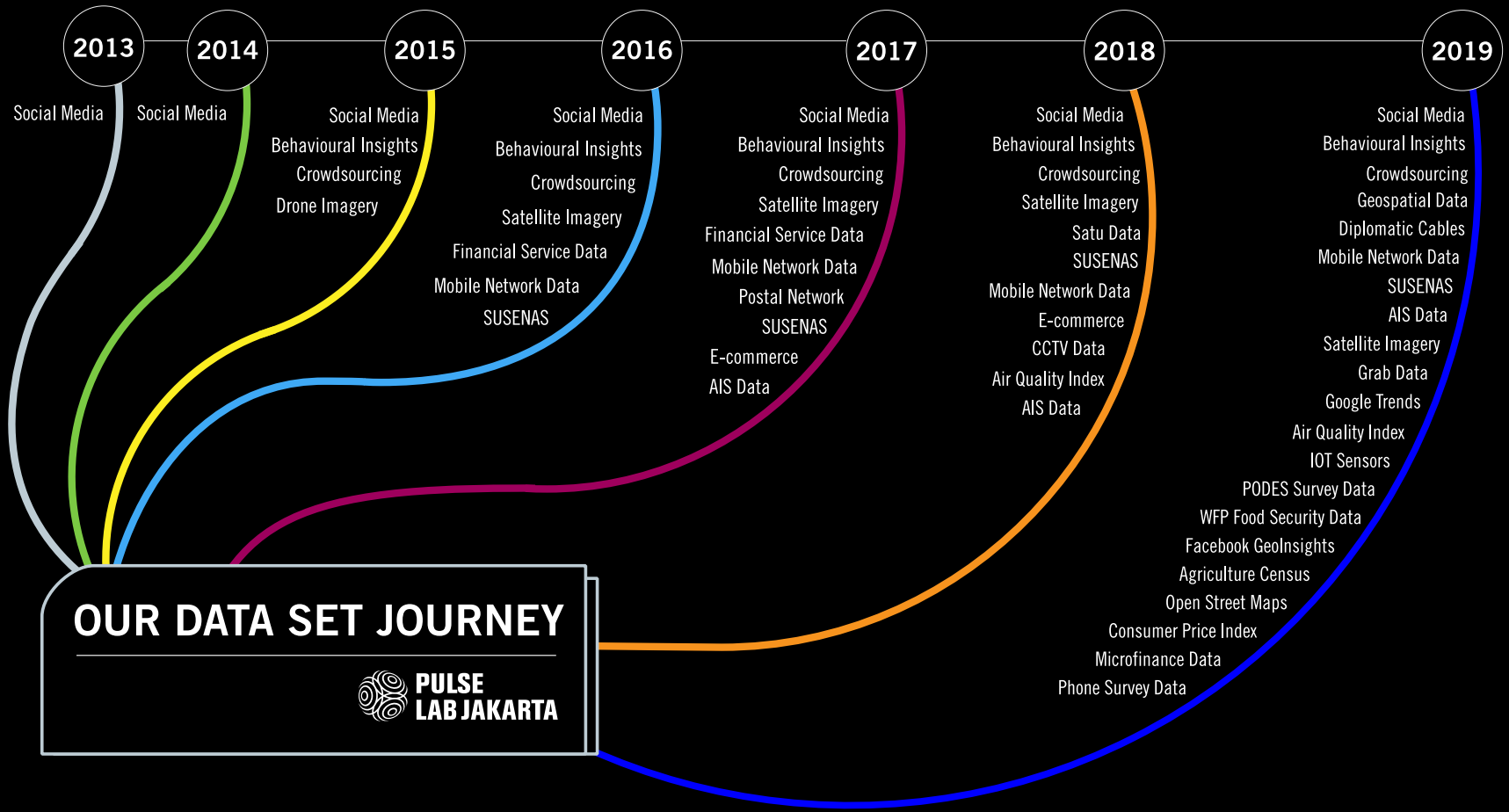
As the first innovation lab of its kind in Asia, Pulse Lab Jakarta is working to close information gaps in the development and humanitarian sectors through the adoption of **big data, real-time analytics** and **artificial intelligence**

Through its network of labs, UN Global Pulse provides three main services which include:

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


2013
Social Media
2014
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2015
Social Media
Behavioural Insights
Crowdsourcing
Drone Imagery
2016
Social Media
Behavioural Insights
Crowdsourcing
Satellite Imagery
Financial Service Data
Mobile Network Data
SUSENAS
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Postal Network
SUSENAS
E-commerce
AIS Data
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SUSENAS
Mobile Network Data
E-commerce
CCTV Data
Air Quality Index
AIS Data
2019
Social Media
Behavioural Insights
Crowdsourcing
Geospatial Data
Diplomatic Cables
Mobile Network Data
SUSENAS
AIS Data
Satellite Imagery
Grab Data
Google Trends
Air Quality Index
IOT Sensors
PODES Survey Data
WFP Food Security Data
Facebook GeoInsights
Agriculture Census
Open Street Maps
Consumer Price Index
Microfinance Data
Phone Survey Data
OUR DATA SET JOURNEY
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HazeGazer

Real-time insights

Fire and haze hotspots

Most vulnerable cohorts

President of Indonesia Situation Room

VAMPIRE

Vulnerability analysis

Drought impact

Early warning system

Executive Office of the President of Indonesia

CYCLOMON

Extending from HazeGazer

Cyclone monitoring across the world

Disaster preparedness

What is MIND?

MIND stands for **Management Information for Natural Disasters**.

MIND is intended to help assist in making critical decisions in humanitarian response by bringing relevant non-traditional data sources into one place and combining them with insights from big-data sources.

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Background

Timeliness is key in post-disaster response

Challenge 1
Scattered critical information

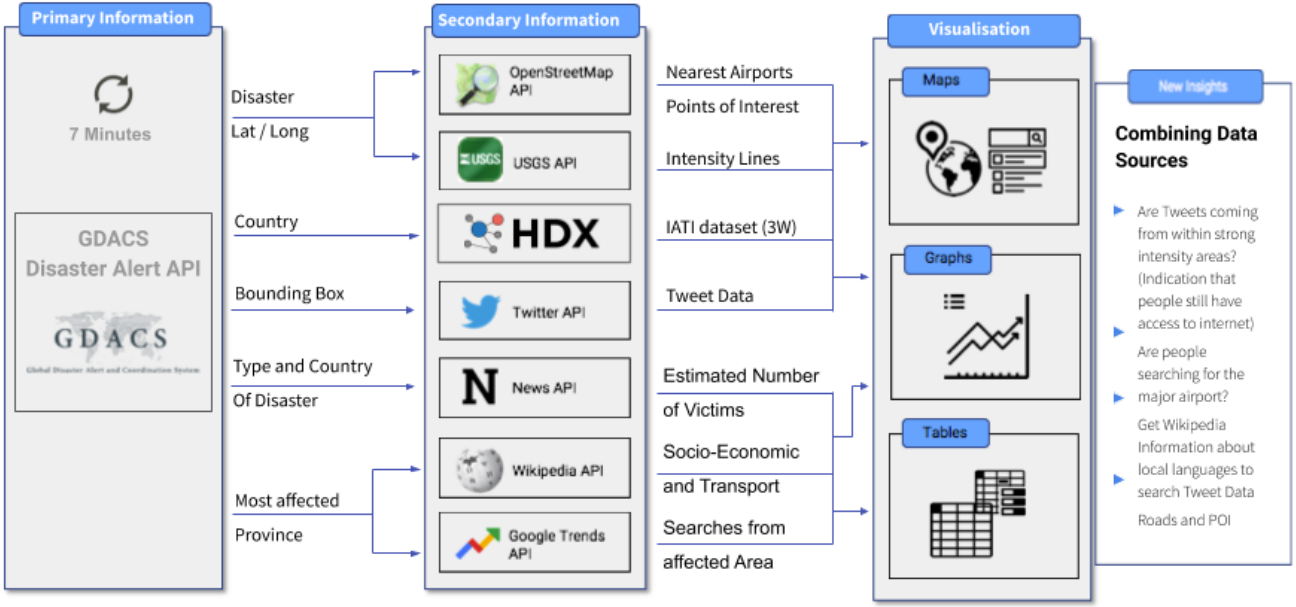
Challenge 2
Valuable time is often lost

Automated data pipeline could close the information gap

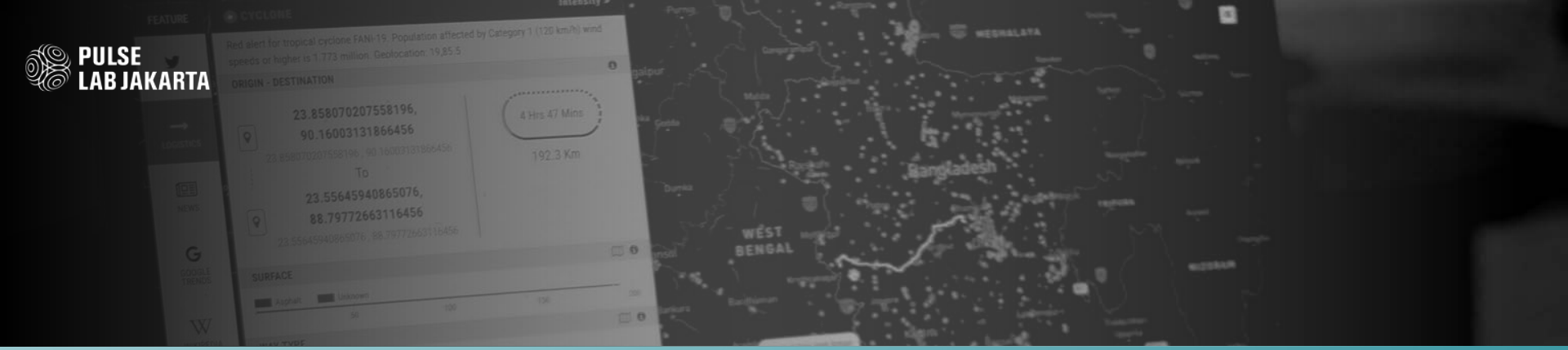
Open source platform

Objective

Obtain insights on affected area in near real time



MIND's Data Pipeline



MIND’s Features

Use Case:
2018 Central Sulawesi Earthquake

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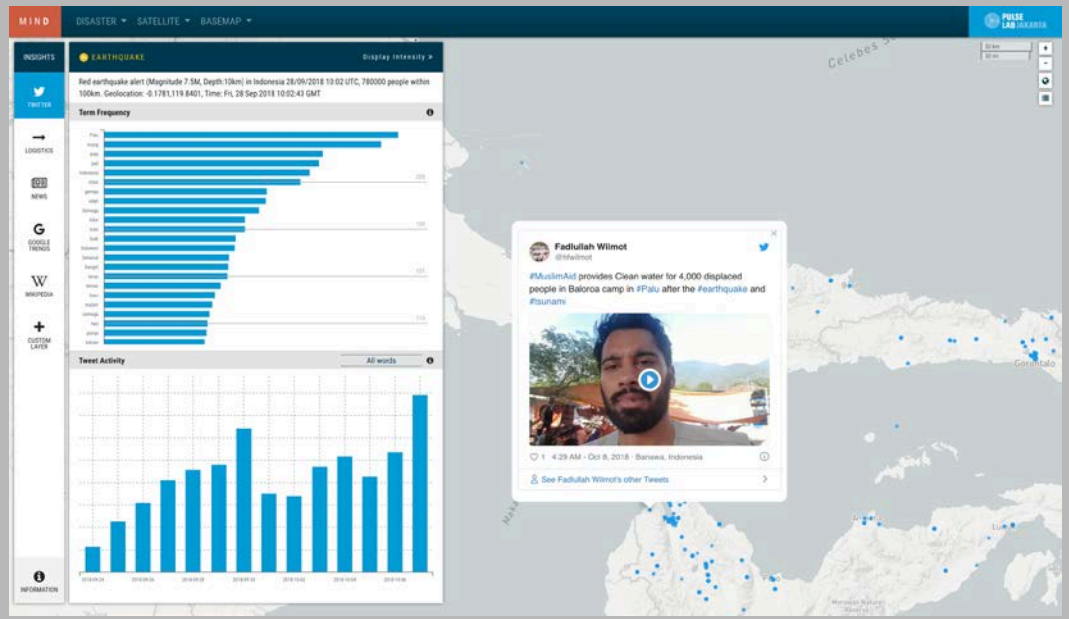
Data Insight : Twitter



- Filter public geo-tagged tweets inside bounding box
- Near real time
- Highly contextual on the affected area

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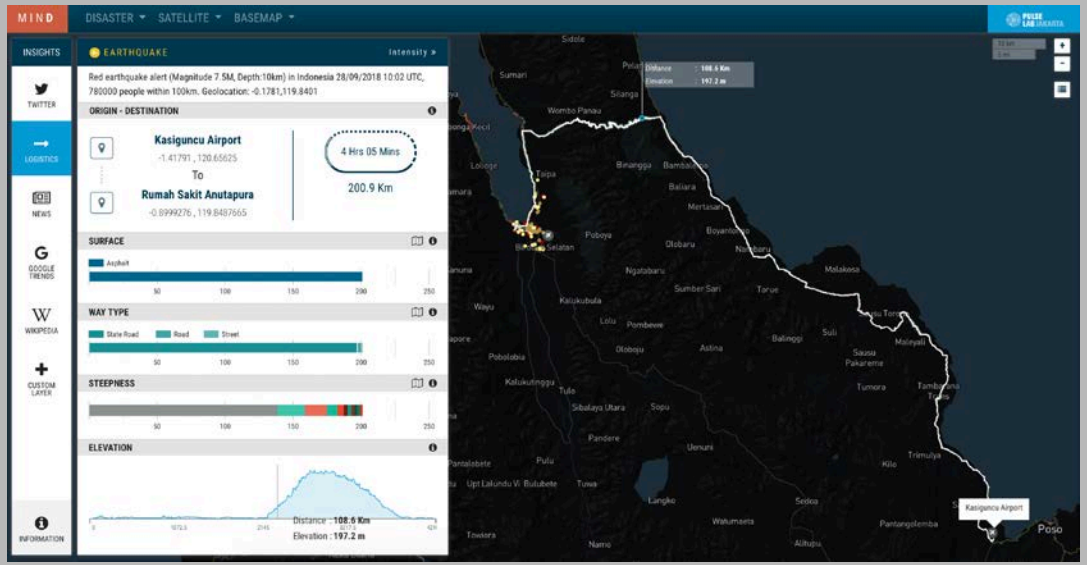
Data Insight : Logistics



- To better understand the impact on affected areas
- Alternative routes
- Disaster relief strategy

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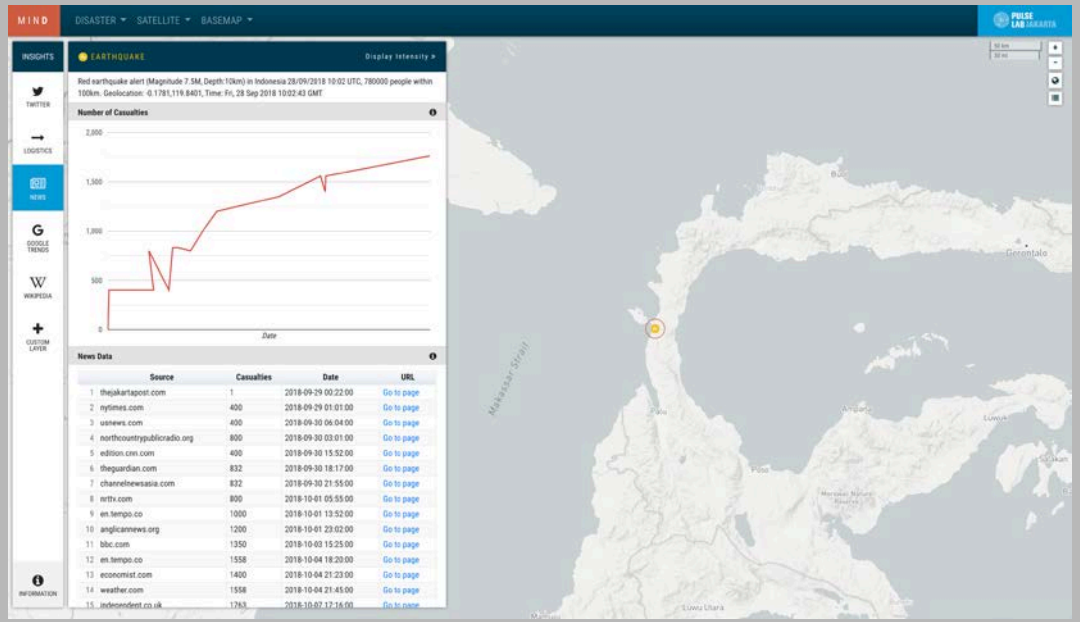
Data Insight : News



- Using a text-processing algorithm
- Extract number of relevant articles
- Estimation casualties

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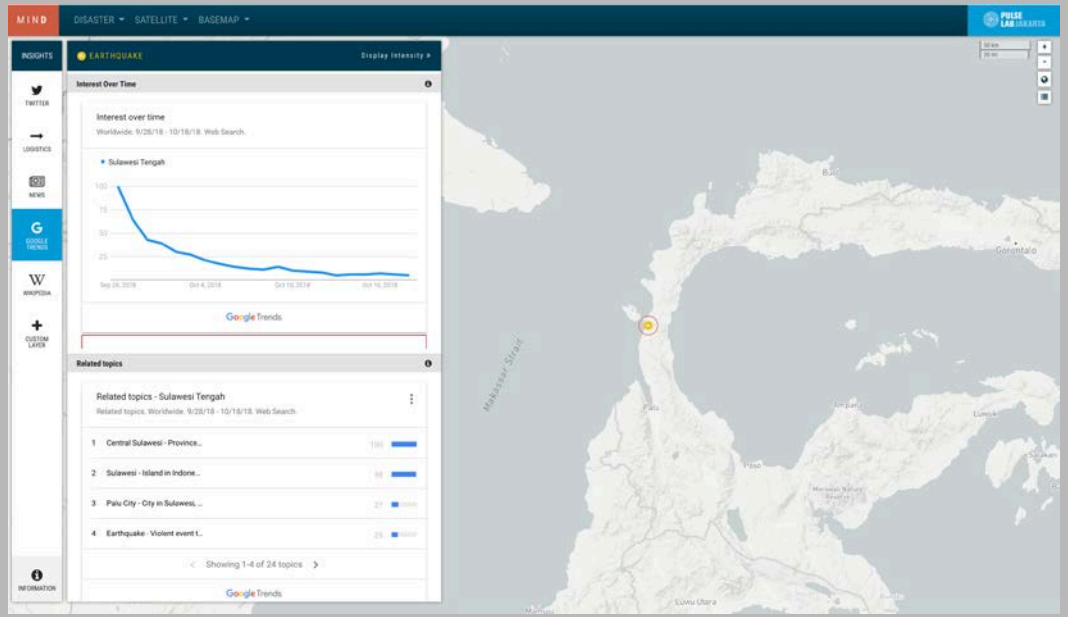
Data Insight : Google Trends



- To better understanding the concerned in affected areas
- Might help contextualise the information and communications released to the public

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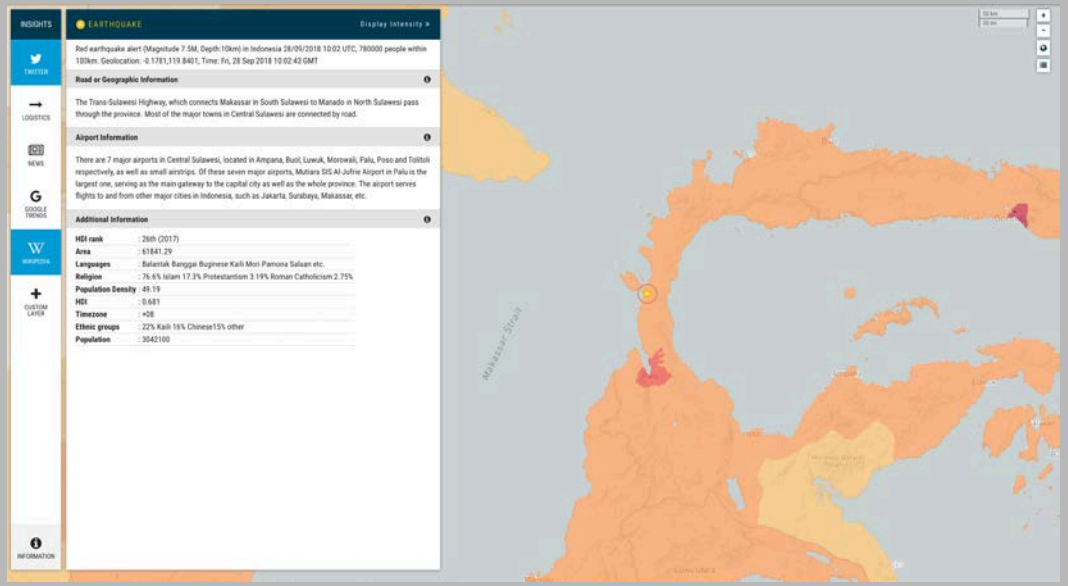
Data Insight : Wikipedia



- Provide fact sheet of the most affected province
- Background information and insight

MIND's Present and Future

MIND is developed using open source technologies such as Leaflet, JavaScript and a customized framework. It is in Alpha version and was tested in its launch in mid-2019 by several development and humanitarian actors.

MIND is designed to complement existing disaster response tools and intended to be used by various stakeholders. In the future, users will be able to overlay their own datasets and the platform could be modified to fit the specific needs of an organization by developing it in a modular way.

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Harnessing data for development. Translating insights for social innovation.

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