

Proposal CFDS UGM - PT Global Data Inspirasi

Data Analitik Provinsi Sulawesi Barat



GLOBAL DATA INSPIRASI

- inspiring the world with data -



GO #BePositive
Datains 5th Anniversary
2 May 2018 - 2 May 2023

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Materi yang tertulis di dalam dokumen ini adalah sepenuhnya hak milik Datains. Segala bentuk penyebarluasan tidak diperkenankan tanpa seijin langsung dari Datains.

Last update 21 July 2023

Introduction

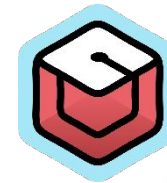


DataIns & Partners

PT Gamatechno Indonesia
ICT Solutions Provider & IT Consulting
Services, founded in 2005
gamatechno.com



PT AINO Indonesia
Payment Solution Provider
Established in 2013
ainosi.co.id



**Solusi
Kampus
Indonesia**

PT Solusi Kampus Indonesia
Academic Solution Provider
Established in 2018
ecampuz.com



GLOBAL DATA INSPIRASI
- inspiring the world with data -

PT Global Data Inspirasi
Big Data Solution Provider
Established in 2018
datains.id

Business Network and Research Partners



Universitas Gadjah Mada
Research partner



Politeknik Jember
Research partner



Universitas Negeri Semarang
Research partner



PT Telkom Tbk
Solution & Data



PT Indosat Tbk
Solution & Data



Nippon Koei Co. Ltd.
Solution & Data

Products & Services

Vision

Menjadi perusahaan **data analytic & applied artificial intelligence berbasis universitas** yang terbaik di Indonesia, yang menghasilkan solusi **profitable, innovative & sustainable**

Mission

1. Mengembangkan **solusi** secara *agile* sesuai dengan kebutuhan market, berpotensi menghasilkan **recurring revenue**, dan memiliki ekosistem yang *sustainable* dan berkembang.
2. Menyiapkan **talent ilmuwan data** secara berkesinambungan untuk mendukung kebutuhan perusahaan, melalui berbagai kerjasama dengan berbagai mitra

DATA SERVICES

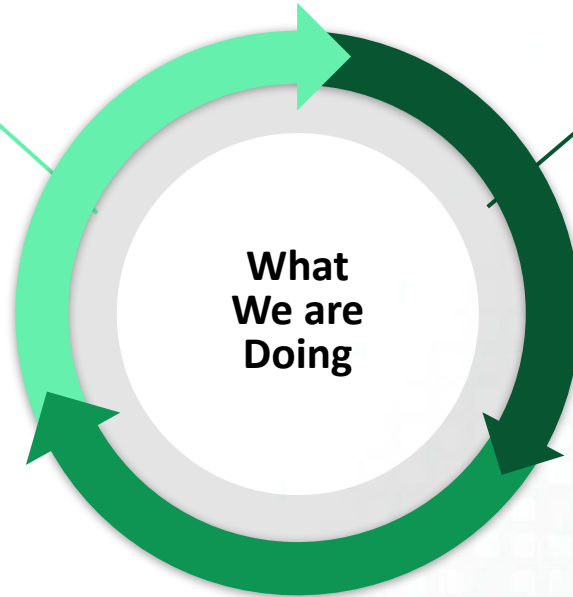
Data Analysis Use Case Implementation

Data Labelling, Data Collection, Data Integration, Data Warehousing, Data Lake Implementation & Dashboard Development

Data Analytics Platform Implementation

Big Data Platform & Tools Deployment

Tersedia di e-Katalog LKPP



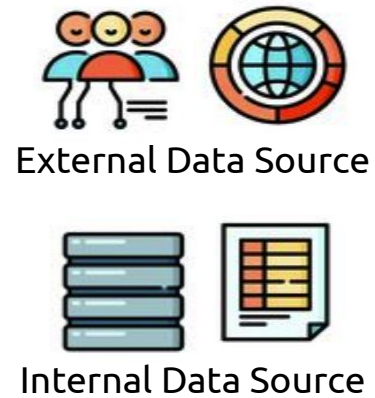
PRODUCTS

- People Behaviour Analysis
- Mobility & Location Intelligence
- Marketplace Insight
- Media Monitoring
- Hotel & Tourism Intelligence



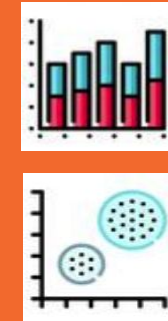
From Data to Insight

Data Crawling, Wrangling, Data Labelling, Analysis & Visualization,
Data Warehouse, Data Lake Implementation & Maintenance



Data Integration,
Data Warehousing,
Data Visualization &
Data Lake Implementation

Use Cases
Implementation,
Data Analytics
Development &
Maintenance, etc



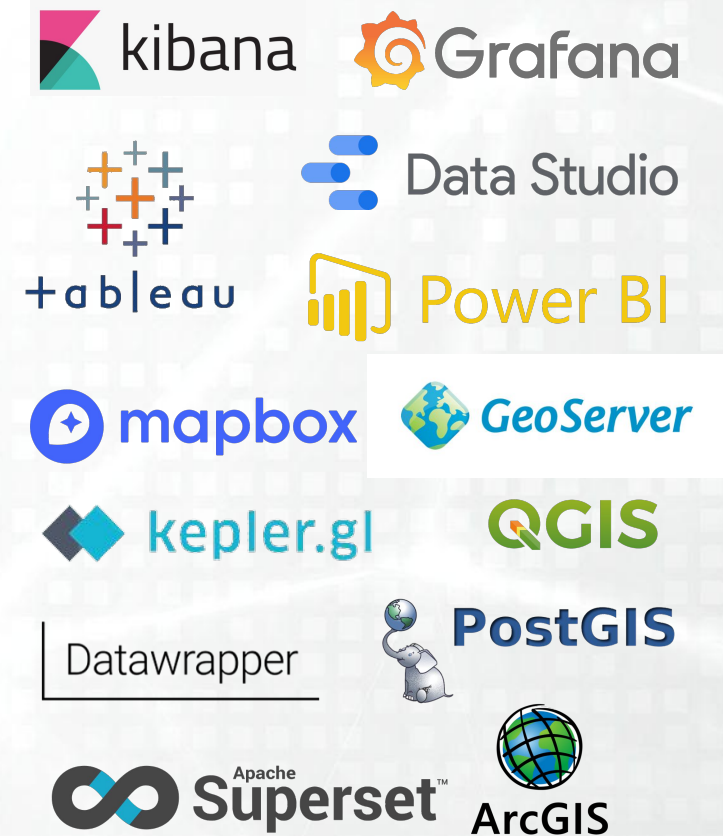
Datains provides all what business needs;

- technical expert team, as well as multi-disciplinary experts
- data collection, web scraping, data preprocessing and data cleansing
- data labelling, data annotation, AI modelling
- data integration, data warehousing
- data visualization with BI tools or custom application
- data analysis to produce insights from the data.

Technology Stack

Data Source

Data Visualization





Campus Collaborations



Kecerdasan Digital 2021

SOBAT CERDIG

SORE BARENG TEMAN CERDAS DIGITAL

Host: **Iradat Wirid**
Pengelola MKKD 2021

Pembicara: **Hastono Bayu T**
CEO Aino Indonesia (PT Aino Indonesia)

Pembicara: **Novan Hartadi**
CEO Datains (PT Global Data Inspirasi)

LIVE @kecerdasandigital

Senin, 9 Agustus 2021 19.00 WIB - Selesai

kecerdasandigital.id | Kecerdasan Digital | CIDS

Mata Kuliah Kecerdasan Digital Diselenggarakan FISIPOL UGM, diikuti mahasiswa berbagai program studi

CFDS, Fak. Ilmu Sosial & Politik Universitas Gadjah Mada 2021

Kerjasama MBKM antara **Datains** & Sekolah Vokasi UGM

datains.id

Mata Kuliah Project Based Learning, dengan tema Software Engineering, Big Data & Artificial Intelligence

Dep. Teknik Elektro & Informatika, Sekolah Vokasi, Universitas Gadjah Mada 2020-2023

Kick-Off Internship MBKM Kerjasama **Datains** dan Fakultas Geografi UGM dengan Tema **Geospasial Big Data**

15 Agustus 2022

datains.id

Internship MBKM mahasiswa berbagai prodi mengerjakan Project Matching Fund Kedaireka Geospasial Big Data Analytics

Fakultas Geografi, Universitas Gadjah Mada 2022

Internship MBKM Kerjasama **Datains** & Fakultas Teknik UNNES dengan tema **AI Computer Vision**

Februari Juli 2023

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Internship Merdeka Belajar Kampus Merdeka & implementasi Project Matching Fund Kedaireka Robotic - Computer Vision Analytics

Fakultas Teknik, Universitas Negeri Semarang 2023

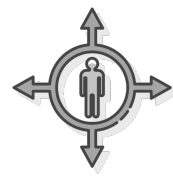
Clients & Portfolios



PEOPLE BEHAVIOR ANALYSIS



MEDIA MONITORING & ANALYSIS



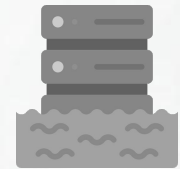
MOBILITY ANALYSIS



MARKETPLACE ANALYSIS



APPS DEVELOPMENT



BIG DATA ANALYTICS & PLATFORM



BPSDM
Kementerian
Perhubungan



Kementerian
Keuangan



Pemkot
Tangerang
Selatan



Pemkot
Jogjakarta



Nippon Koei,
Co. Ltd.



Pemda
DIY



Badan Pengawas
Obat & Makanan



PT Trinet
Prima Solusi



Kementerian
Kesehatan



PT PGAS Solution



PT Angkasa Pura II



PT SEKARGUNA MEDIKA



Kementerian
ATR BPN



Kementerian
Kominfo



Kementerian
Perindustrian



PT PLN
(Persero)



Badan Pengawas
Obat & Makanan



Badan Siber &
Sandi Negara



Pemda
DIY



Pemprov
Sumbar



Universitas
Gadjah Mada



PT AKR
Corporindo Tbk.



Universitas
Muhammadiyah
Yogyakarta



Pemkot
Surakarta



ASTRA Infra
Advancing the Nation's Infrastructure



AHS UGM
ACADEMIC HEALTH SYSTEM
Enhancing Nations Through Functional Integration

Data Services Project Portfolios



DOMAIN EXPERIENCES

Data Analytics Use Cases with Related Domain Experiences

data crawling, data warehousing, data visualization & collaboration analysis	SMART CITY		TOURISM & HOSPITALITY		visitor profiling, counting & appearance (face mask detection) sentiment & aspect analysis
tracing suspect, morbidity, early warning, healthcare facility occupancy	HEALTHCARE		RETAIL & LOGISTICS		visitor demography, behaviour, counting & appearance, face mask detection
speed estimation, counting & classification, traffic modelling, license plate recognition, law enforcement	ROAD TRAFFIC		BANKING & FINTECH		fraud detection, log management system / security incident & event management, customer behavior
residential & commercial area analysis, human daily activity (HDA) analysis, people mobility analysis	PUBLIC HOUSING		HUMAN RESOURCES		intolerant detection, lifestyle analysis, employee engagement, assessment profiling
product intelligence, cyber patrol, local business analysis, product segmentation	E-COMMERCE		OPERATIONS MANAGEMENT		performance evaluation, efficiency analysis, predictive maintenance
sentiment analysis, influencer & people network analysis, campaign effectivity analysis, e-clipping	SOCIAL & ONLINE MEDIA		MARKET SEGMENTATION		customer behavior, market trend analysis, market segmentation analysis

Dashboard for Kementerian ATR (Agraria Tata Ruang)/BPN

Ministry of Agrarian Affairs and Spatial Planning / National Land Agency

Data Source:

Data pertanahan nasional, data kepegawaian dll

Tools:

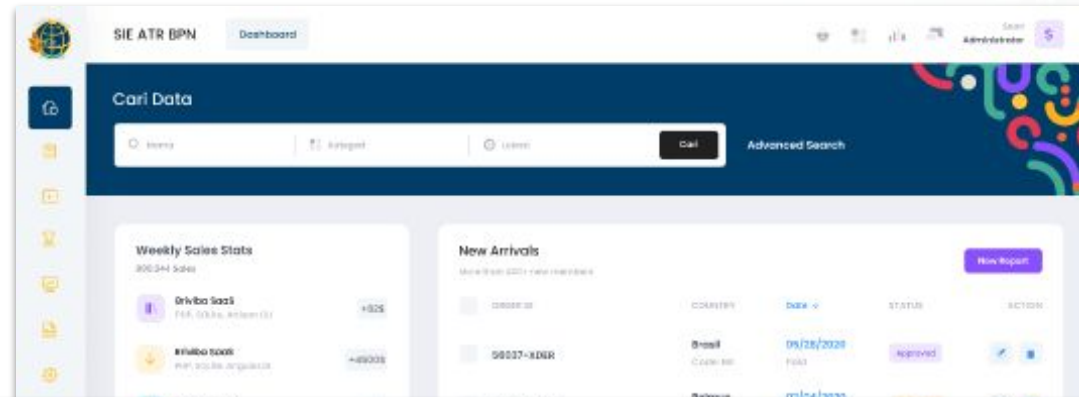
Data migration from Oracle to PostgreSQL using Synchrono.

ETL process using Pentaho Data Integration

Dashboard development using reactJS & back end .net core

Output:

Dashboard visualisasi : Statistik, Agraria, Pendaftaran Tanah Sistematis Lengkap (PTSL), Hak Tanggungan Elektronik (HTEI), Lintas Sektor, Komputerisasi Kantor Pertanahan (KKP), etc.



Dashboard for BSSN (Badan Siber & Sandi Negara)

National Cyber and Crypto Agency

Data Source:

Internal: Kepegawaian, BSR_e, JDIH, Keuangan, Serangan Siber, Keamanan Siber

Tools:

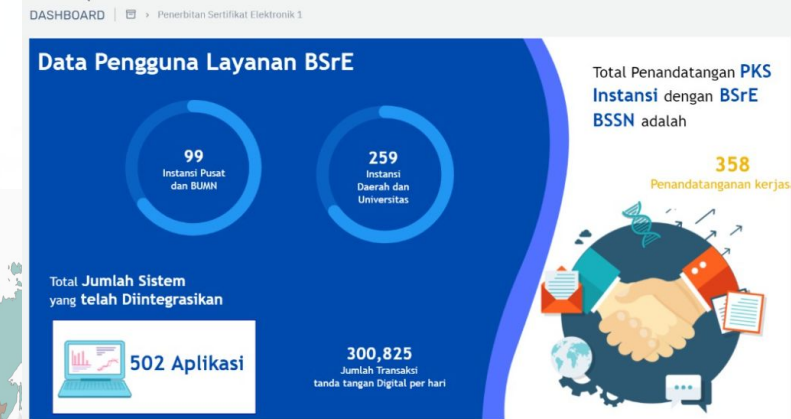
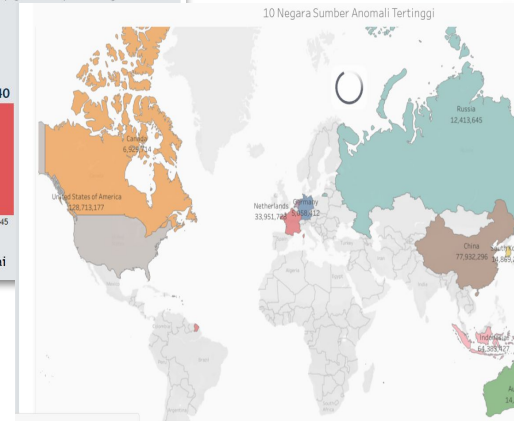
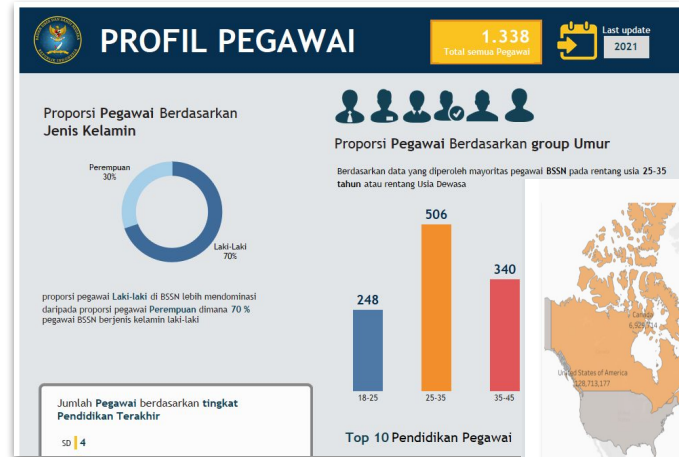
ETL Process with Pentaho.

Data lake using Hadoop (Hive, Ambari),

Dashboard developed with Laravel PHP & Tableau

Output dashboard:

Bidang Kepegawaian, Serangan Siber, Keuangan, Sertifikasi, Kebijakan, Keamanan Siber, dll



Link-Match Dashboard & Application for BPSDM Perhubungan Human Resource Development Center of Ministry of Transportation

Data Source:

Academic Information System,
HR Information System,
Standard Competency
Database

Tools:

Data integration from some
sources via API & raw files.

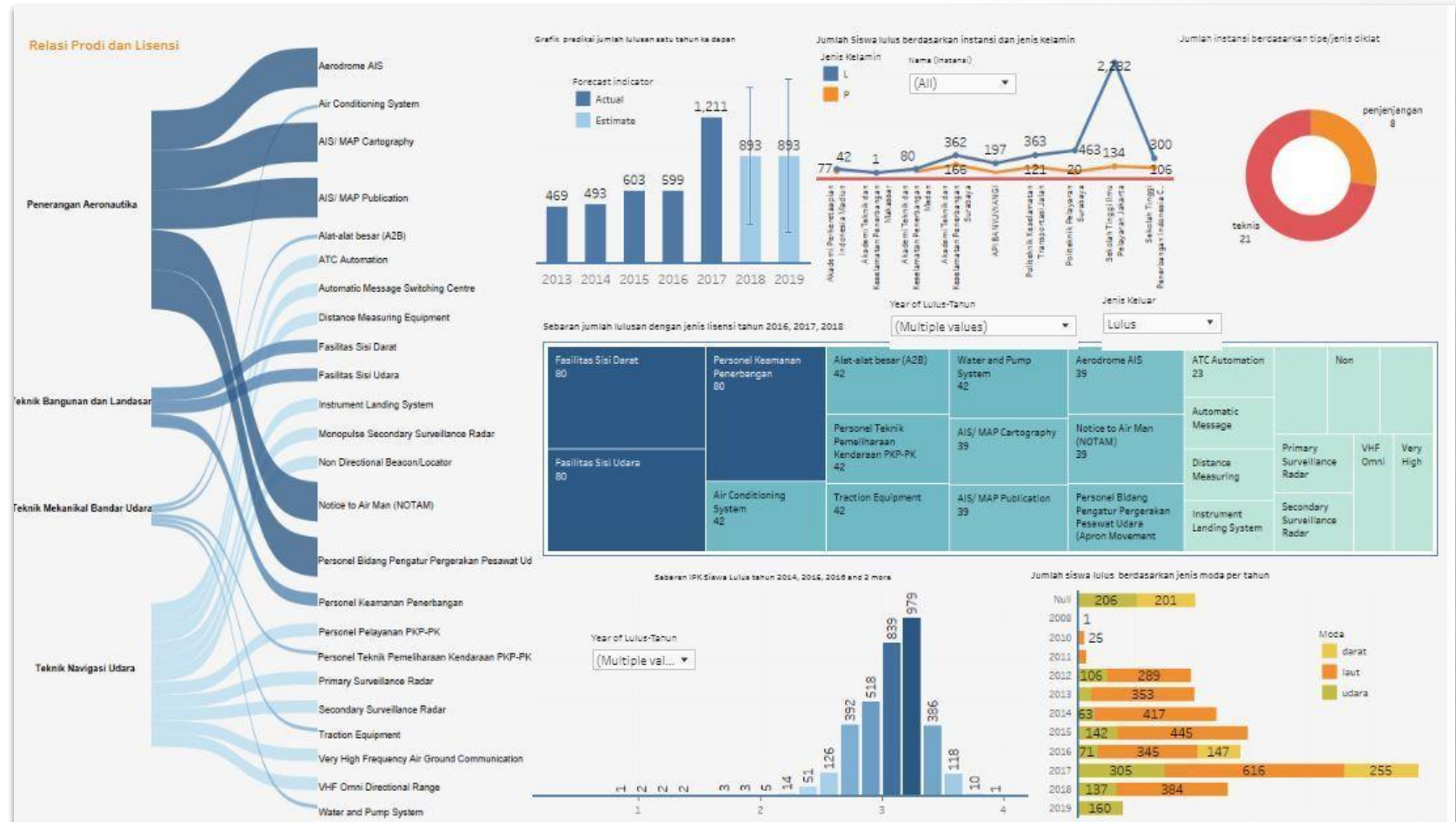
Dashboard & applications
developed with PHP.

Data processed by Python.

Data warehouse used
PostgreSQL

Output:

Link-Match Dashboard &
Application between Students
Graduates and Jobs
Opportunities.



Data Integration Study for SDPPI Kementerian Kominfo

Ministry of Communication & Information

Data Source:

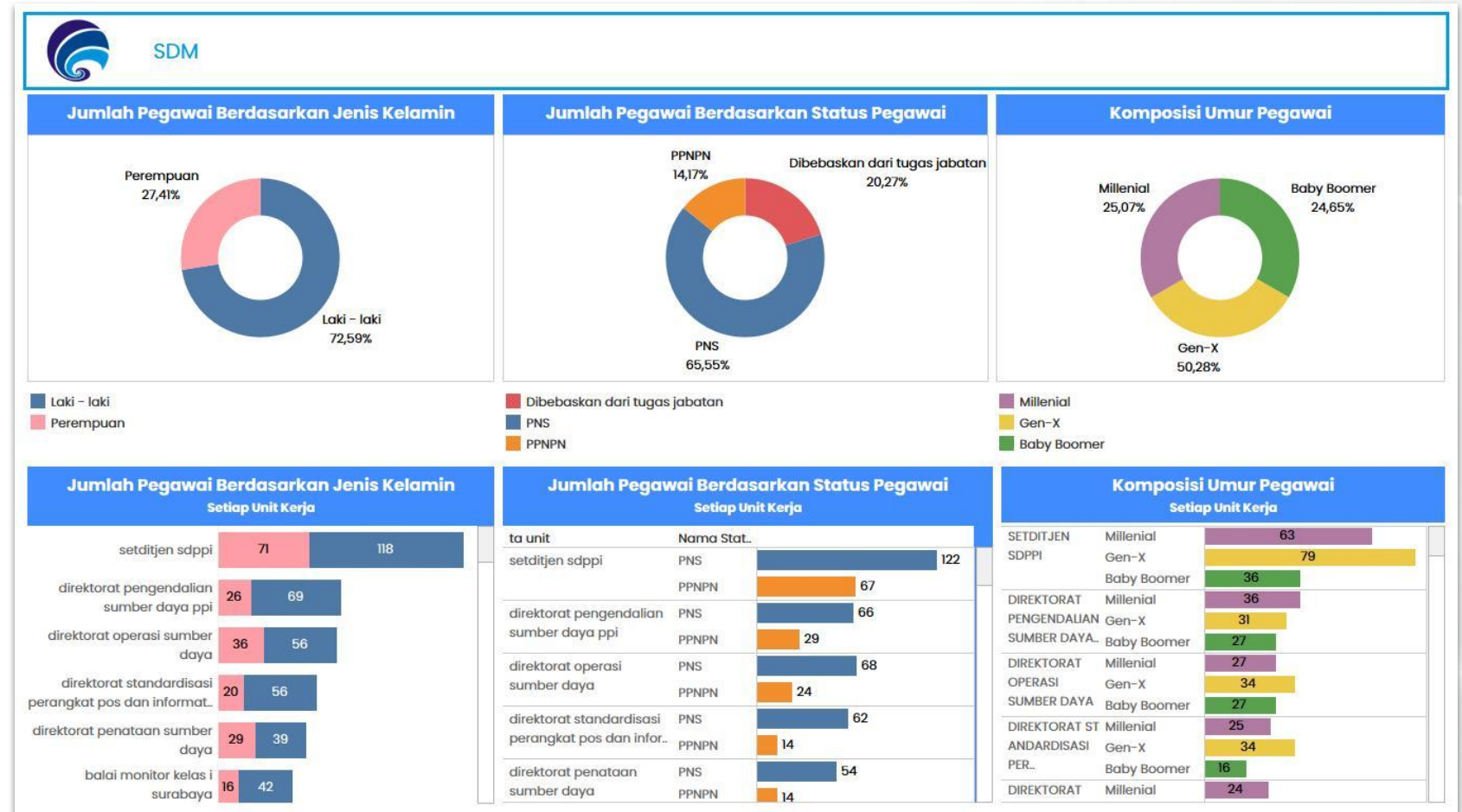
Data Internal (SDM, Penerbitan Sertifikat, etc)

Tools:

Python, Elasticsearch, Tableau

Output:

- Kajian Integrasi Data
- Rancangan visualisasi dashboard untuk masing-masing bidang
- Rancangan Portal Aplikasi



Data Integration & Visualization for BPOM

Badan Pengawas Obat & Makanan - National Food and Drug Agency

Data Source:

External: Marketplace automated crawled

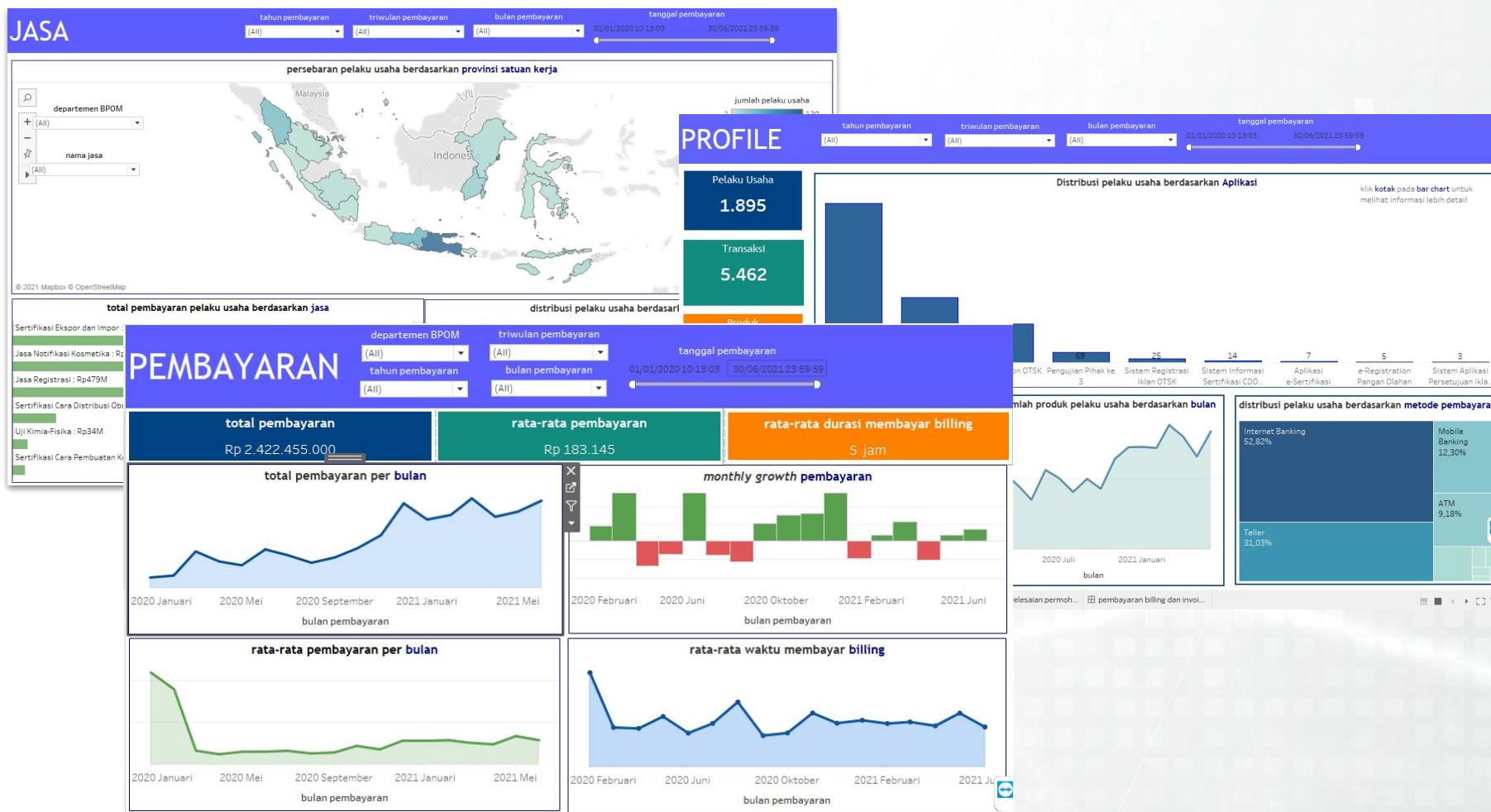
Internal: > 10 aplikasi automated script to fetch data

Tools:

Hadoop YAVA Distro (HBase, HGRID, Hive), Pentaho, API, Headless browser, PHP, Tableau

Output dashboard:

Bidang Keuangan, Kepegawaian, Laporan Masyarakat, Monitoring, dll



Data Streaming Integration for Kementerian Perhubungan

Ministry of Transportation - Directorate General of Land Transportation

Data Source:

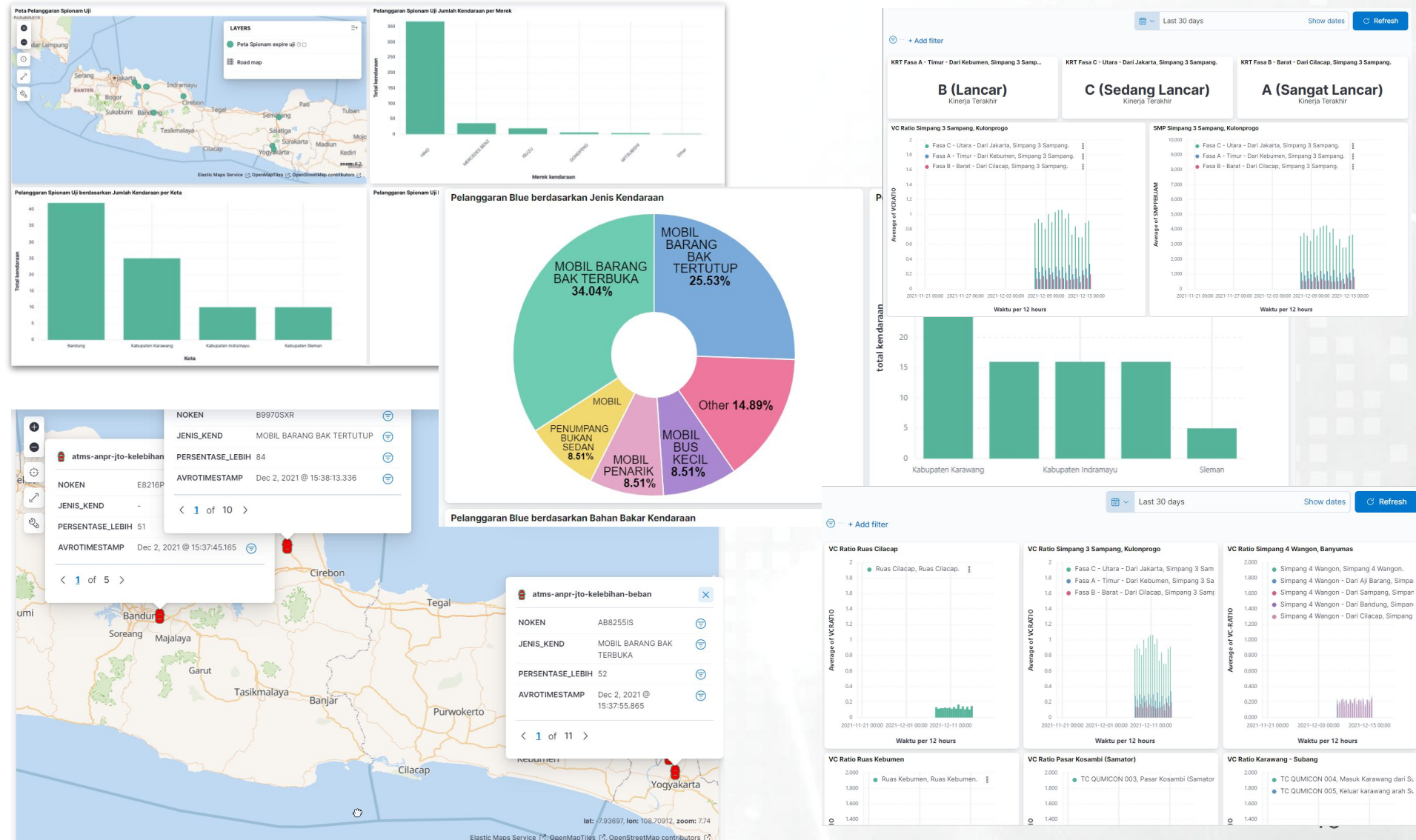
Internal: ATMS (Aerial Transport Management System), Blue (izin kendaraan), JTO (Jembatan Timbang), Spionam (Perijinan Trayek), TC (Traffic Counting)

Tools:

Apache Kafka, Elasticsearch, Kibana, Grafana

Output dashboard:

Monitoring & Alerting Data Lalu Lintas, Lokasi Infrastruktur Jalan, Pelanggaran Lalu Lintas



Data Analysis for Pemda D.I. Yogyakarta

Special Province of Yogyakarta

Data Source:

External: CCTV, Social Media, Berita Online, Online Travel, e-Commerce, Google & FB Mobility, Kemkes Vaksin Covid, Kemenkumham Peradilan.

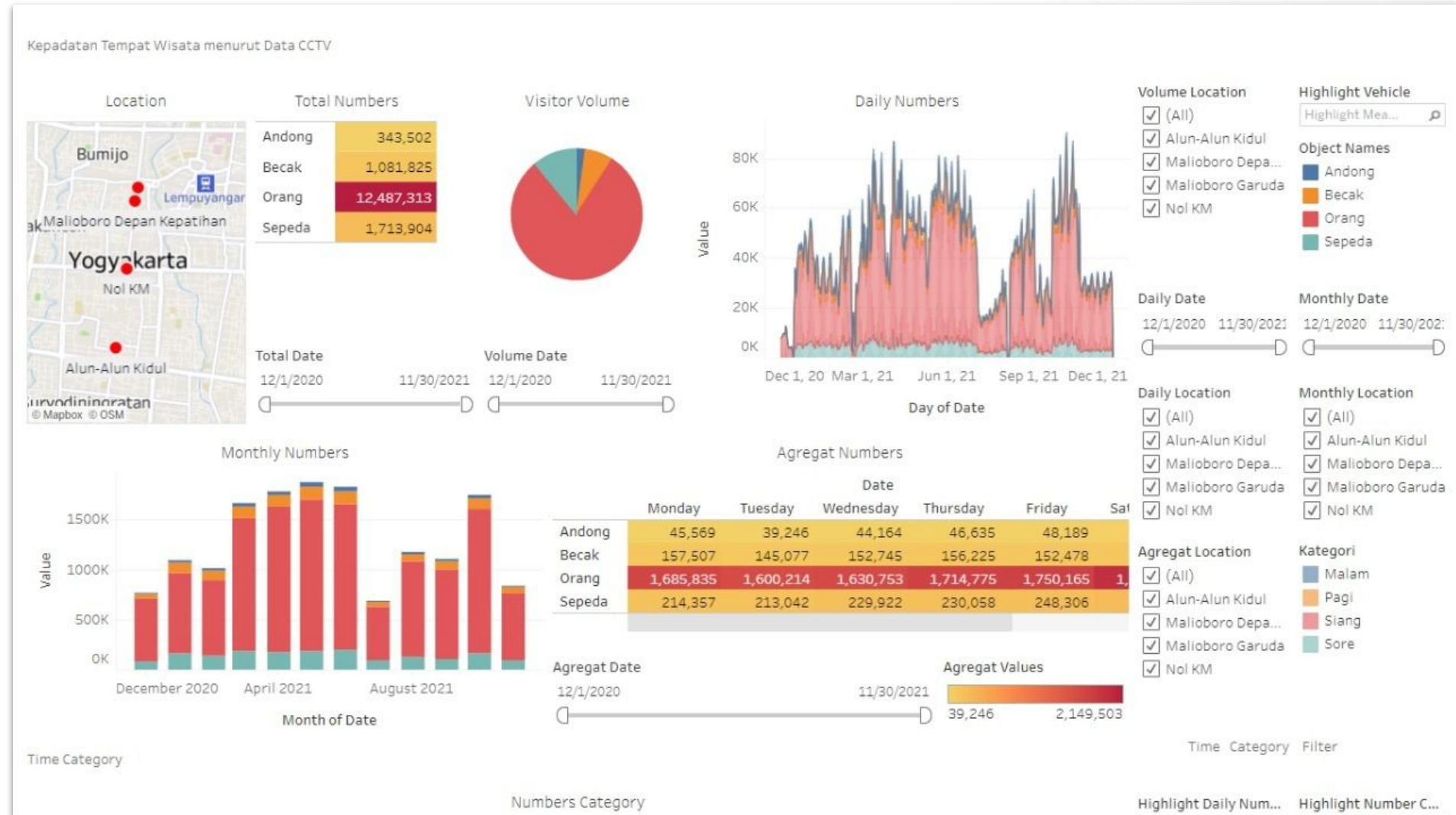
Internal: Dishub, Diskop & UKM, Dinkes, Dispar, Dinsos

Tools:

Tableau, Python, PHP, Yolo, Posgre, MySQL, Elasticsearch

Output dashboard:

Bidang kerja Mobilitas Transportasi, Pariwisata, Ekonomi, Kesehatan, Kemasyarakatan, Penanganan Pandemi



People Mobility Analysis in Jabodetabek

Jakarta Greater Area (Jakarta, Bogor, Depok, Tangerang & Bekasi)

Data Source:

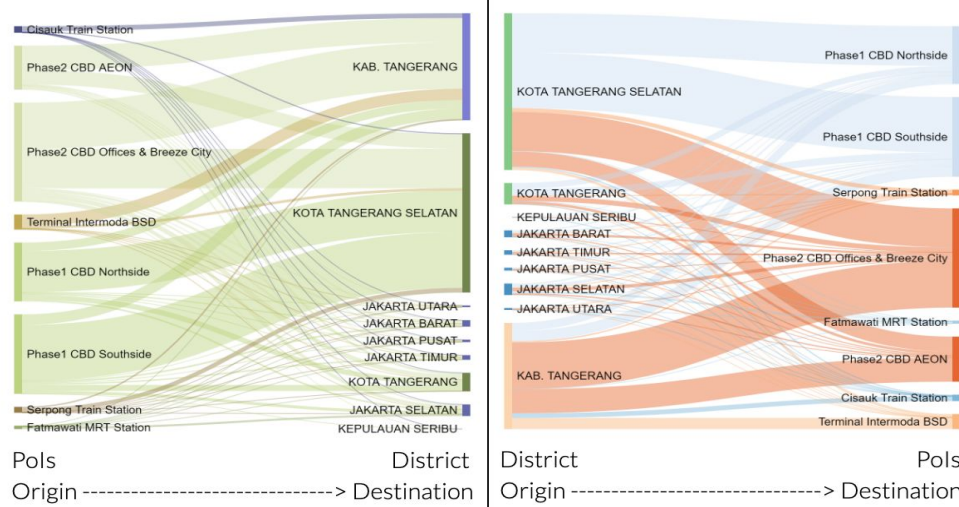
Online Survey & People Movement from Mobile Phone Data

Tools:

Tableau, ArcGIS, Python, Elasticsearch, Hive, Hadoop Clusters

Output:

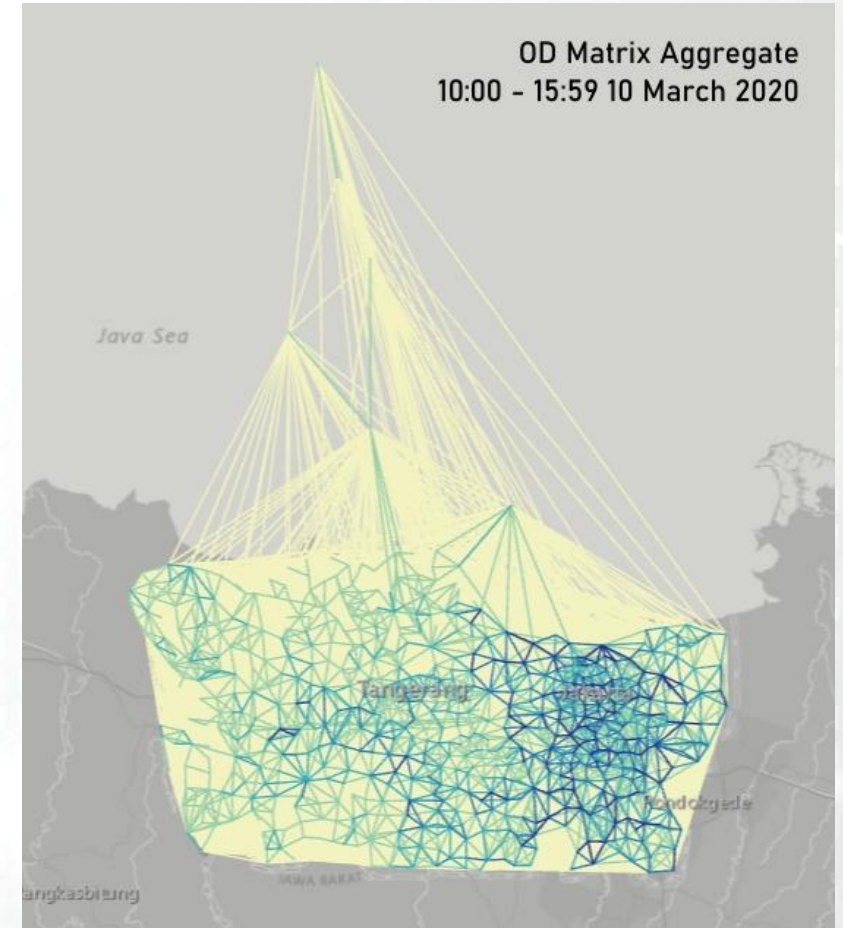
Deep analysis report, data visualization with graphs & maps



OD Flow

Origin	Destination								
	KEPULAUAN SERIBU	JAKARTA UTARA	JAKARTA TIMUR	JAKARTA SELATAN	JAKARTA PUSAT	JAKARTA BARAT	KOTA TANGERANG SELATAN	KOTA TANGERANG	KAB. TANGERANG
Cisauk Train Station	1.15	1.66	3.14	3.93	3.20	3.86	3.29	1.48	1.12
Serpong Train Station		1.66	2.61	3.37	3.32	3.56	3.51	1.00	0.81
Terminal Intermoda BSD		2.52	4.20	4.48	3.98	5.30	4.18	2.44	1.64
Fatmawati MRT Station		2.95	4.63	5.10	5.01	5.15	3.35	1.63	0.42
Phase2 CBD AEON		4.00	4.71	4.52	4.51	4.52	3.91	4.00	1.96
Phase2 CBD Offices & Breeze City	1.18	4.64	4.32	4.23	4.79	4.45	3.92	4.63	2.89
Phase1 CBD Northside		4.87	5.33	5.16	5.42	5.37	4.11	5.02	3.53
Phase1 CBD Southside	2.47	4.92	4.86	4.63	5.20	5.10	4.00	4.70	3.71

Travel time



Data Record Analysis for BPJS Kesehatan Healthcare and Social Security Agency

Data Source:

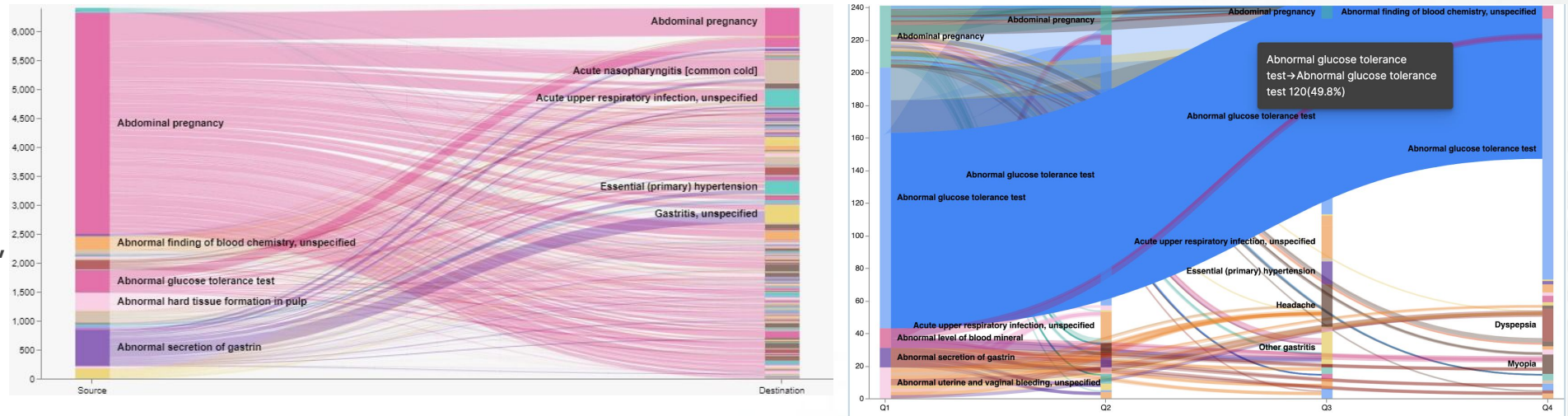
Sample data for education/research

Tools:

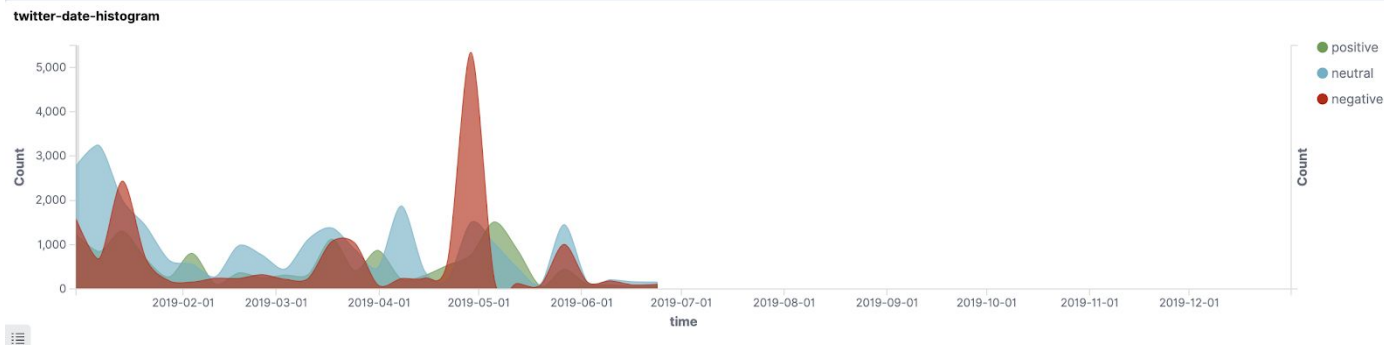
Python, Elasticsearch, Hive, Hadoop Clusters

Output:

Use case analysis report, data visualization with graphs



Multi-morbiditas year-to-year & quarterly



Sentiment analysis kebijakan iuran BPJS KS

twitter-retweet

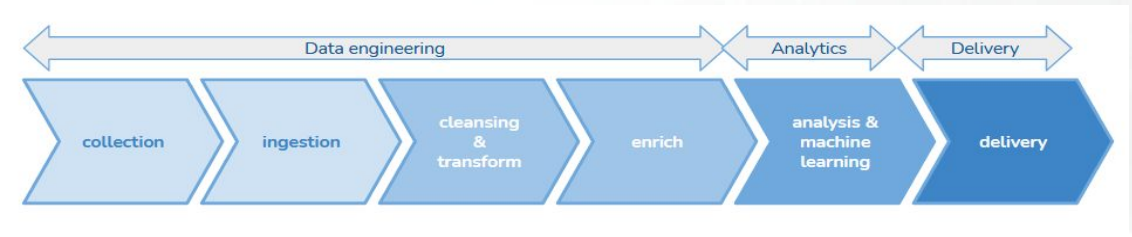
rt status	user	img
Pemerintah Akan Naikkan Iuran BPJS Kesehatan https://t.co/qZhk9Ihu7l	VIVAcoid	
Sosok Ibu Lis dari Sragen yg tidak bisa lagi berobat karena pembiayaannya disetop BPJS. RAS akun bodong @liesSugiyarti yg baru dibuat dgn mengaku sbg Bu Lis dgn tujuan menebar fitnah & hoax. #DebatCawapres2019 https://t.co/2cnSaA0awg	yusejahtera	
Bakalan dibully sama Jokowi nih.. :-) KTP elektronik akan terkoneksi dengan SIM, BPJS, asuransi, pajak, dan data lain. https://t.co/wB4ObbeGwK	MbahUyok	
BPJS Di Ambang Kematian... Cebong Sakit ? Ga Punya Biaya ? Gampang Solusinya : BERBARING DI JALAN TOL-LOL...	TanYoana	
Rizal Ramli: Bayar BPJS Enggak Sanggup, Kok Mindahkan Ibu Kota https://t.co/c2TKAPo8Ug	VIVAcoid	

Dashboard Data Analitik Pemerintah Provinsi Sulawesi Barat

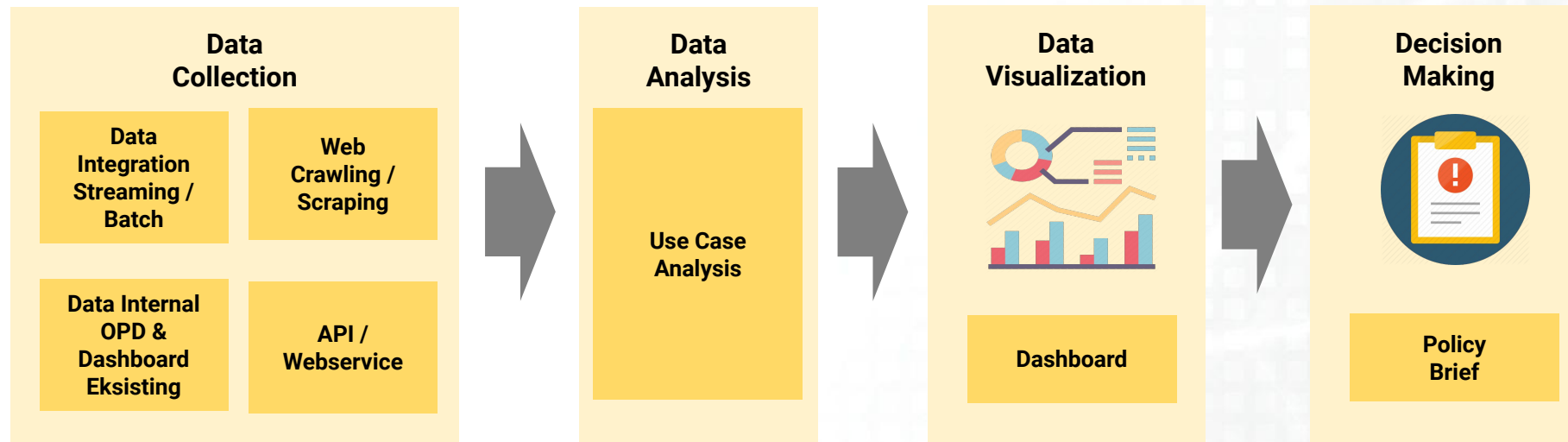


Dashboard Data Analitik

“Penyajian informasi indikator utama dari hasil aktivitas organisasi sebagai sarana dalam membantu pemerintah mengambil suatu kebijakan berdasarkan data-data yang terhimpun dan terintegrasi dalam suatu sistem informasi”

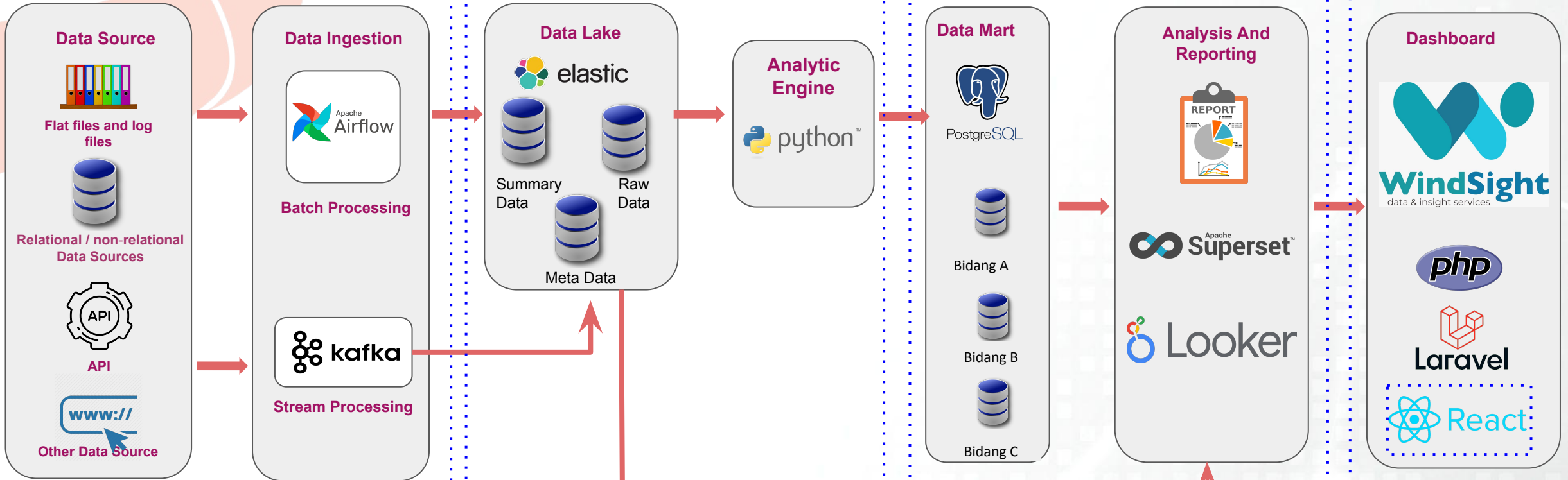


Proses Analitik Data



Dari Data ke Kebijakan

Usulan Rancangan Arsitektur



Hardware minimum requirement:

Server-1 Data Source - Data Ingestion:
CPU : 16 Core
RAM : 32 Gb
Storage : 500 GB

Grafana

Server-2 Data Lake (2 Server) :
CPU : 24 Core
RAM : 32 Gb
Storage : 8 TB

Grafana

Server-3 Data Mart - Data Visualization:
CPU 32 Core
RAM 64 Gb
Storage 1 TB

Grafana

Server-4 Aplikasi:
CPU 4 Core
RAM 8 Gb
Storage 500 GB

Grafana

Usulan Aktivitas & Linimasa

NO	Kegiatan		Month			
	Modul	Point Kegiatan	M1	M2	M3	M4
1	Initiation Phase	Kickoff Meeting				
2	Analysis and Design Phase	Analisis Kebutuhan Aplikasi				
		Analisis Kebutuhan Data				
		Desain Wireframe UI/UX				
3	Development Phase	Build Infrastructure for each Server				
4	Data Ingestion	Consuming Data (batch/stream)				
		Transform Data				
5	Data Analytics	EDA/Cleaning Data				
		Modelling Data				
		Data Visualization				
6	Application Dev	Data Appl				
7	Trial and Deployment Phase	Security phase dan QA				
		Deployment to server Productions				
8	Closing Phase	Dokumentasi Sistem				
		Evaluasi & Progress Report				
		Sosialisasi dan Project Closing				



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#BePo5itive
DataIns 5th Anniversary
2 May 2018 - 2 May 2023

PT GLOBAL DATA INSPIRASI

Jl. Cik Di Tiro No. 34, Terban, Gondokusuman, info@datains.id
Kota Yogyakarta, DI Yogyakarta 55223



@datains.id



Semantic - 1st Winner Indonesia Up 2018
for R&D Category
organized by Kemenkominfo RI



Semantic – 3rd Winner Wildcard
Go Startup Indonesia (Denpasar Round)
Organized by BeKraf RI in 2019