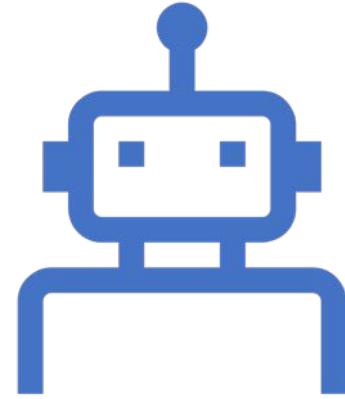


# Disrupsi & Transformasi Digital

Lingkungan Bisnis dan Hukum Komersial



# #1 Masa Depan

---



# Transformasi Digital

Humanless

Precise

Fast

Reliable

Manageable



# Digital Transformation

010110  
001101  
101010

Data

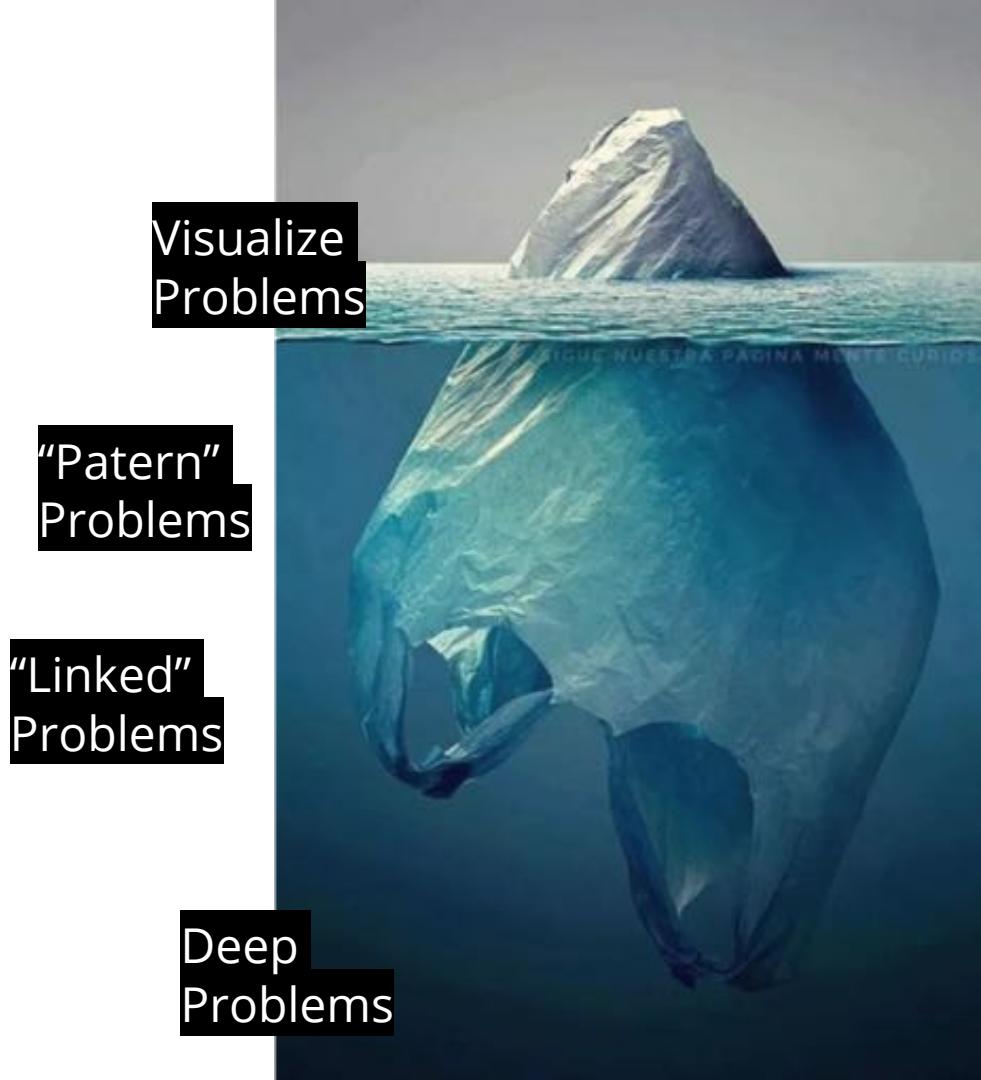


Cloud



Analytics

# Trivia



Visualize  
Problems

“Pattern”  
Problems

“Linked”  
Problems

Deep  
Problems

Event, Activities,  
Projects

Development &  
ecosystem

## #2. Manajemen Talenta

# Talents

## Human Resources

- Workers
- Do it

## Human Assets

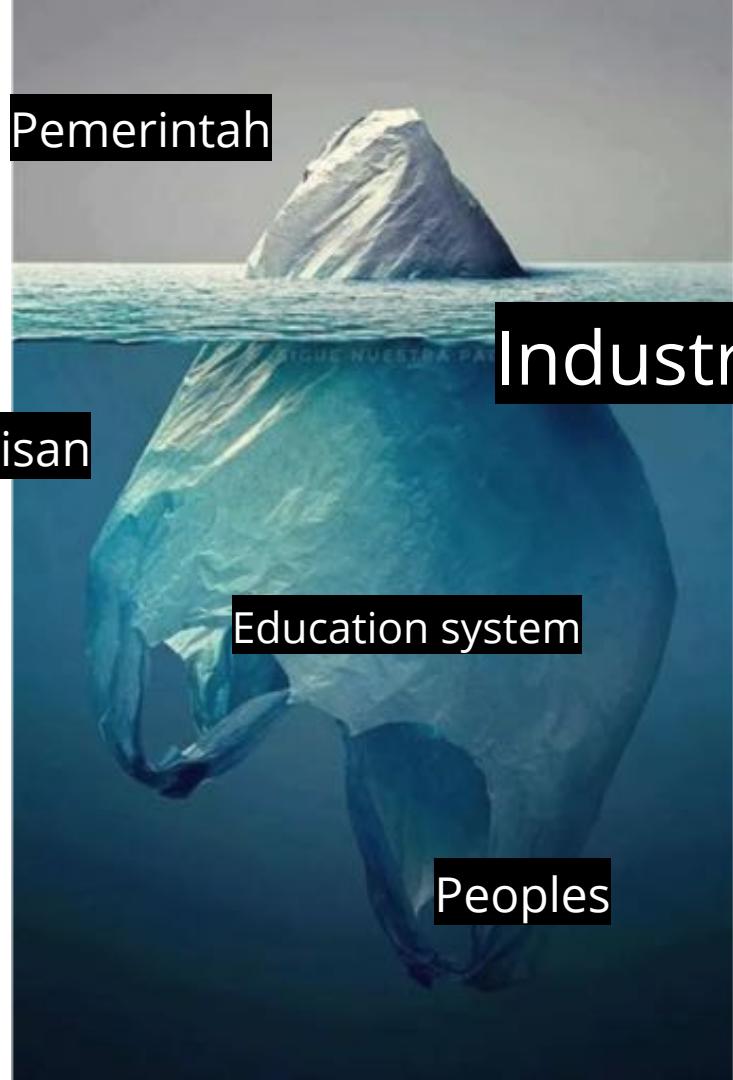
- Brain - idea
- Collectivity
- Integrity
- growth

## Human Capital

- Essential component of company
- Capital = assets



# Problems



Pemerintah

Perusahaan Rintisan

Industri

Education system

Peoples

# Problem landscape

## Government

- Roles
- Ecosystem → mostly on system
- Protection (BPJS, Tenaga Kerja, etc)
- Promoting
- Unufficient cordination on program (Ministry, units, etc)
  - Kominfo Digital Talents
  - Kemendag
  - others...

## Industry

- Industrial selfish
- High expectation on education system
- Close source
- Less approach
- Industrial standard pressure

# Problem landscape

## Start Up

- High dream
- Disruptive for business but not for talents
- Less salary high skills
- Less development
- Very customise environment

## Education

- Formal orientation
- Tight curriculum
- Un-upgraded lecturer
- Un-updated materials
- Close with science, far from riel need

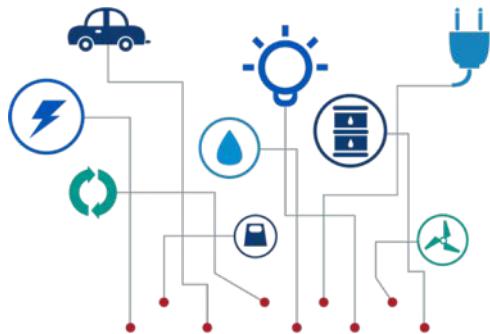
# Problem landscape

## Talents

- Individual
- Superhero thinks
- Less learning paths
- Instants
- Applied orientation, very low in basics
- Less softskill

## Cloud

- Infrastructure services (hardware, storage, processing)
- Platforms (tools, build apps)
- Software (services)



## Big Data

- Data Management
- Data Processing
- Data Analysis & Visualization



- |    |          |  |
|----|----------|--|
| 01 | VOLUME   | <ul style="list-style-type: none"> <li>• Kumpulan data yang dijumlahkan jadi besar</li> <li>• Kumpulan data berukuran besar</li> </ul> |
| 02 | VARIETY  | <ul style="list-style-type: none"> <li>• Data berbagai jenis tipe dan variasi</li> </ul>   |
| 03 | VERACITY | <ul style="list-style-type: none"> <li>• Data yang memiliki sifat tertentu (rahasia, dan lainnya)</li> </ul>                           |
| 04 | VELOCITY | <ul style="list-style-type: none"> <li>• Data yang dihasilkan secara real time atau batch</li> </ul>                                   |
| 05 | VALUE    | <ul style="list-style-type: none"> <li>• Data bernilai di masa depan</li> <li>• Data yang dapat bertaut satu sama lain</li> </ul>      |



## #3 Kebutuhan Industri

- Predictive maintenance or condition monitoring
- Warranty reserve estimation
- Propensity to buy
- Demand forecasting
- Process optimization
- Telematics

### Manufacturing



- Predictive inventory planning
- Recommendation engines
- Upsell and cross-channel marketing
- Market segmentation and targeting
- Customer ROI and lifetime value

### Retail



- Alerts and diagnostics from real-time patient data
- Disease identification and risk stratification
- Patient triage optimization
- Proactive health management
- Healthcare provider sentiment analysis

### Healthcare and Life Sciences



- Aircraft scheduling
- Dynamic pricing
- Social media – consumer feedback and interaction analysis
- Customer complaint resolution
- Traffic patterns and congestion management

### Travel and Hospitality



- Risk analytics and regulation
- Customer Segmentation
- Cross-selling and up-selling
- Sales and marketing campaign management
- Credit worthiness evaluation

### Financial Services



- Power usage analytics
- Seismic data processing
- Carbon emissions and trading
- Customer-specific pricing
- Smart grid management
- Energy demand and supply optimization

### Energy, Feedstock, and Utilities



# Multidisciplinary Research

(Computer Science + Human Engineering + Cognitive Science + Psychology)

## Information Visualization

- Visual Representation
- Recordkeeping, Sensemaking, and Storytelling
- Collaboration Support
- Data Labeling, Editiong, and Annotation
- Design Study
- Exploration Method in VR/AR

## Visual Big Data Analysis

- Precision Medicine
- Personal(Mobile) Data
- Bio Informatics
- Transpartation
- Disaster/Safety
- Smart City
- Crime

## Human-Centered

- Cognition and Perception
- Task and Requirements Analysis
- Qualitative and Quantitative Evaluation
- Novel Evaluation Methods
- Insight Provenance

Agriculture



Education/Life



Transport



Cities



Energy



Disaster prevention



Increased Income



Effective education



Reduced congestion



Improved safety



Adjust Supply & Demand



Reduction of damage & harm

### Designing social systems

Design of fair and satisfying systems and policies

Refine system

### Evaluating social systems

Visualizing social change when systems and policies are implemented

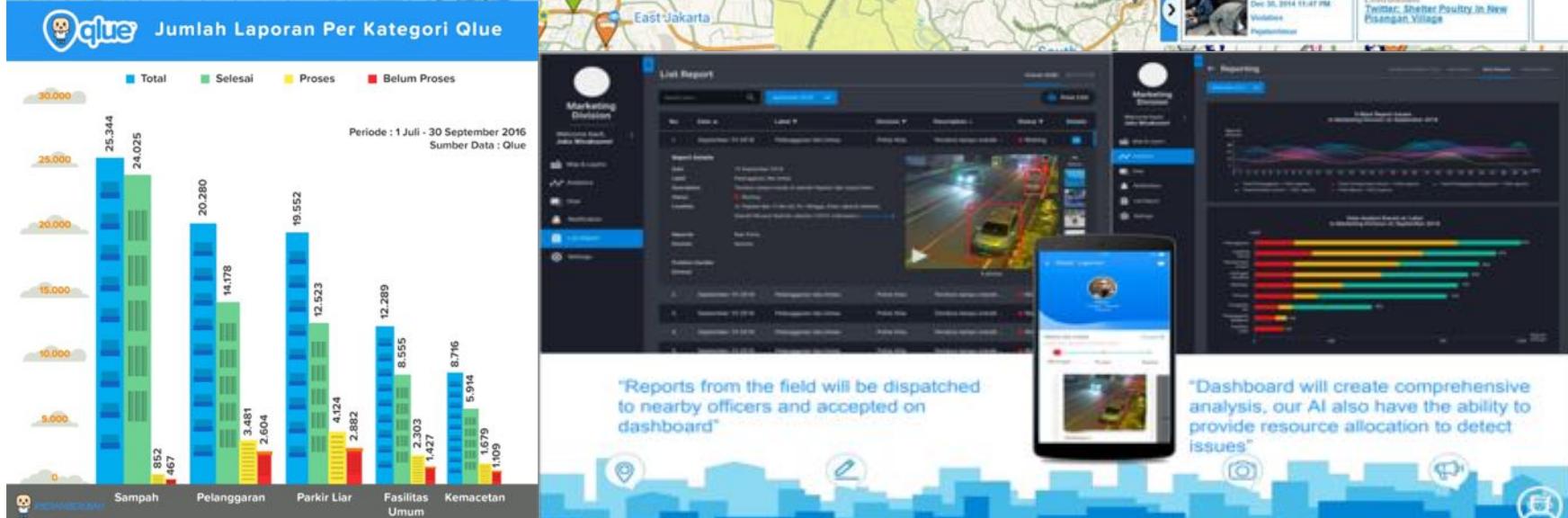
### Modeling social systems

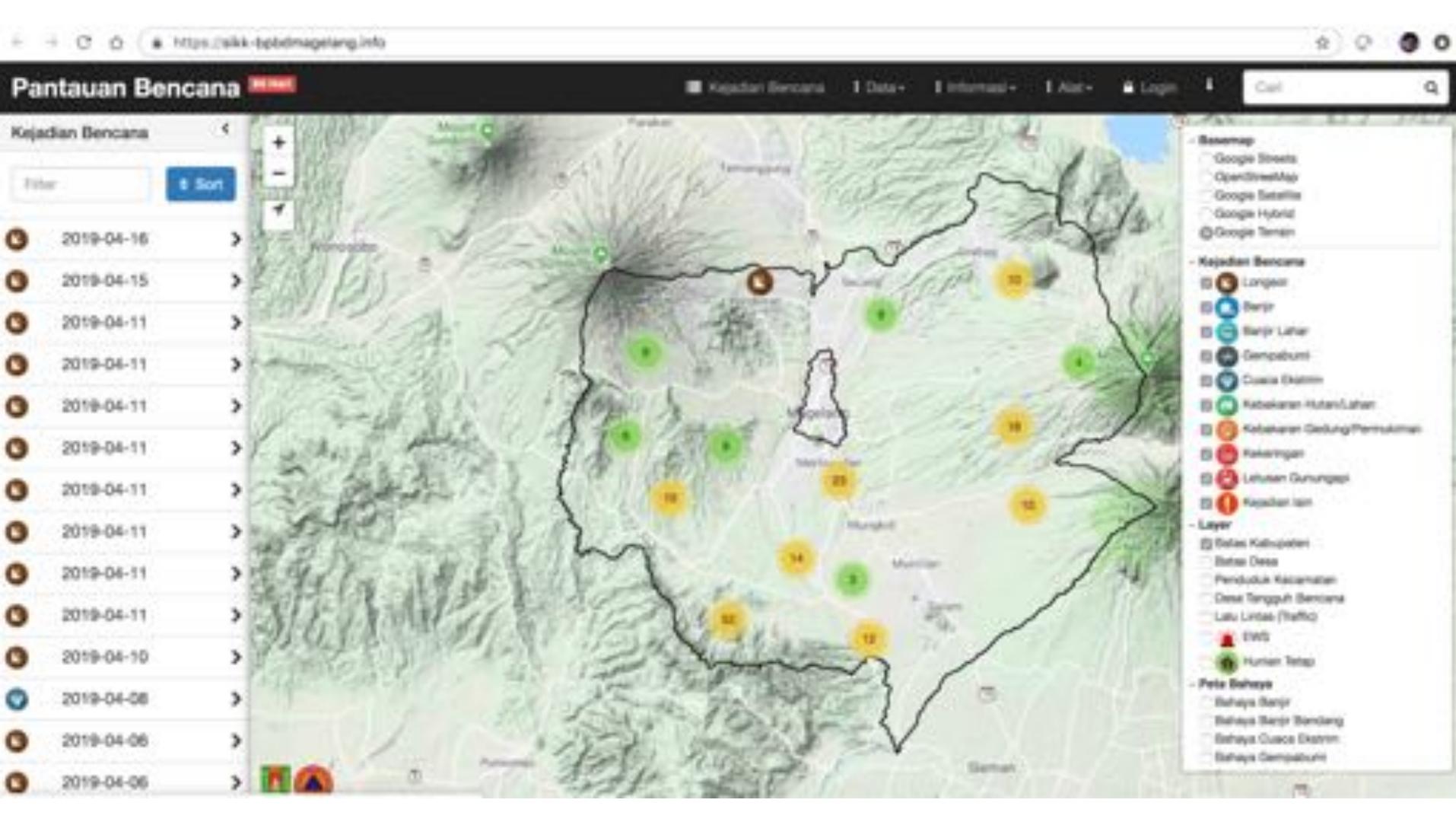
Operational models that consider peoples' state of mind and behavior

Technologies that utilize big data

Prediction and analysis, optimization, control

## #4 Studi Kasus





# London

51.51 N, 0.13 W

Wed 24 Apr @ 21:29:08

[Go to Map](#) - [Go to Grid](#) - [Change City](#)

## WEATHER STATION (CASA Team)

## WEATHER (METAR)

London City

Calm

0 C

## TRAFFIC CAMERAS (TrL)

Stoke Newington Rd/Evering Rd



## TUBE LINE STATUS (TrL)

Bakerloo	Good Service
Central	Good Service
Circle	Good Service
District	Good Service
H & C	Good Service
Jubilee	Good Service
Metropolitan	Good Service
Northern	Good Service
Piccadilly	Good Service
Victoria	Good Service
W & C	Good Service
Overground	Good Service
DLR	Good Service
DLR Tram	Good Service

## LONDON CYCLE HIRE (TrL)



## IN SERVICE (TrL)



## AIR POLLUTION (DEFRa)

µg/m³	Traffic	Ozone	NO₂	SO₂	PM₂.₅	PM₁₀

Bloomsbury  
Marylebone  
Rd  
N Kensington

## TRAFFIC CAMERAS (TWO AT RANDOM) (TrL)



## BBC LONDON NEWS (BBC)

Harlesden murder: Man dies after high street stabbing. How virtual reality may help Grenfell survivors 'let go of emotions'. Cyclist's appeal after thief thwarts sixth round-the-world attempt.

## OPENSTREETMAP UPDATES (OSM)

Livingmap-waltham-0319 - New cycleway (mostly from imagery, needs survey). Livingmap-waltham-0319 - Added more details (various). Deleted 'Post Office' (was double). Corrected postcode in Barking

102 Mio Transaction

24% of national e-Money Transaction Shar

820 Payment Device Terminals

Rp. 343 M Payment Settlement



Time Series  
Comparison



Audit Trail  
Development



Origin-Destination



Sentimen Analytic, NLP



TransJakarta



DB Size 470 GB

DB Size +14G /month

Avg 287K trx/day



Samuel Oktov @BukanMasAlex · 3m

TransJakarta semakin kece, semakin canggih, semakin nyaman karena kinerja  
@AhokDjarot @basuki\_btp #BaDjaTerbukti

Translate from Indonesian



Rose Diana @wieodhie · 2h

#9  
Trans Jakarta vs Commuter Line

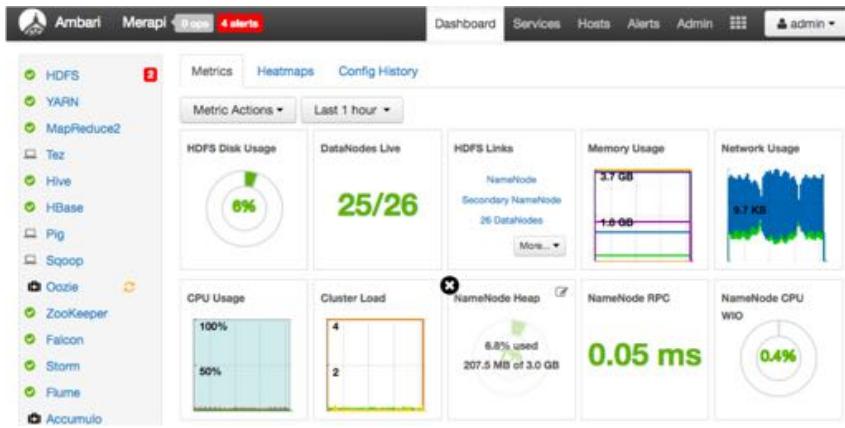
#streetphotography #street... instagram.com/p/BRo-QaPjBua8...



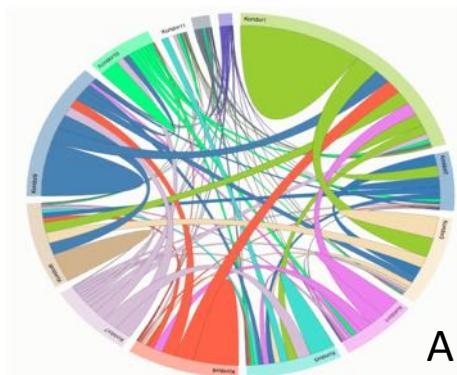
Resi Utama Br H @resiutamaa · 6h

Min kalo mau ke slipi jaya dari kramat sentiong nu, mending transit di cawang  
uki atau ke harmoni? Mksah @PT\_TransJakarta

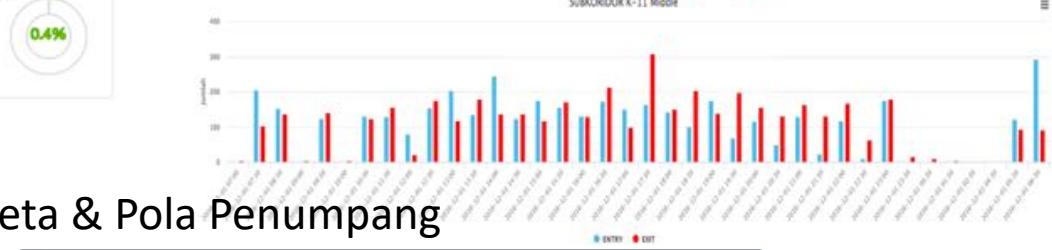
Translate from Indonesian



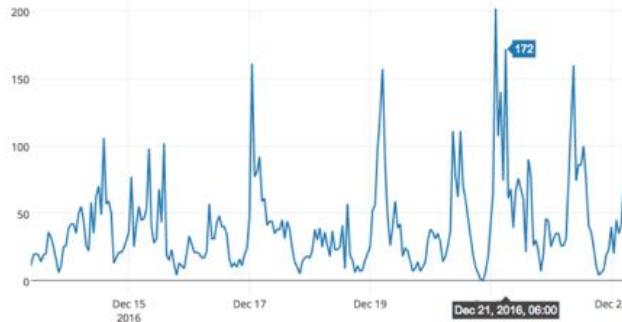
Big data 25 server cluster



Analisis O-D



My Analytic Dashboard Post Influencer SNA



Social  
Media  
Dashboard

[Analytical] & [cCREATIVE]



# Opportunities



Internships in dalatech.id & gamabox.id



2-3 months works



Business development



Management & operation



Send your CV to [mardhani@ugm.ac.id](mailto:mardhani@ugm.ac.id)