

Jakarta Smart City Journey from Data Analytics Perspective

Juan Intan Kanggrawan Head of Data Analytics, Jakarta Smart City

Department of Communications, Informatics and Statistics **Provincial Government of Special Capital Territory of Jakarta**









JSCLounge Jakarta Smart City



Agenda / Content

01 Jakarta Smart City Overview

O2 Data Analytics at Jakarta Smart City

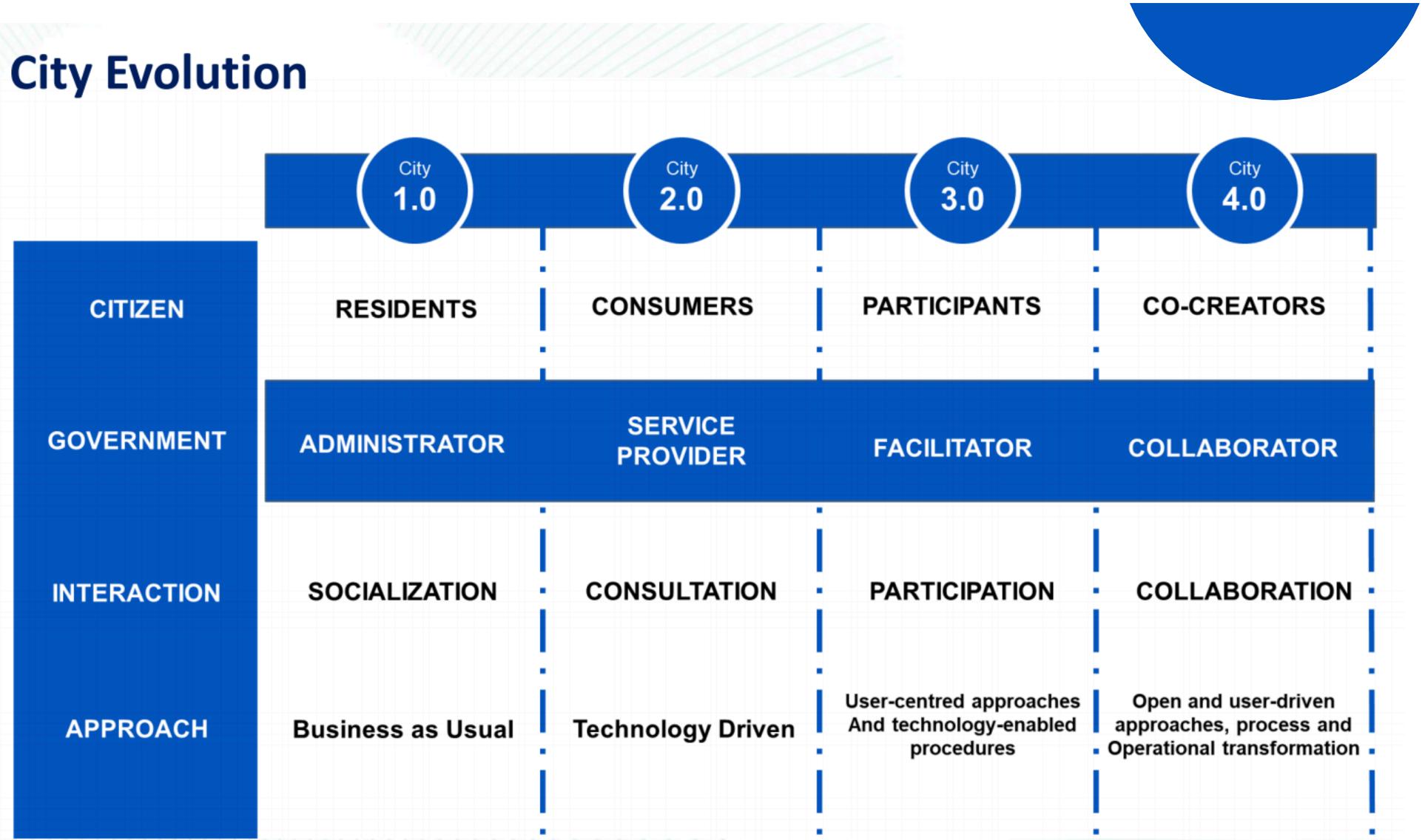
O3 Success Stories & Concrete Examples





01 Jakarta Smart City Overview

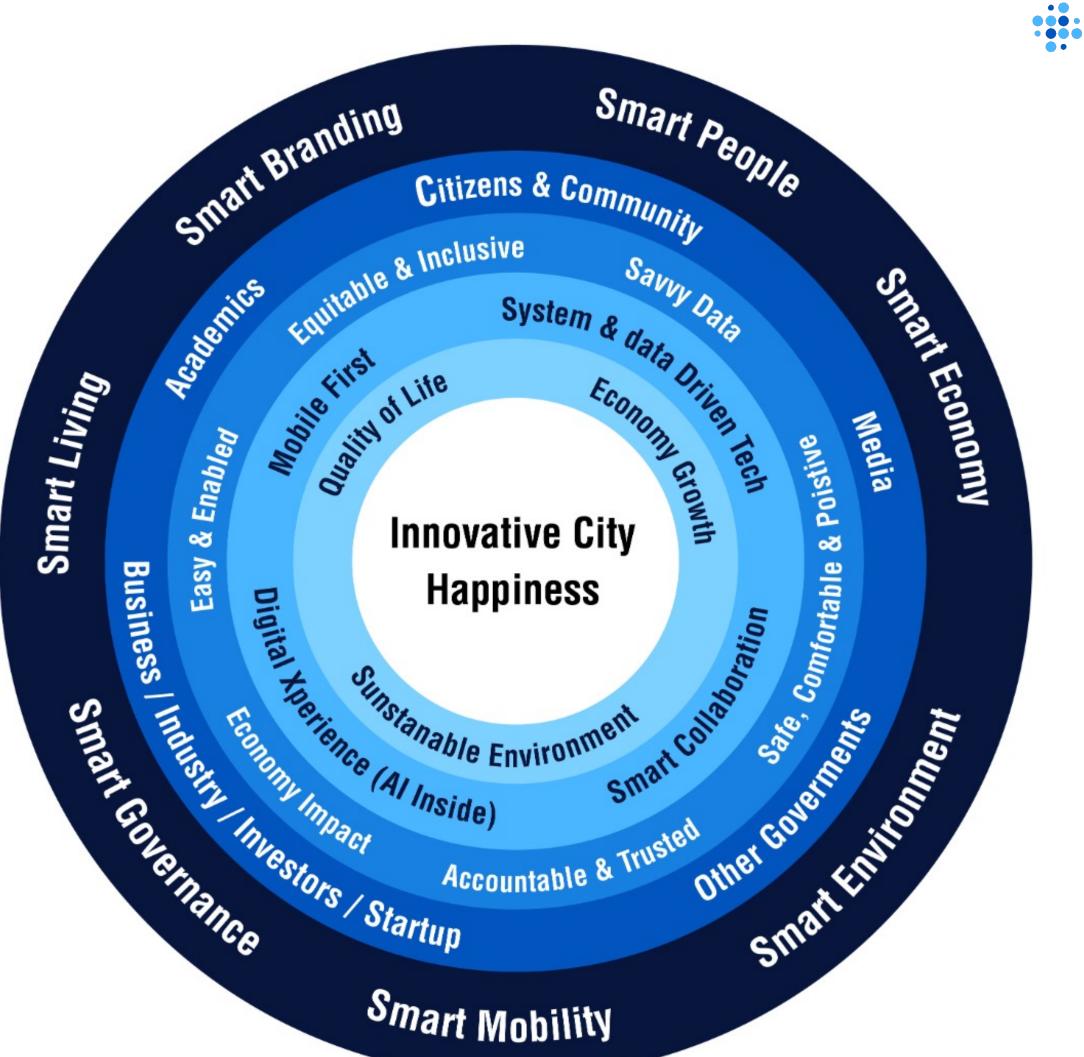




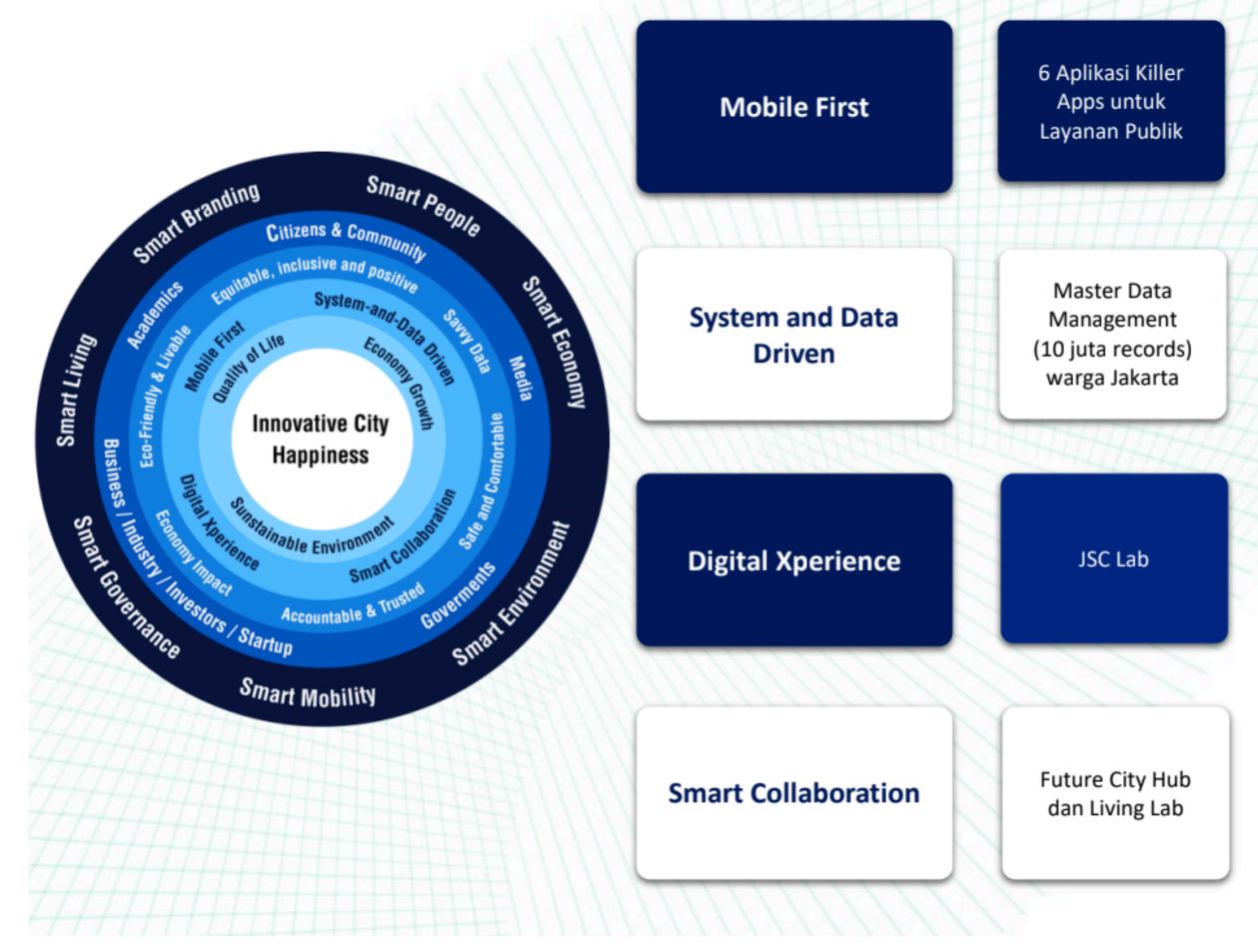
Jakarta Smart City 4.0 Framework

2 Smart City Ends	3 Values
4 Principles	5 Co-creators
6 Outcomes	7 Indicators





Milestone 2020 – 2022: Jakarta Smart City





50 Fitur Informasi dan Layanan Publik

JakID (Identitas Digital dan Akun Warga)

JakPay (Dompet Digital)

Pengembangan Data Hub melalui api.Jakarta.go.id

Live Dashboard untuk 6 (enam) Pelayanan Dasar

Personalisasi layanan dan pengalaman warga

Optimalisasi website JSC

Pelatihan dan Manajemen **Talenta Digital**

Design Thinking, System Thinking, dan Computational Thinking

25 Start-up dalam ekosistem digital

10 Universitas dalam Subject Matter Expert

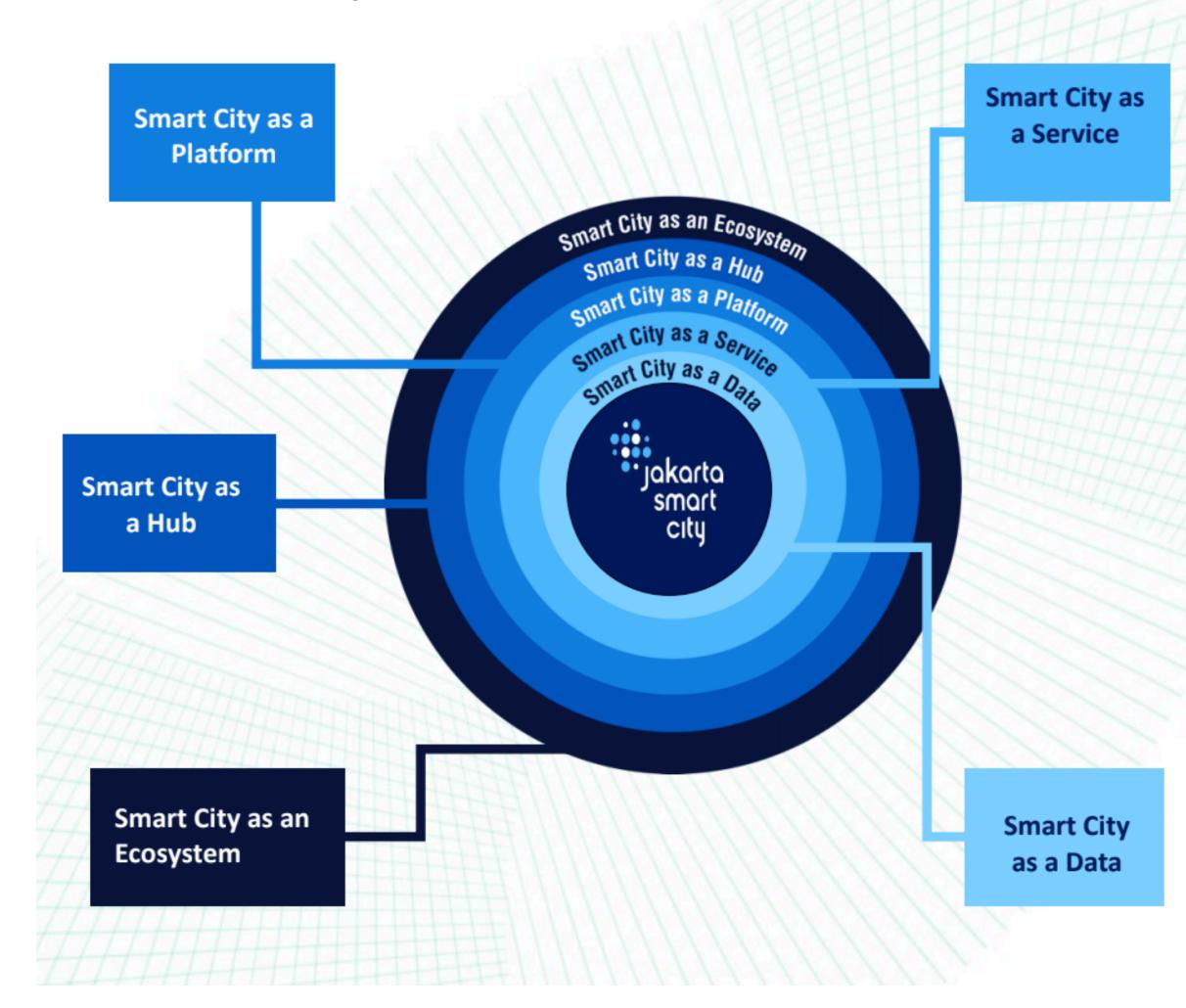
6 (enam) skema Kolaborasi Sosial bersaka Besar (KSBB)

Sandbox Ecosystem

+Jakarta

Smart City Ecosystem Platform

Mobile First, Ecosystem First





Smart City as a Data

City data is recognized as a significant asset for the deployment of SC where SC data impact multiple services in various inter-disciplinary domains

Smart City as a Service

Providing secure, reliable, and fast integration based on API (Application Program Interface) public services to citizens

Smart City as a Platform

Jakarta has created digital platform that are ready to be used for city Co-creators (e.g. communities, industries and start-ups)

Smart City as a Hub

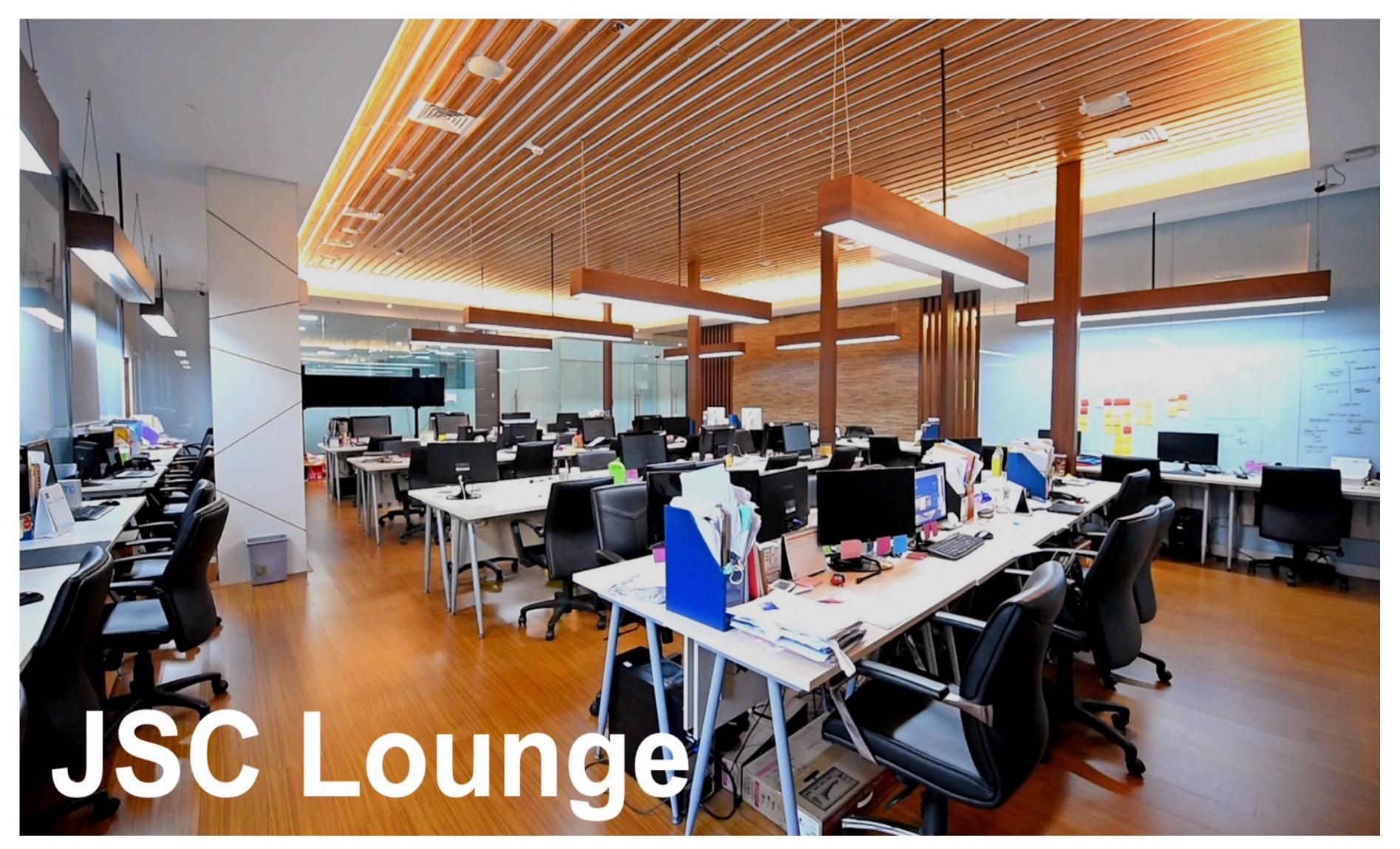
Integration of various data platforms from different services

Smart City as an Ecosystem

Building new business models for SC ecosystems instead of depending on financial restrictions (e.g. APBN/APBD)













O2 Data Analytics at Jakarta Smart City





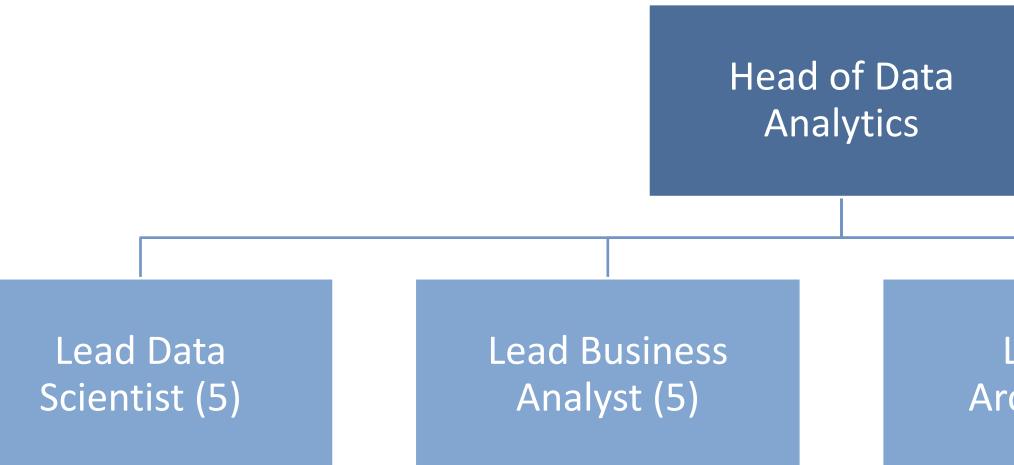
Role of Data & Analytics: "To make better decisions, faster"

Alignment with JSC's Vision:

"To improve satisfaction from citizen towards government, through data-driven public policy & public services"





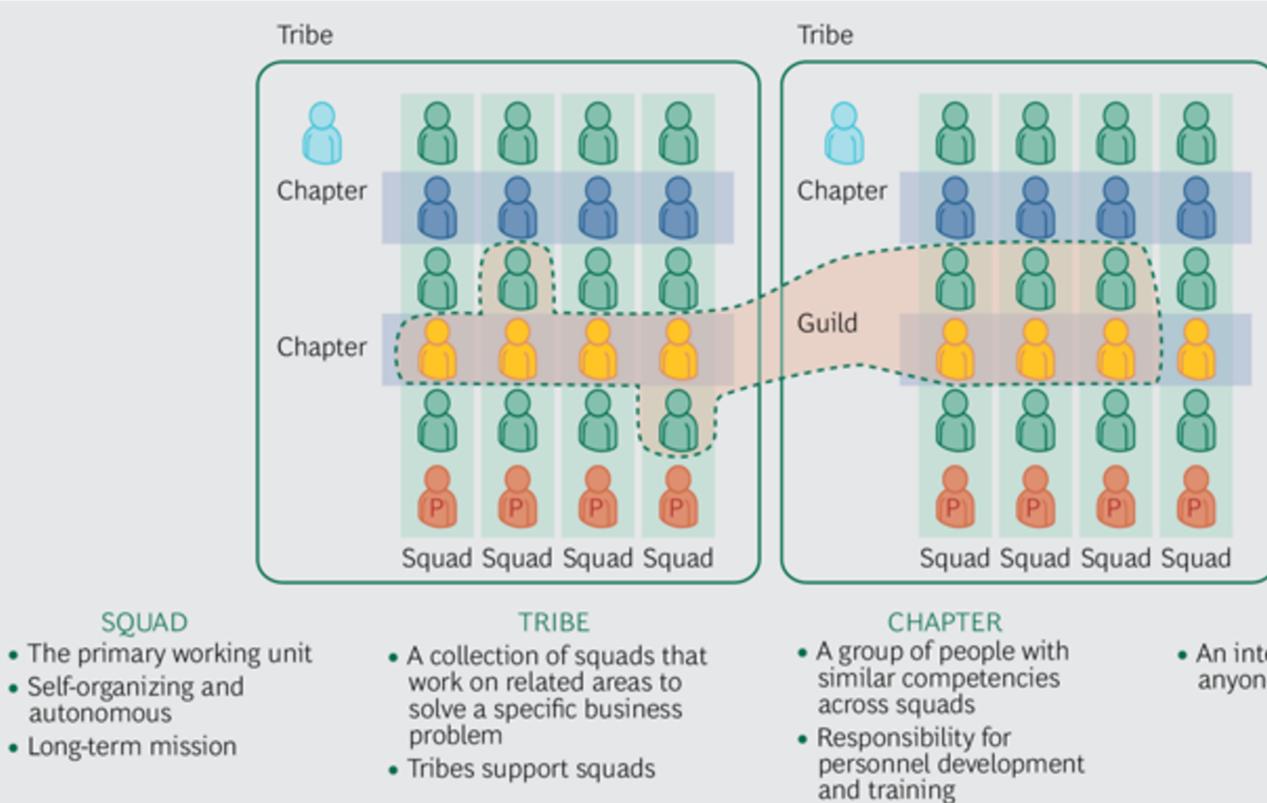




Lead ML Architect (5)

Research, Partner & Trainee Coordinator (10)

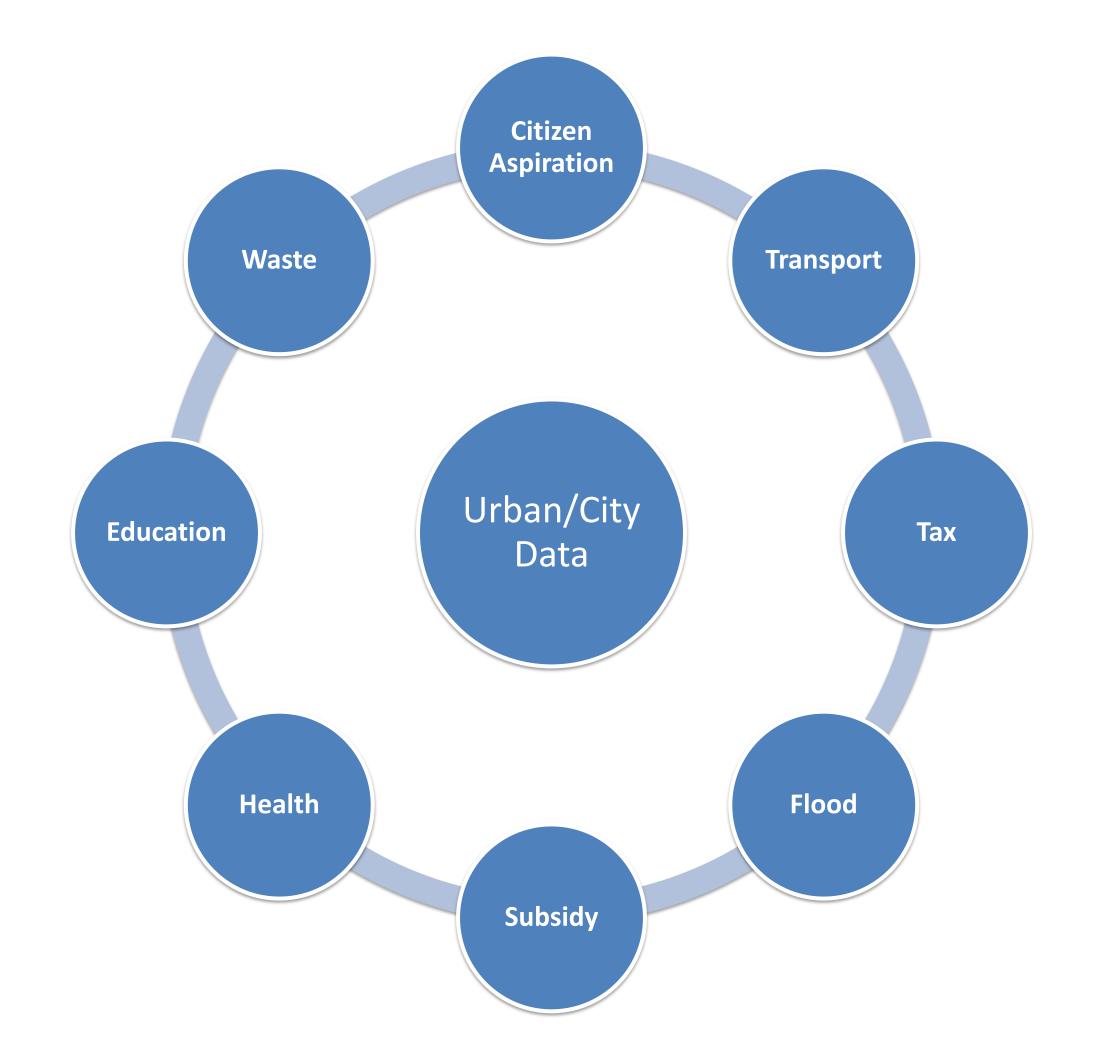




GUILD

 An interest group that anyone can join

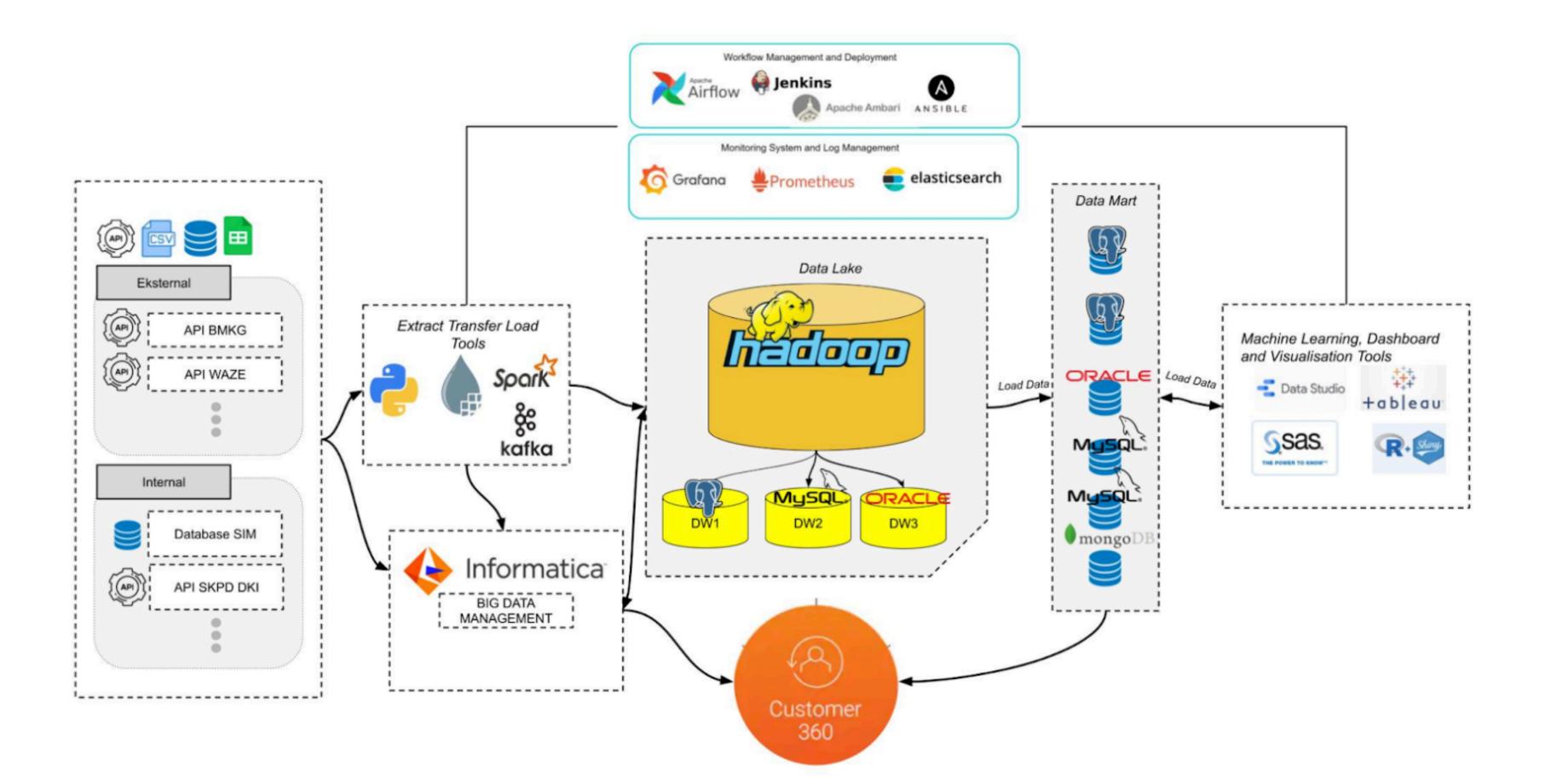
Data Varieties (not exhaustive list)



JSC



Overall Architecture (Simplified)

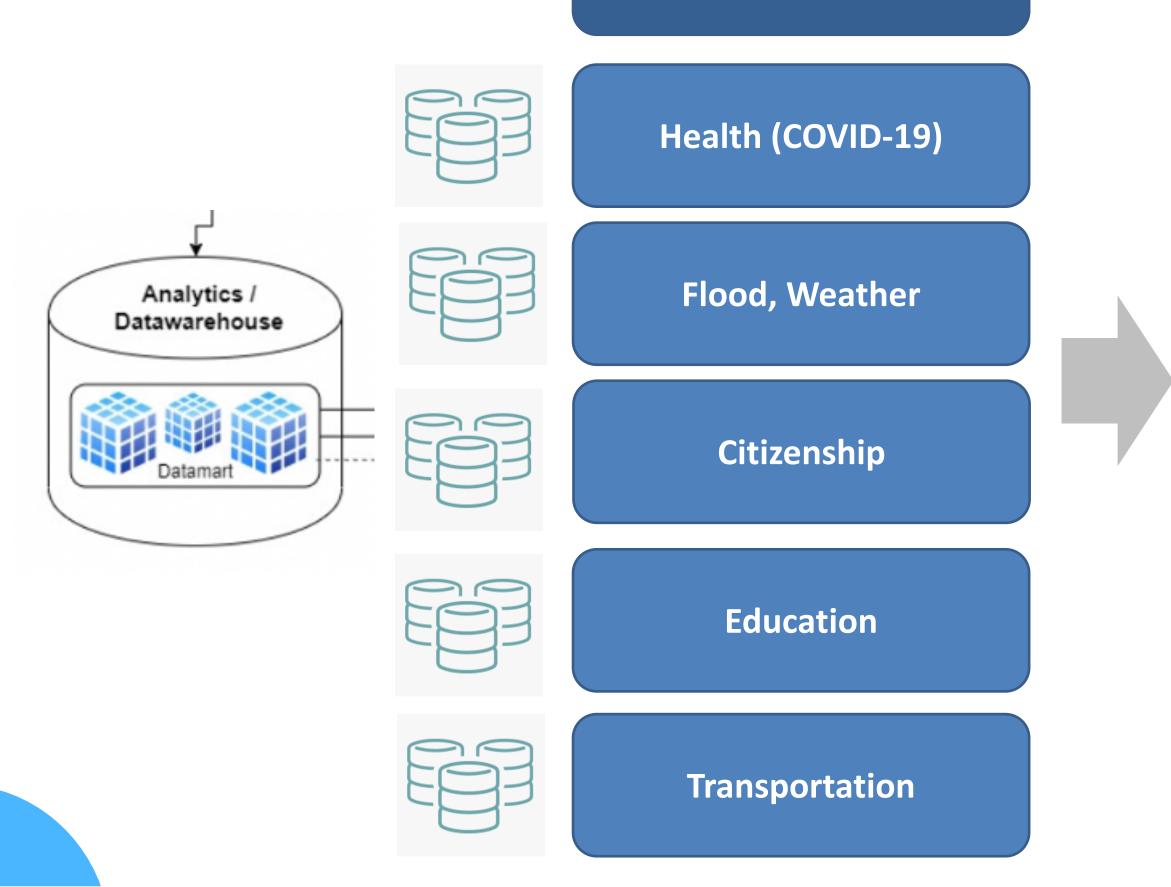




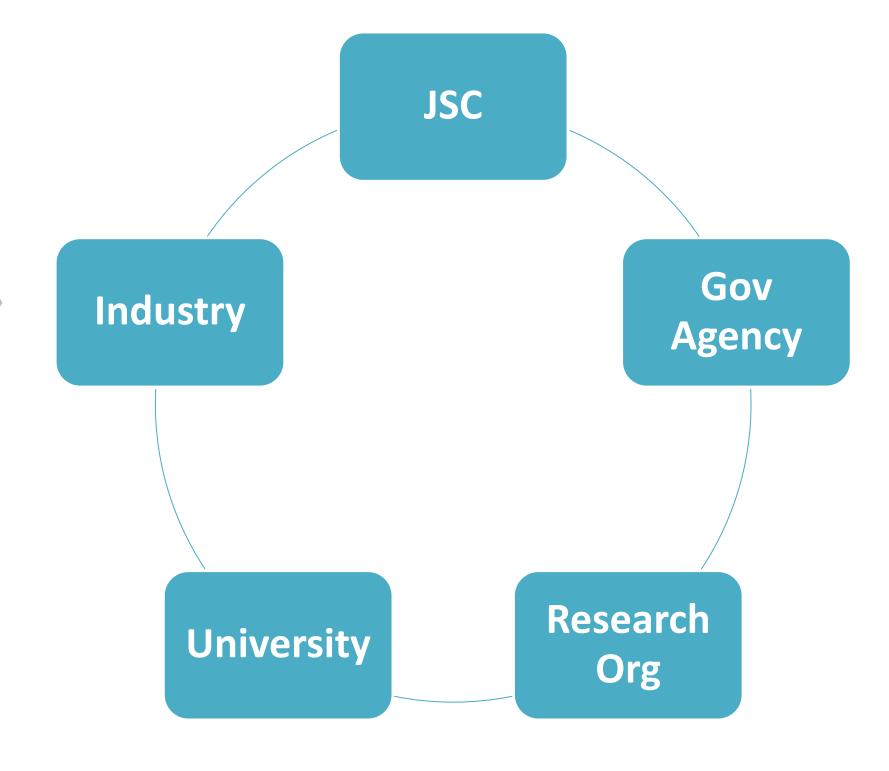


Sc Knowledge Management & Domain Expertise JSC

Datamart per domain (Single Source of Truth)



Execution & "Delivery" : Results (Data Products)





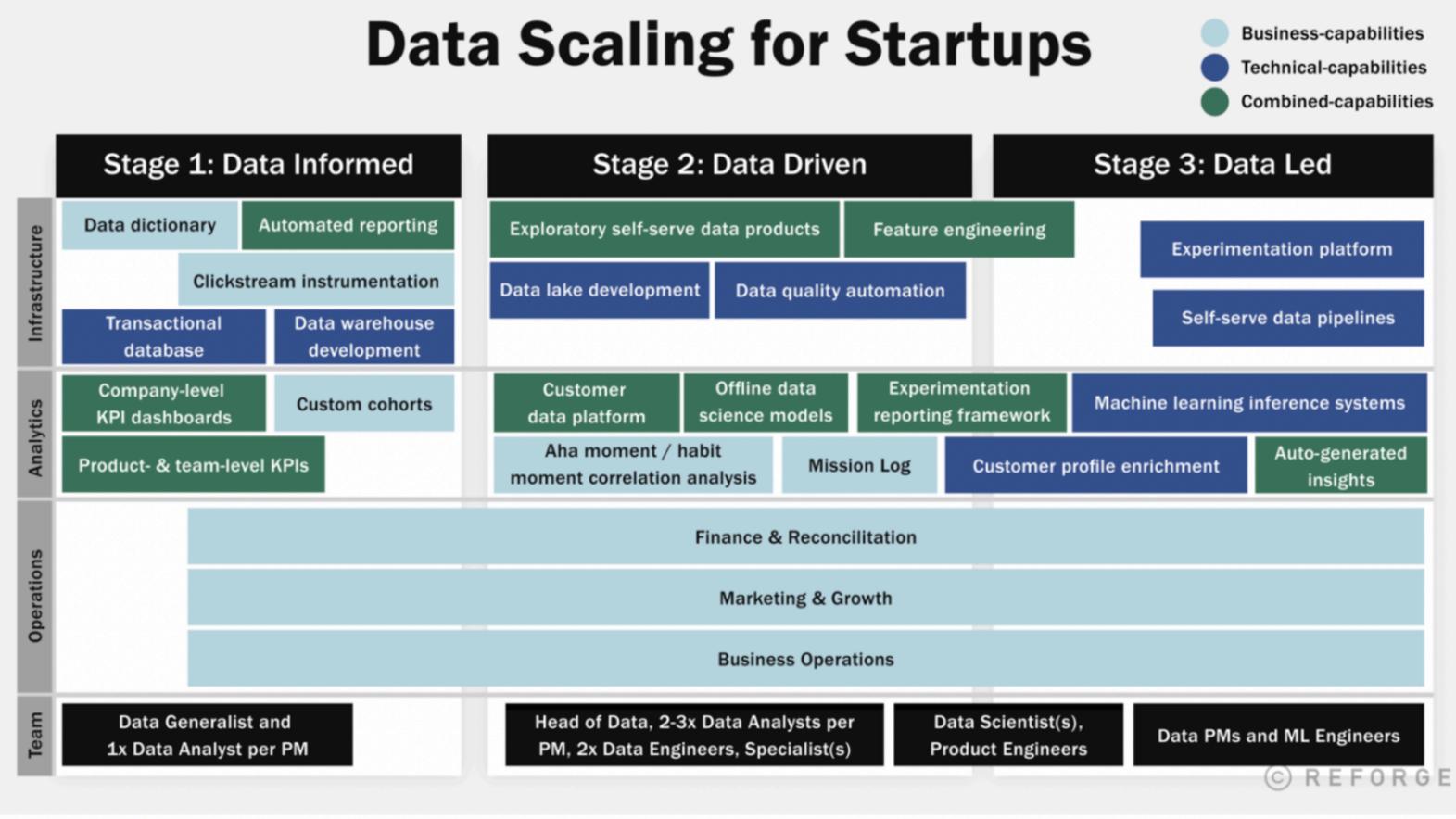
Product & Service: JSC Regional Service Agency

		Data				
ſ		Maturity	Raw Data	Derived Information	Algorithm	Automation
	ype/ prmat	Dashboard / Visualization	Basic Dashboard	Cross Agency Dashboard	Predictive Dashboard	
	Jinat	Research / Presentation		Citizen Aspiration Monthly Report	Policy Paper COVID-19	Regular Situational Report
		ΑΡΙ	Raw Data Integration	API Integration	Predictive Trigger	
Concrete Example		Application /				Early
		Tech Components				Warning System



Data Journey & Phase (source: reforge)

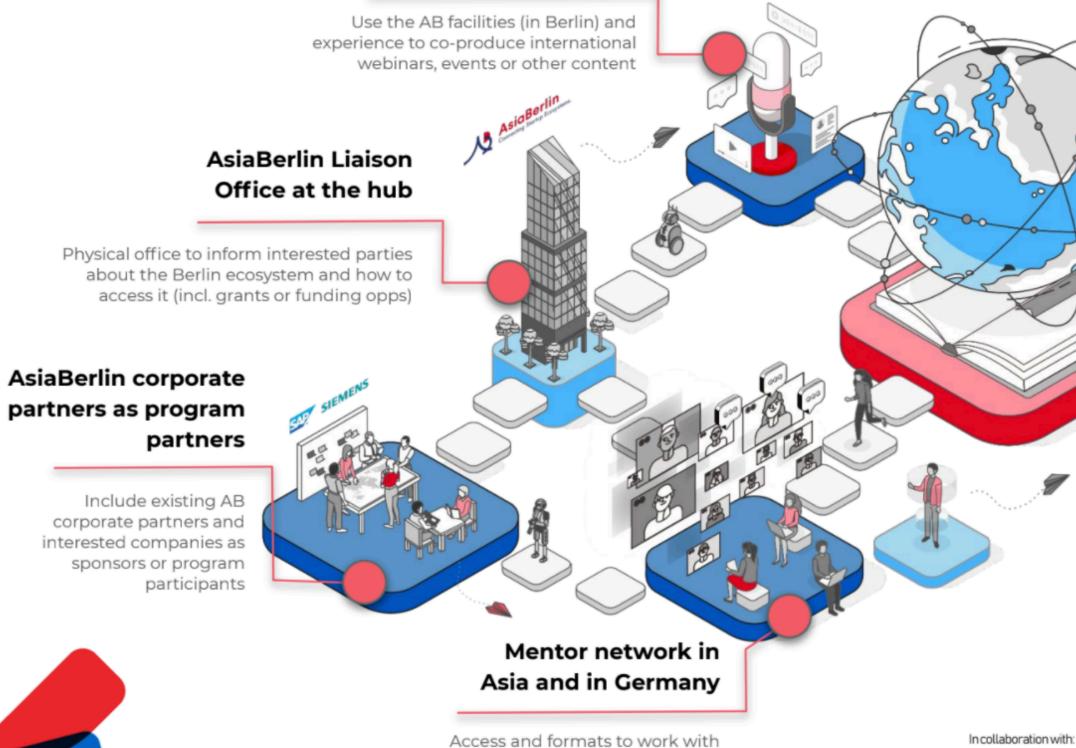






AsiaBerlin (AB) Support System

Content production for Jakarta hub webinars



regional and international mentors



Landing pads

in Jakarta and Berlin (and potentially Bangkok) for startups to have a virtual and physical support system (office, mentors, experts) to access new foreign markets

Meeting point to meet international experts from **Berlin as mentors**

Support with a physical environment and knowledge base to meet foreign mentors and experts

enpact





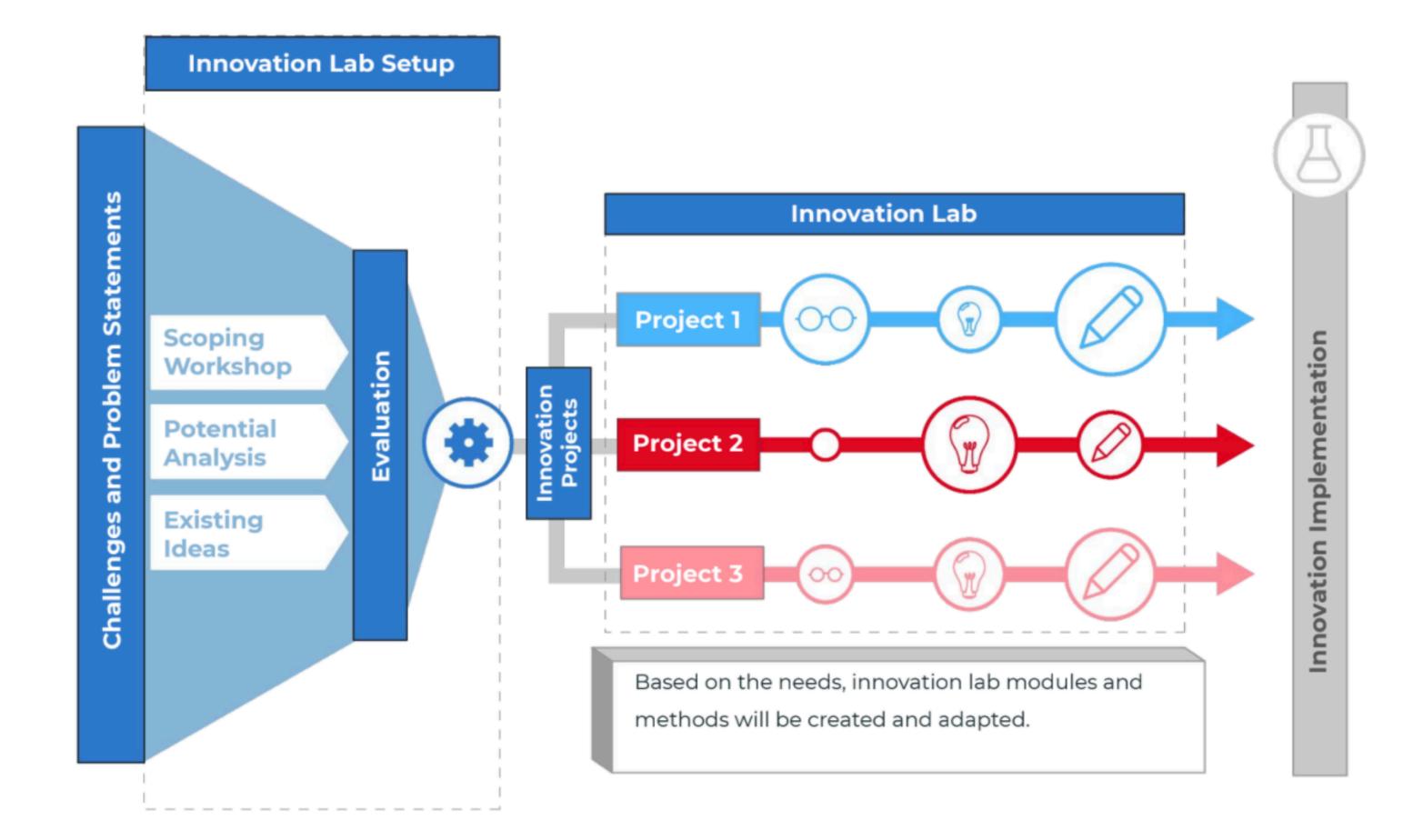
















01 JSC Talks

Seminar teknologi dan inovasi yang dikembangkan Pemprov DKI Jakarta dan masyarakat dalam ikhtiar memajukan kota Jakarta.

FGD bersama dengan perusahaan digital yang memiliki inovasi yang dapat memudahkan hidup warga dan mendukung kemajuan bersama.

Kegiatan kola Pemprov DKI



Membicarakan inovasi, teknologi, kebijakan, dan kehidupan Jakarta dalam format suara yang ringan dan informatif.



Kegiatan diskusi dan *critical thinking* untuk mempelajari literatur dan publikasi mengenai Smart City



Kompetisi pembuatan produk dan layanan untuk menyelesaikan berbagai permasalahan di Jakarta yang berlangsung beberapa hari

05 JSC Internship

JSC Sandbox

Kegiatan internship yang diperuntukan untuk mahasiswa/i tingkat akhir atau freshgraduate (Data Science, Software Development, Product Analysis)

07 JSC Hands on Training

Kegiatan untuk meningkatkan kompetensi dan skills di era transformasi digital

Ngobrol Jakarta

Kegiatan kolaborasi dengan CoHive, mempertemukan komunitas dan Pemprov DKI Jakarta dan membicarakan isu penting Ibu Kota.

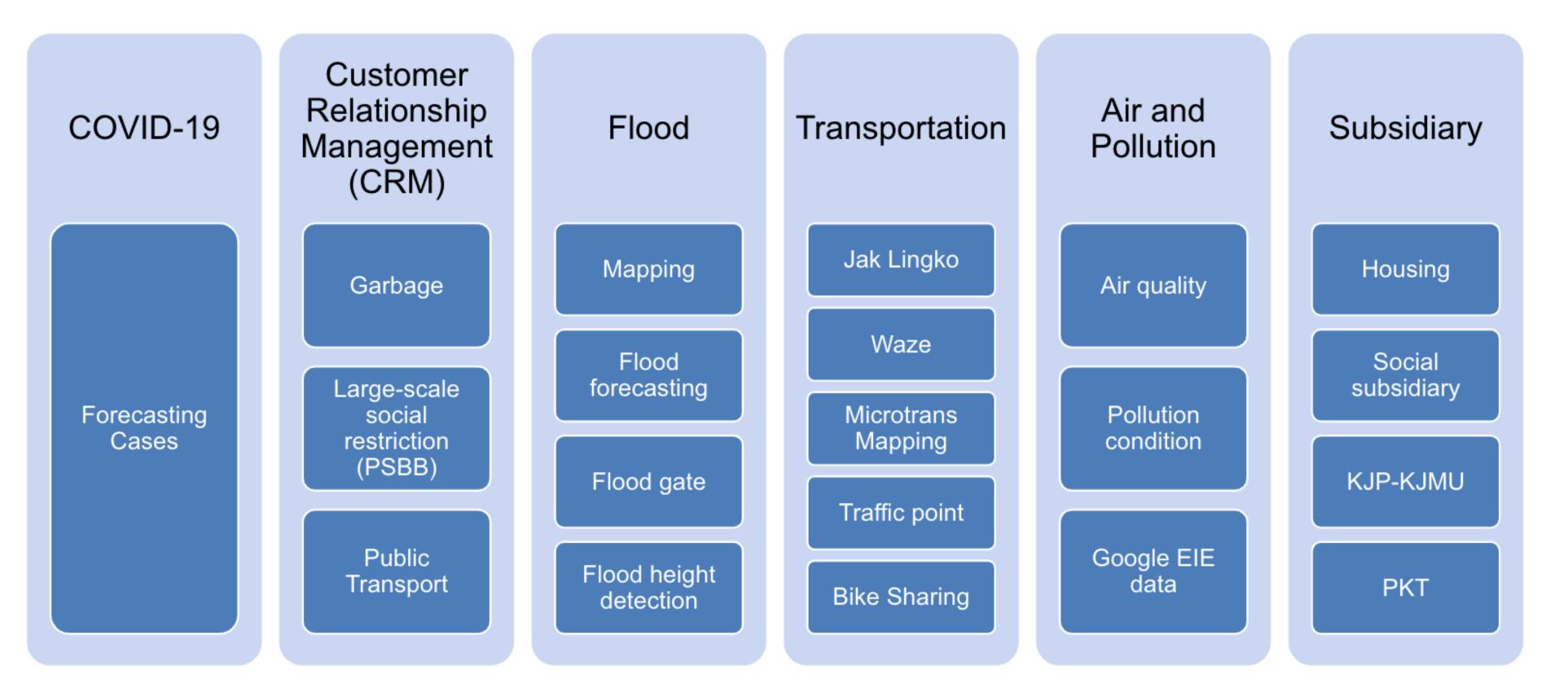
JSC Podcast

Reading Group

Future City Hackaton



Potential Topics for each batch





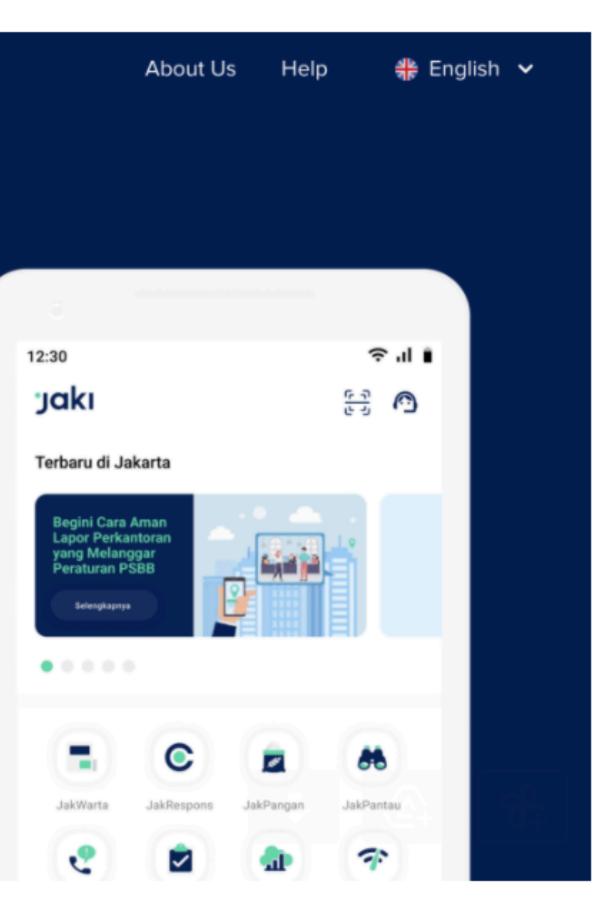
Jakı

One platform for your daily needs in Jakarta

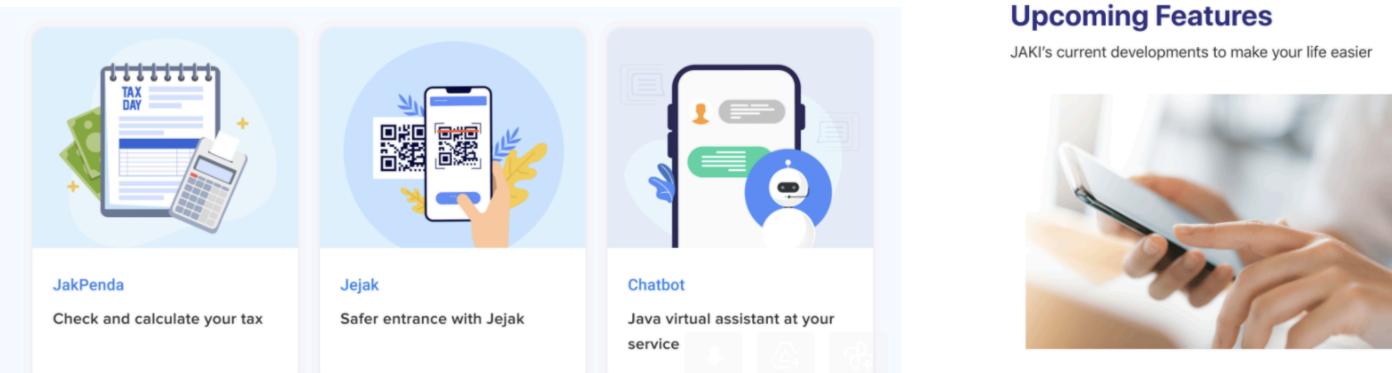
From reporting the city's problems to checking today's groceries prices, find all you need in Jakarta super-app

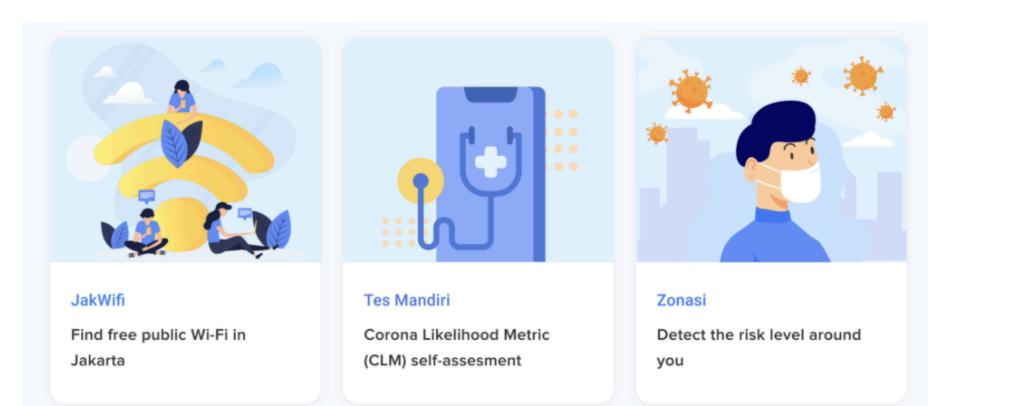


Watch video









JAKI ID

Digital ID is coming your way! Enjoy a personalised services feature to make sure you get your basic rights as the citizen of Jakarta.

Upcoming Features

JAKI's current developments to make your life easier



JakPay

Supporting fair distribution of social assistance transparently to the citizens in need. Enjoy the convenience, safe, and cashless transactions in Jakarta.

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< >



Jakarta Tanggap Covid-19

Your extra safety kit during a pandemic



Covid-19 Vaccination

Check your vaccination schedule or register yourself online



Self Risk Assessment

Test your risk of Covid-19 through Corona Likelihood Metric (CLM)

5	0	2
Ξ		

Data Monitoring

Monitor Jakarta's daily Covid-19 cases



Social Assistance Centre of Information for

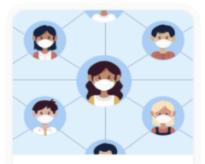
the Covid-19 social assistance



JAKI X Sekolahmu Free Wi-Fi provided by Molecool

Collaboration is Key

The collaboration between JAKI and tech companies



JAKI × PeduliLindungi

Support contact tracing effort in Jakarta



JAKI × Vutura Jakarta virtual assistant at your service



JAKI × Molecool Free Wi-Fi provided by





JAKI × Jakarta Aman

Free Wi-Fi provided by Molecool

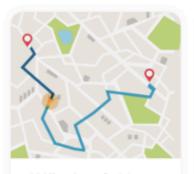


JakPantau

Monitor the water level in Jakarta

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JAKI × Google Maps Free Wi-Fi provided by Molecool



JAKI × Nodeflux

City services with Artificial Intelligence

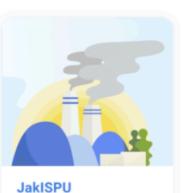


JAKI × Duithape Faster, safer, and more effective aid distribution



JakSurvei

Rate govt. services and take part in the official survey



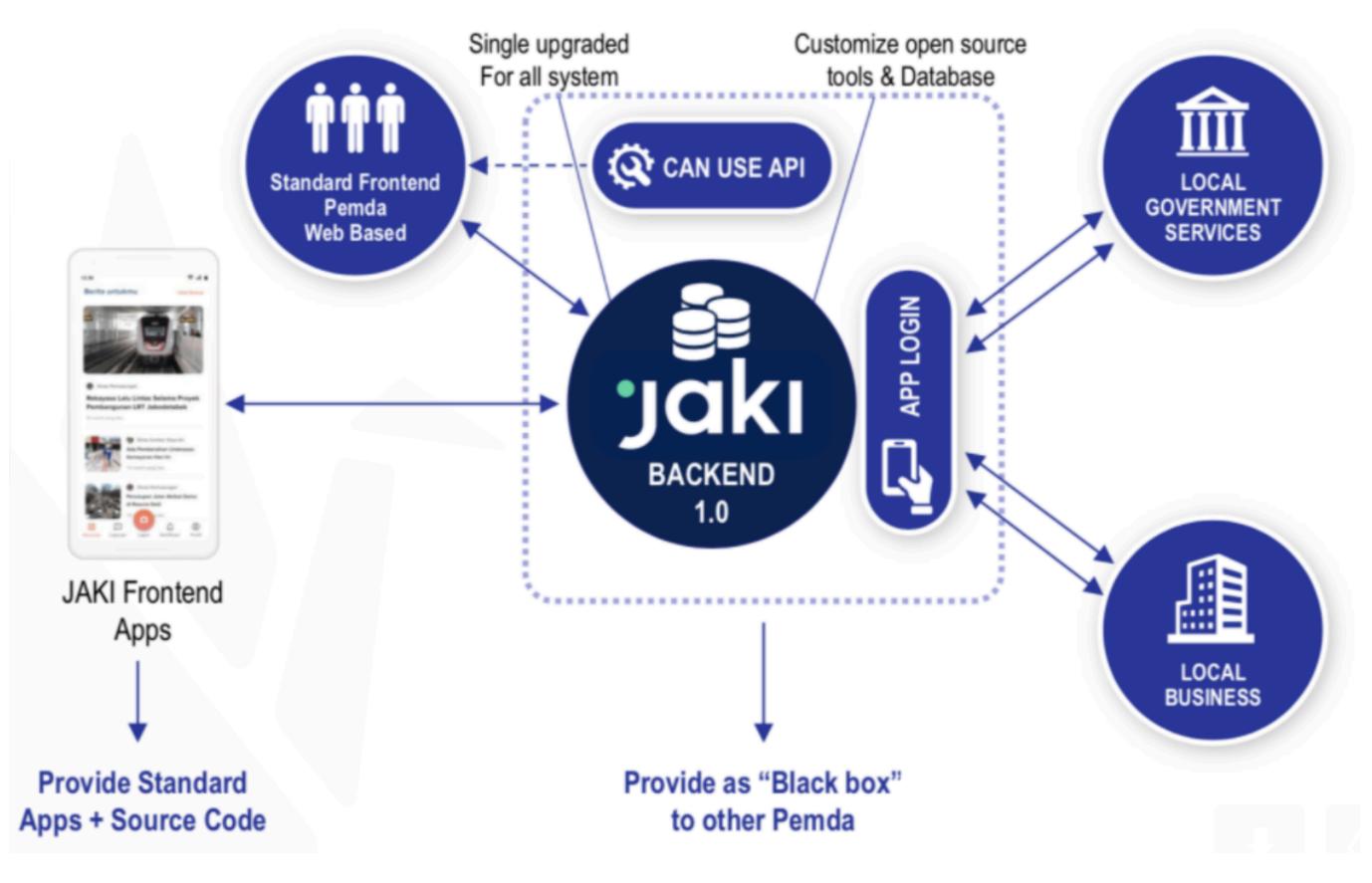
Check the air quality in Jakarta today



One-tap away emergency numbers



The New Architectures "JAKI Whitelabel 1.0"





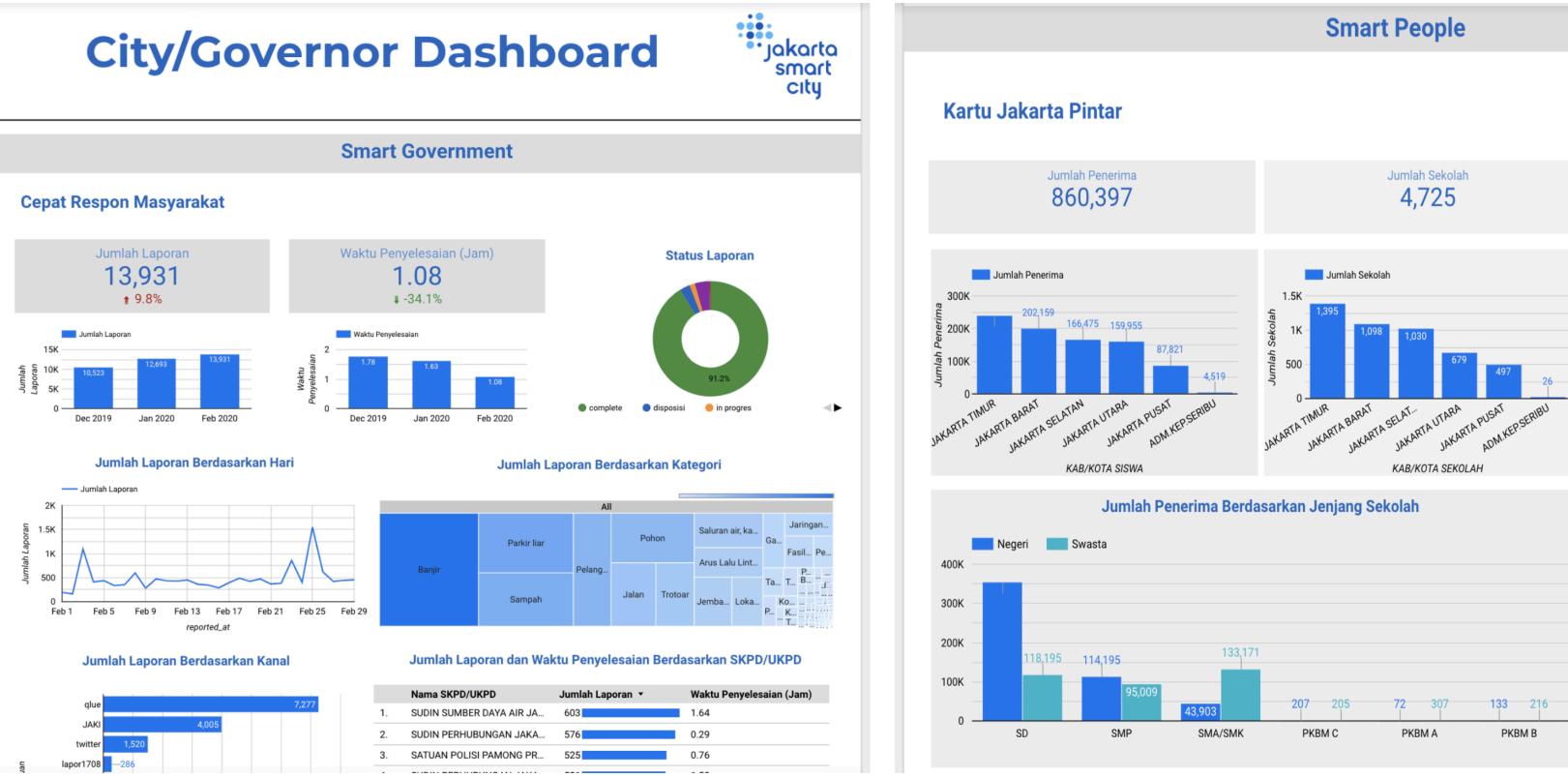


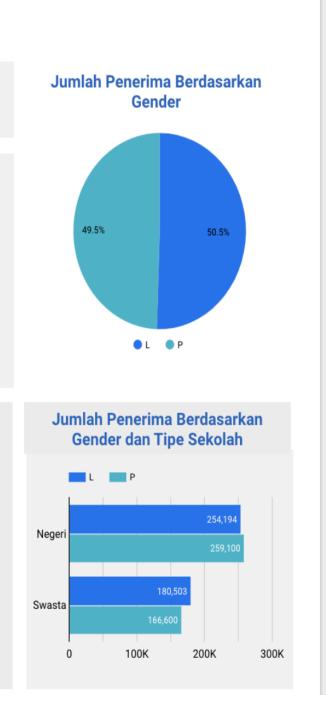
O3 Success Stories & Concrete Examples





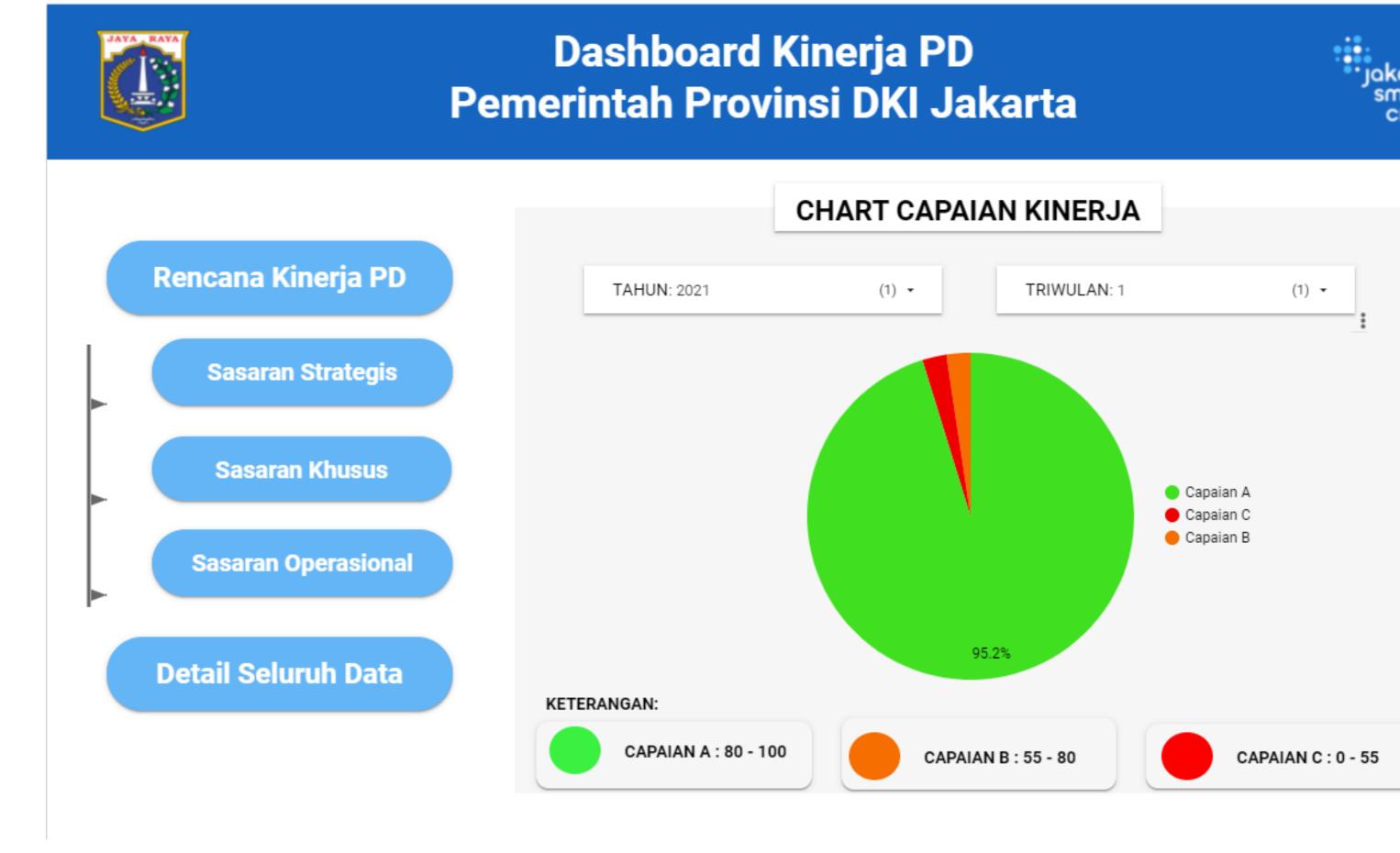
Success Stories







Success Stories

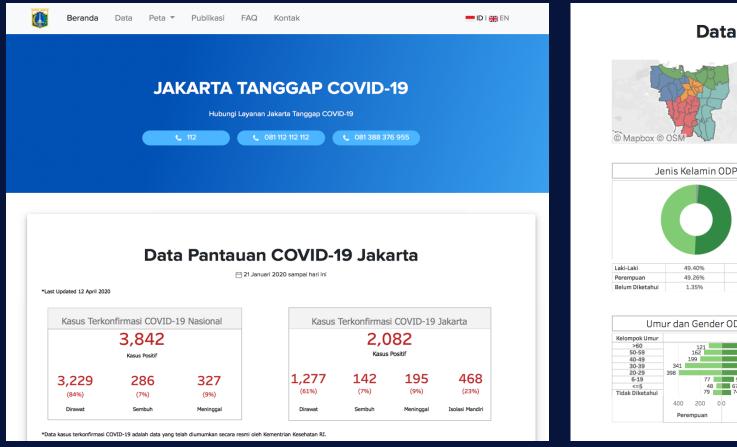




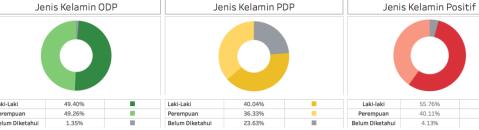
• JSC

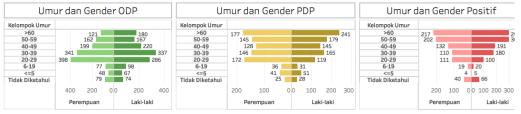
corona.jakarta.go.id

As the official center for information on the development of COVID-19 cases in Jakarta, all data on the website is updated daily.

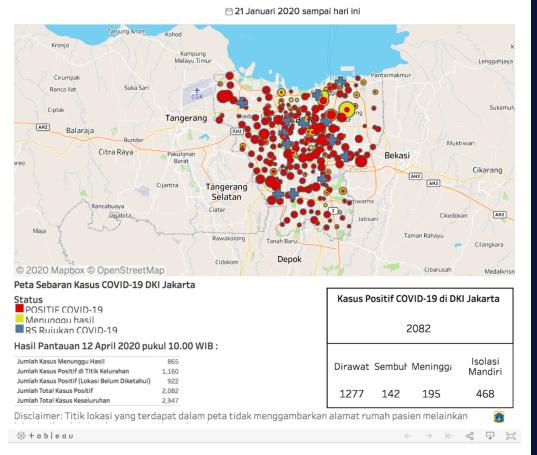


Data Pemantauan COVID-19 DKI Jakarta 🗄 21 Januari 2020 sampai hari ini



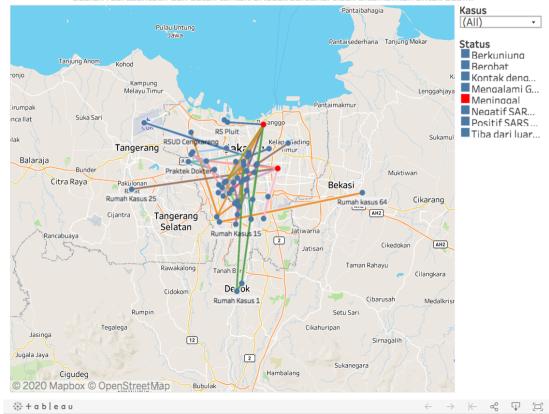


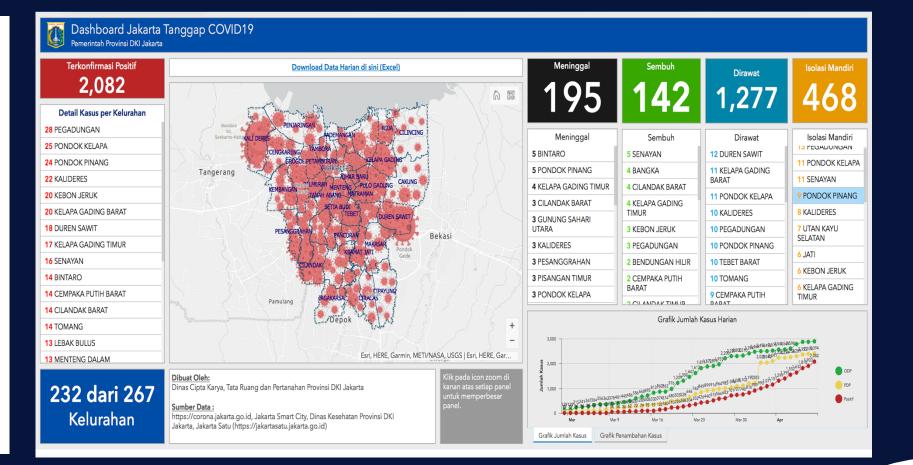
Peta Kasus COVID-19 di Jakarta



Peta Kronologis & Perkembangan Kasus COVID-19

Keterangan : "Tidak SEMUA kasus ditampilkan dalam peta. Ini untuk memudahkan visualisasi. Kasus yang dipilih adalah representatif dan detail terkait pribadi/personal tidak ditampilkan untuk publik"





Posko Tim Tanggap COVID-19

Dinas Kesehatan DKI Jakarta Jalan Kesehatan No. 10 Jakarta Pusat 📞 112, 081 112 112 112, atau 081 388 376 955

Periksakan gejala yang Anda alami melalui selfassessment dari Dinas Kesehatan DKI Jakarta

Periksa Mandiri di Sini



Kolaborasi Bersama Lindungi Jakarta dari COVID-19

Jika Anda memiliki solusi, inovasi, teknologi, atau ingin membantu melawan COVID-19 dan menjaga Jakarta, hubungi Jakarta Development Collaboration Network di nomor di bawah ini:

Jakarta Development Collaboration Network

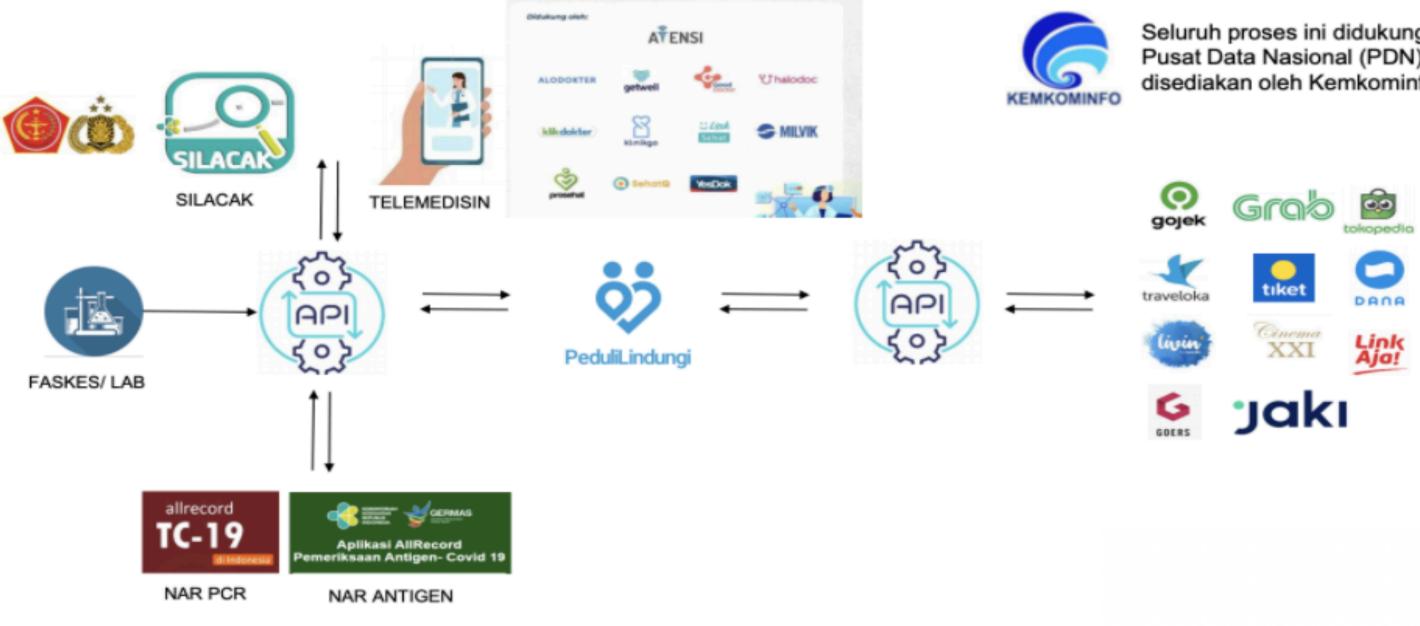
9 Jl. Medan Merdeka Selatan No. 8-9, Gambir, Jakarta Pusat

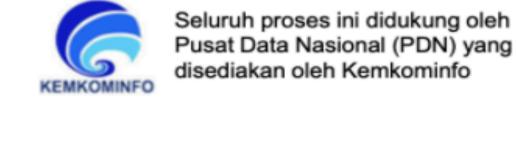
- **C** 0811 834 8899
- @ jdcn.jakarta.go.id
- ⊠ sekretariat.jdcn@jakarta.go.id



COVID-19 Responses

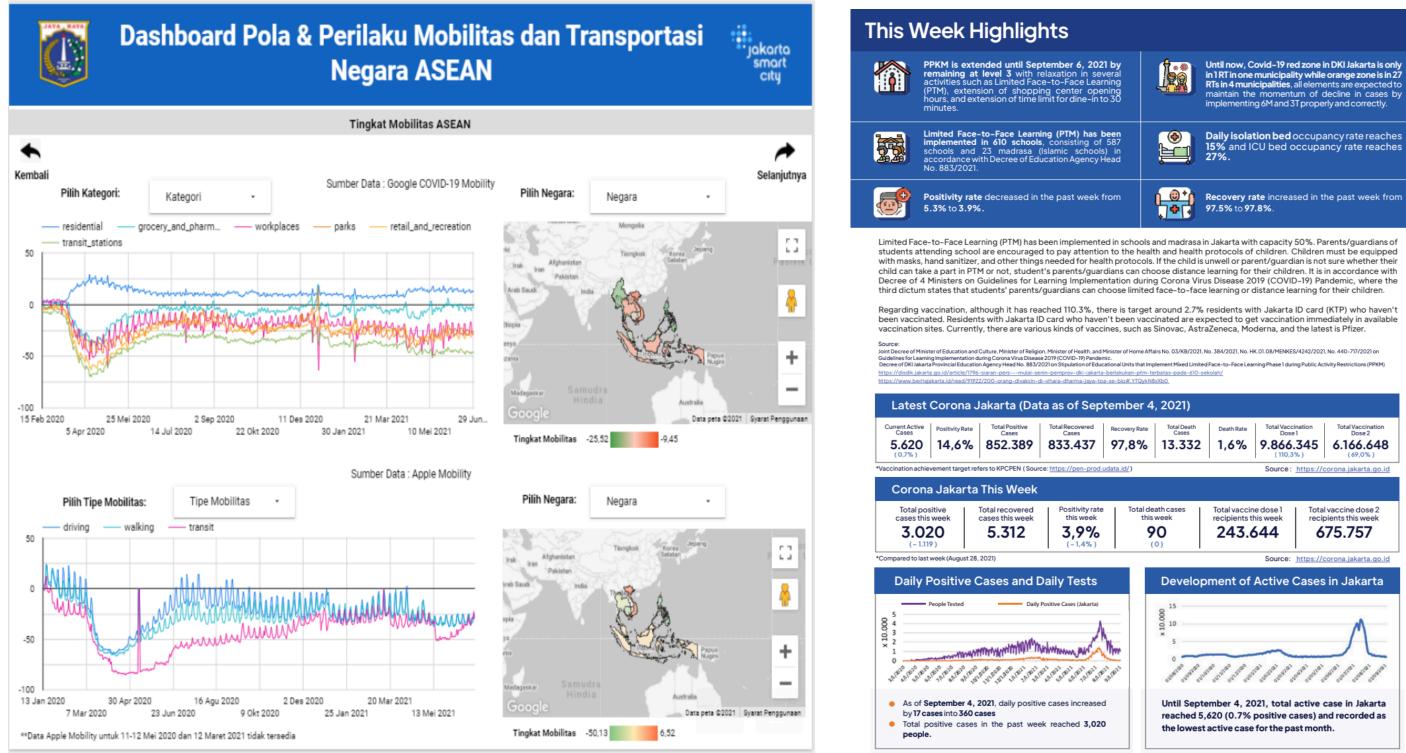
SKEMA INTEGRASI







Regional Situation Report & Policy Assessment



Active Case: Number of people treated + people who are self-isolating

WEST JAKARTA

Covid 19 Cases - Data as of 4 September 2021		vaccination of citizens with
Positive (Cumulative)	145.661	identity in West Jakarta until September 3, 2021
Racovered (Cumulative)	142.593	1.319.682
Death (Cumulative)	2.503	827.606
Treated (Current)	226	827.808
Self-Isolated (Current)	339	Vaccine 1 Vaccine 2

Accumulation of positive cases: 145.661 cases.

- Accumulated number of recovered: 142,593 people (97,9%).
- Number of active cases as as of September 4 is 565 (0.4%).
- The highest percentage of active cases is in Cengkarenge Subdistrict (0.5%).
- Until September 3, residents who have identity in West Jakarta and have been vaccinated dose 1 as many as 1.319.682 people and who have been vaccinated dose 2 as many as 827.606 people.

SOUTH JAKARTA

Covid 19 Cases - Data as of 4 September 2021	vaccination of citizens with	
Positive (Cumulative) 171.462	identity in South Jakarta until September 3, 2021	
Racovered (Cumulative) 167.606		
Death (Cumulative) 2.715	1.209.026	
Treated (Current) 429		
Self-Isolated (Current) 712	Vaccine 1 Vaccine 2	

• Accumulation of positive cases: 171.462 cases.

- Accumulated number of recovered: 167.606 people (97,8%).
- Number of active cases as as of September 4 is 1.141 (0.7%).
- The highest percentage of active cases is in Setiabudi Subdistrict (1.6%).
- Until September 3, residents who have identity in South Jakarta and have been vaccinated dose 1 as many as 1.209.026 people and who have been vaccinated dose 2 as many as 739.519 people.

NORTH JAKARTA

Covid 19 Cases - Data as o	of 4 September 2021		of citizens with
Positive (Cumulative)	102.936		North Jakarta ember 3, 2021
Racovered (Cumulative)	100.550		
Death (Cumulative)	1.669	947.355	
Treated (Current)	161		616.829
Self-Isolated (Current)	556	Vaccine 1	Vaccine 2

Accumulation of positive cases: 102.936 cases.

- Accumulated number of recovered: 100.550 people (97.7%).
- Number of active cases as as of September 4 is 717 (0,7%).
- The highest percentage of active cases is in Pademangan
- Subdistrict (2,2%).
- Until September 3, residents who have identity in North Jakarta and have been vaccinated dose 1 as many as 947.355 people and who have been vaccinated dose 2 as many as 616.829 people.

CENTRAL JAKARTA

Covid 19 Cases - Data as of 4 September 2021		vaccination of citizens with	
Positive (Cumulative)	82.868	identity in Central Jakarta until September 3, 2021	
Racovered (Cumulative)	80,955		
Death (Cumulative)	1.489	579.910	
Treated (Current)	167		372.483
Self-Isolated (Current)	257	Vaccine 1	Vaccine 2

- Accumulation of positive cases: 82.868 cases.
- Accumulated number of recovered: 80.955 people (97.7%).
- Number of active cases as as of September 4 is 424 (0.5%).
- The highest percentage of active cases is in Kemayoran Subdistrict (0.8%)
- Until September 3, residents who have identity in Central Jakarta have been vaccinated dose 1 as many as 579.910 people and who have been vaccinated dose 2 as many as 372.483 people.

EAST JAKARTA

Covid 19 Cases - Data as of 4 Septem	nber 2021 vaccination of citizens with
Positive (Cumulative)	210.390 identity in East Jakarta until September 3, 2021
Racovered (Cumulative)	205.593 1.637.516
Death (Cumulative) 3.682	1.041.320
Treated (Current) 341	
Self-Isolated (Current) 774	Vaccine 1 Vaccine 2

• Accumulation of positive cases: 210.390 cases.

- Accumulated number of recovered: 205.593 people (97,3%).
- Number of active cases as as of September 4 is 1.115 (0.5%).
- The highest percentage of active cases is in Ciracas Subdistrict (0.8%).
- Until September 3, residents who have identity in East Jakarta and have been vaccinated dose 1 as many as 1.637.516 people and who have been vaccinated dose 2 as many as 1.041.320 people.

THOUSHAND ISLANDS

Covid 19 Cases - Data as of 4 September 2021		vaccination of citizens with	
Positive (Cumulative)	1.329	identity in Thousand Islands until September 3, 2021	
Racovered (Cumulative)	1.311		
Death (Cumulative)	16	18.963	10.040
Treated (Current)	1		10.940
Self-Isolated (Current)	1	Vaccine 1	Vaccine 2

- Accumulation of positive cases: 1.329 cases.
- Accumulated number of recovered: 1.311 people (98.6%).
- Number of active cases as as of September 4 is 2 (0.3%).
- The highest percentage of active cases is in North Kepulauar Seribu Subdistrict (0.3%).
- Until September 3, residents who have identity Kepulauan Seribu in and have been vaccinated dose 1 as many as 18.963 people and who have been vaccinated dose 2 as many as 10.940 people

Latest progress of Covid-19 spread cases in https://corona.jakarta.go.id/id/peta-persebaran

Disclamer: Vaccination data per region shows the number of people vaccinated with Jakarta Identity as of September 3, 2021



Citizen Aspiration

Jumlah Pelapor

E.k

6.184

April

-15,15%

Juni

Rata-rata Waktu

Penyelesaian (Jam)

33.17

April

-3,7495

Juni

periode_bulan

4,852

Mei

periode_bulan

21,66

Mei

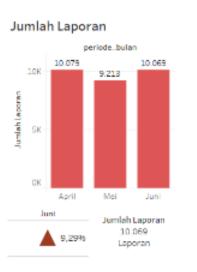
4.117

Juni

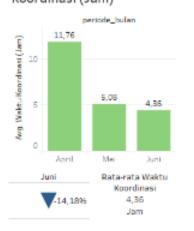
Jumlah Pelapor

4.117

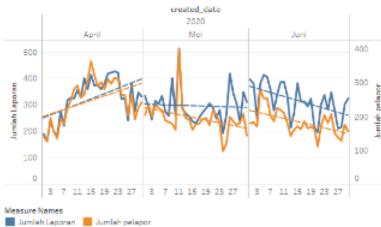
Pelapor



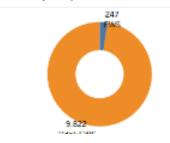




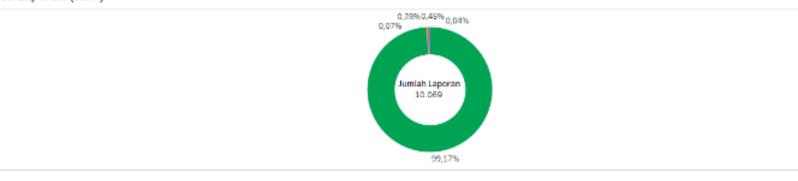
Tren Jumlah Laporan dan Pelapor



Jumlah Laporan EWS (Juni)



Status Laporan (Juni)



47

Status Laporan Selesai

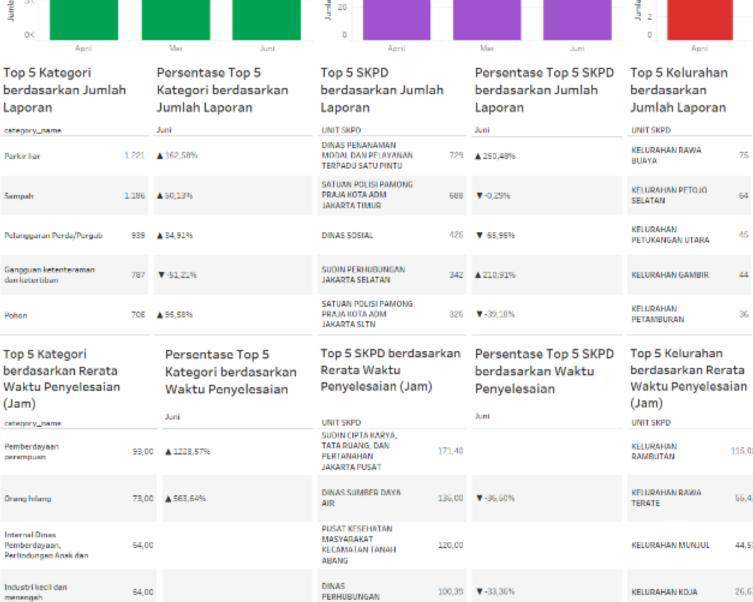


46,00

Top 5 Kategori 20,85 berdasarkan Jumlah Laporan category_name Parkir liar Juni Rata-rata Waktu Sampah Penyelesalan 20.85 Jam. Pelanggaran Perda/Pergub Gangguan ketenteraman Pohon

(Jam)

Koperasi

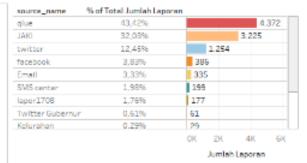


SUDIN CIPTA KARYA, TATA RUANG, DAN

PERTANAHAN

IAVADTA I ITADA

Jumlah Laporan per Kanal (Juni)







periode_bular

April

Status Laporan Menunggu



Persentase Top 5 Kelurahan berdasarkan Jumlah Laporan

Persentase Top 5

Kelurahan berdasarkan

Waktu Penyelesaian

Juni

75 ▲ 50,00%

64 1500,00%

45 ▲ 73,08%

44 ▲ 57,14%

36 4 500 00%

Juni

115,00 ▲ 801,96%

55,43 ▲ 533,47%

44,50 🔺 122,50%

26,67 ▲ 49,33%

25.00 ▲ 614.29%

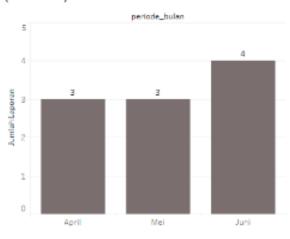
KELURAHAN KALI

BARU

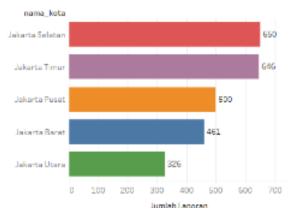
Jumlah Laporan pada Top Kanal (Qlue)



Jumlah Laporan pada Bottom Kanal (Walikota)



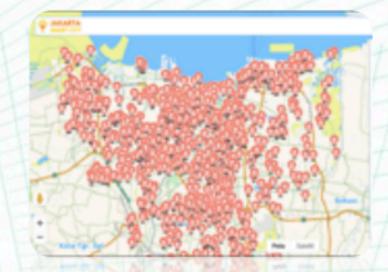
Jumlah Laporan per Kota (Juni)



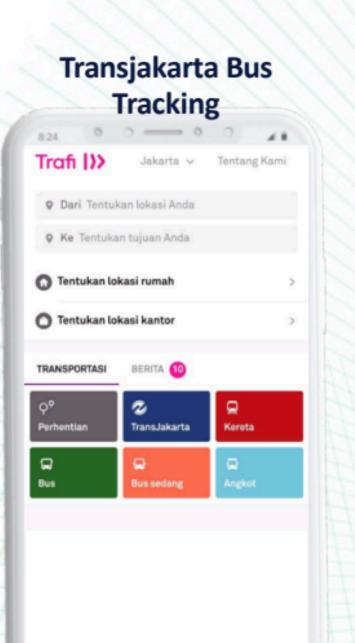
97,20

Utilizing IoT in Jakarta

IoT uses internet connection to connect devices in order to monitor and control.



Garbage Truck Tracking



Monitor Jakarta Air Pollution Standards

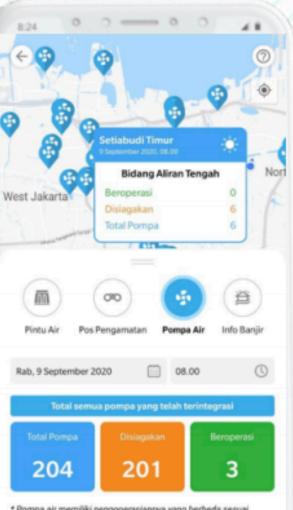


Jakı



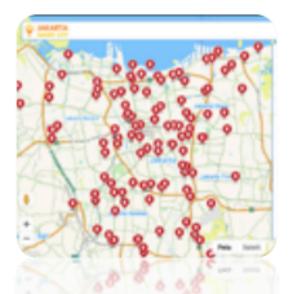
Smart Street Light

Monitor the operation of Water Pump Machine



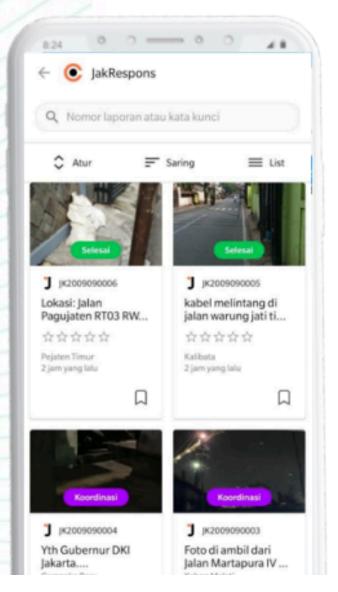
Pompa air memiliki pengoperasiannya yang berbeda sesua dengan ketinggian muka air di tiap aliran sungai.

* Pompa air tidak bisa dioperasikan serentak secara terus menerus (pompa dinyalakan bergantian) untuk menghindari kerusakan



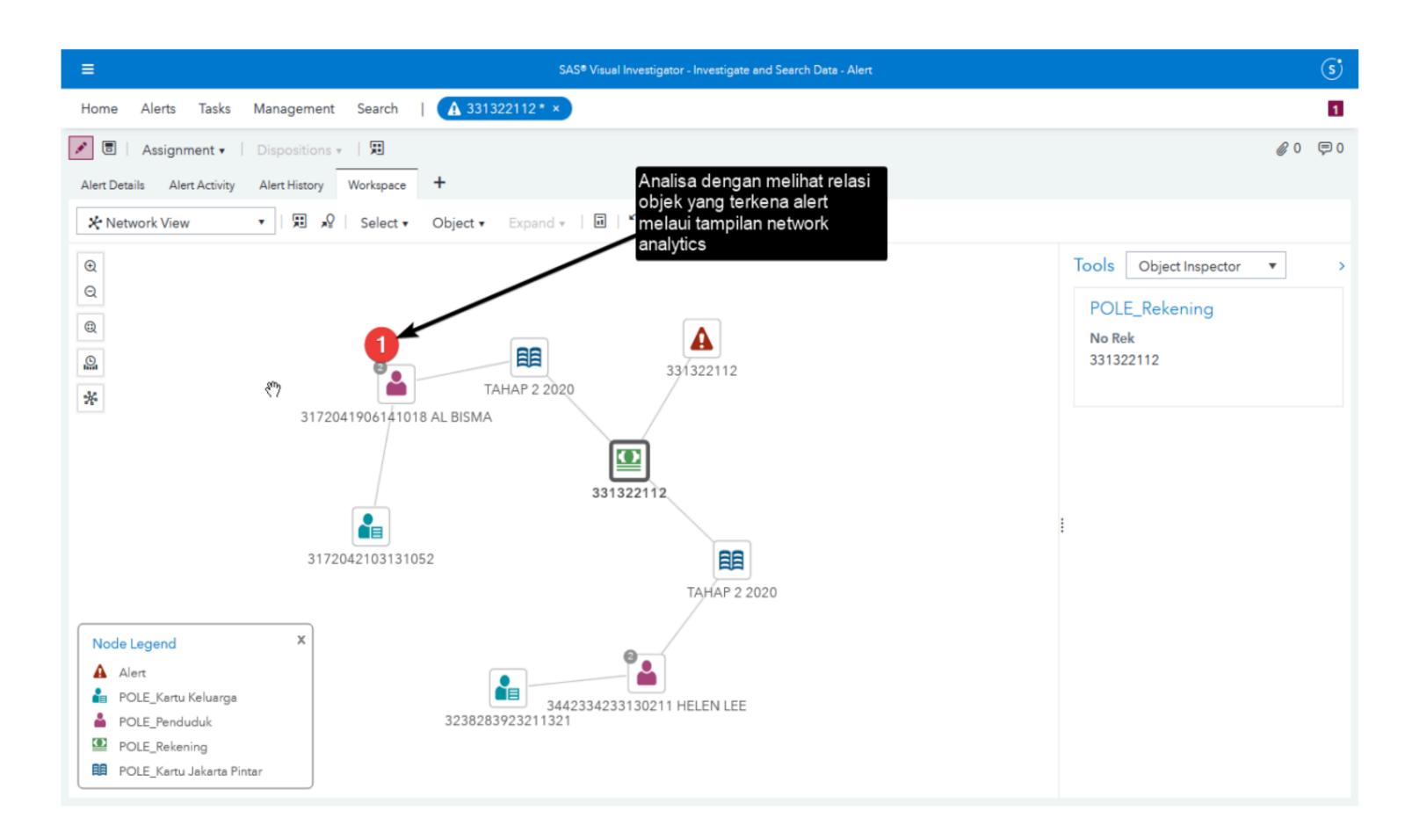
Ambulance Tracking

Geotagging-based **Reporting Channel**



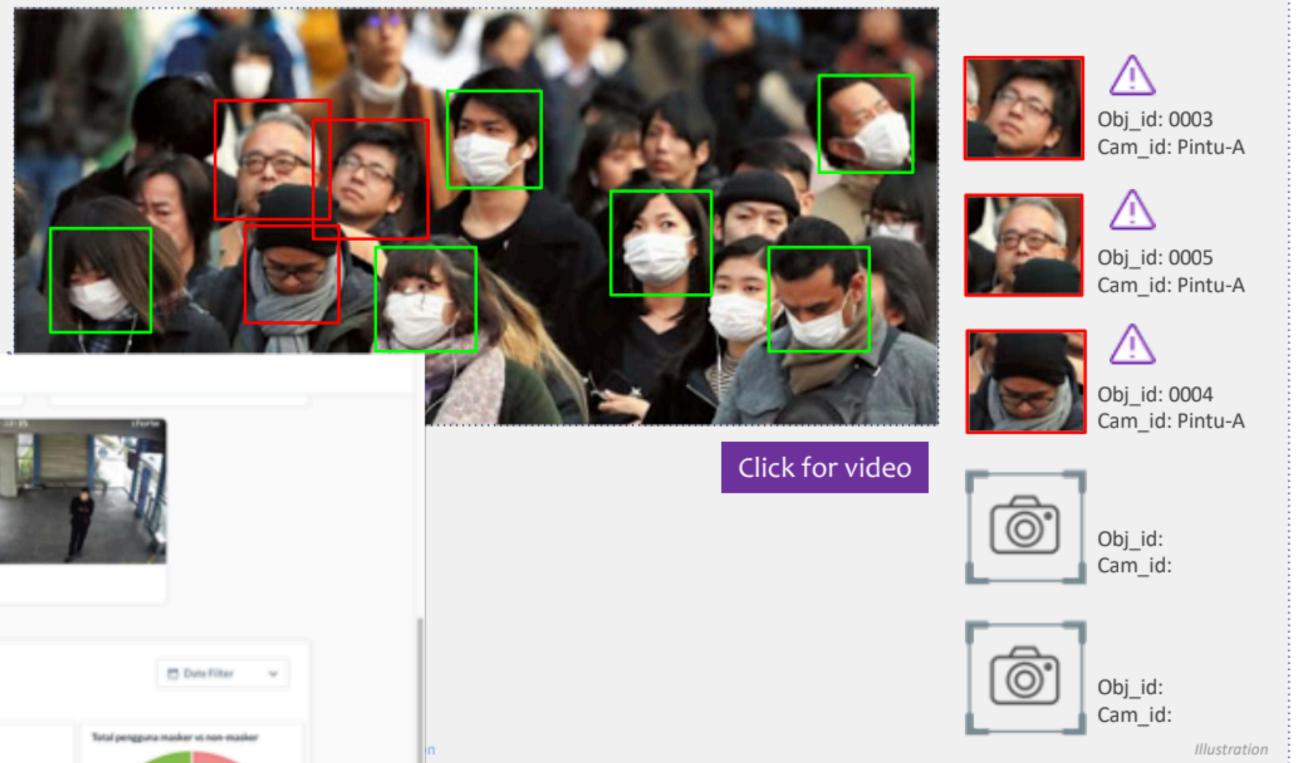


Hierarchy & Network Analysis



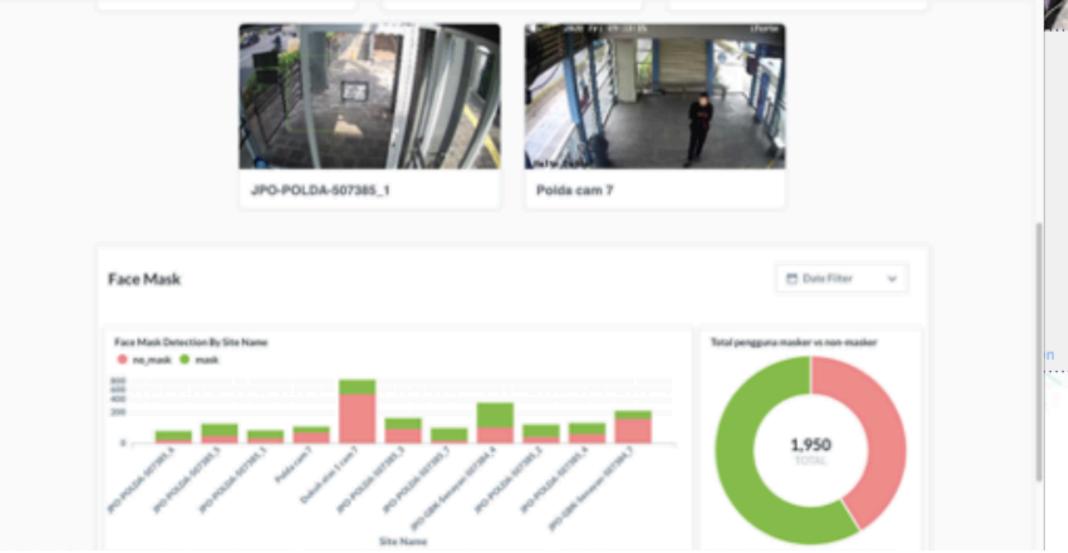
From this automatic and comprehensive monitoring, some follow-up actions can be carried out, such as:

- Separation from the crowd
- Prohibition of entering the train stations or other public areas
- Provision of masks for immediate use
- Giving sanctions



nodeflux

JSC

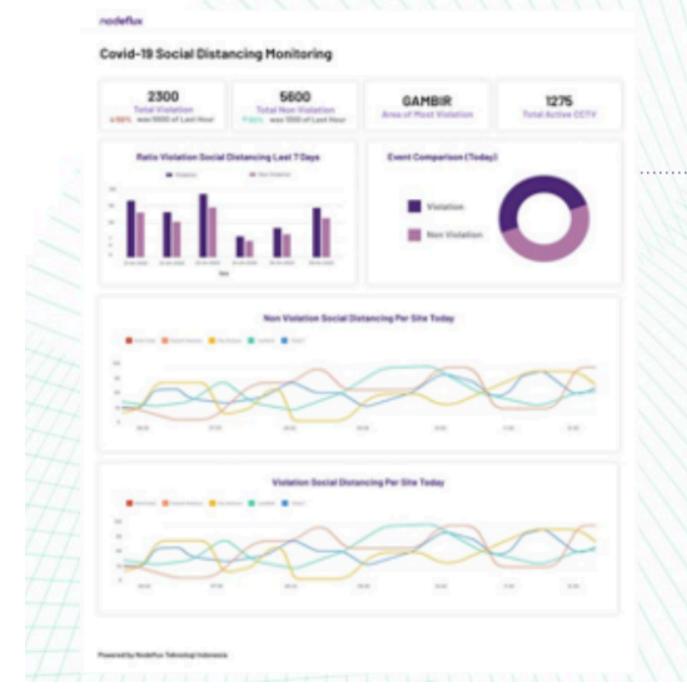


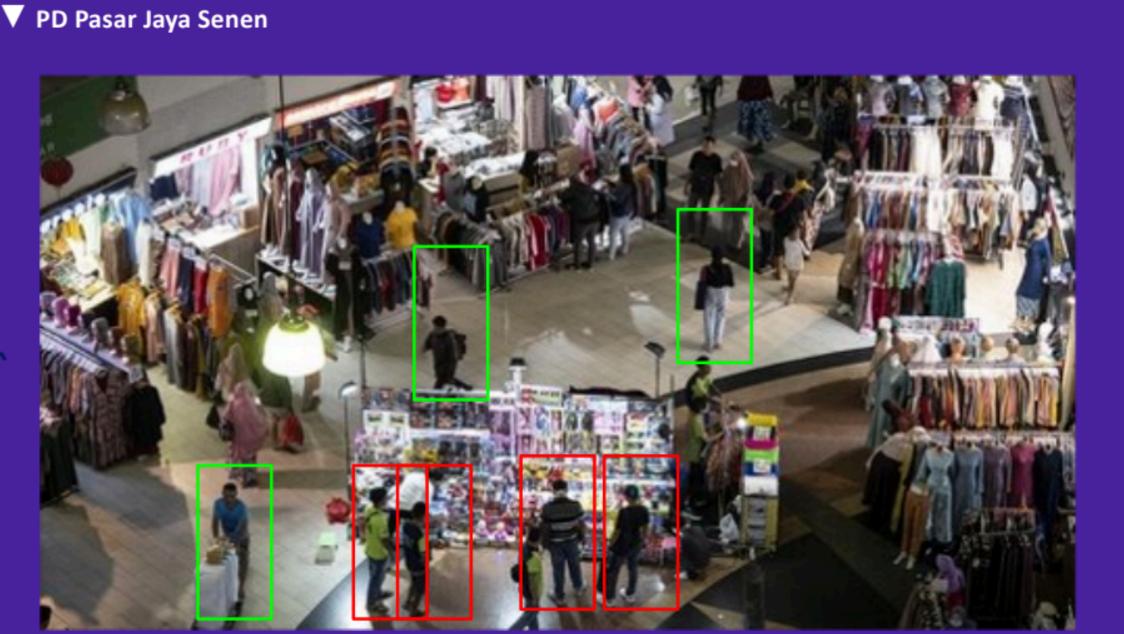
Monitoring can be initiated from the main public mobility area; MRT, LRT, terminals, airport stations, to schools and markets. From the capital city of Jakarta to Bandung, Surabaya, to other regencies in the country.



Continuous public monitoring is important in public areas such as markets, malls and stations.

Such monitoring can also be implemented in office areas, educational complexes, and other places where the general public is passing by.





Hijau : menunjukkan jarak aman, diatas 1 meter : menunjukkan jarak dibawah 1 meter

Click for video

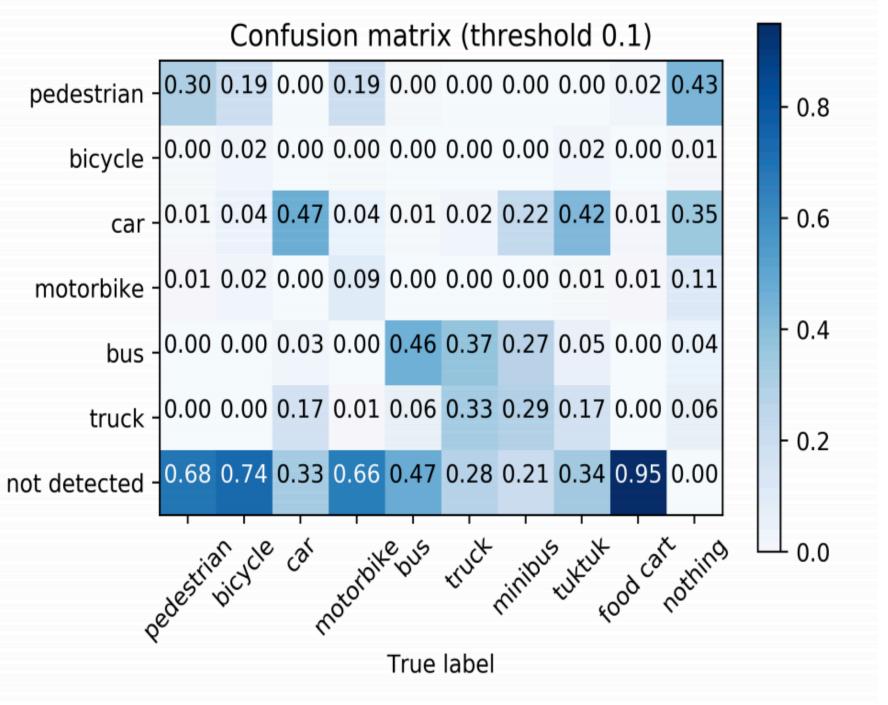


JSC

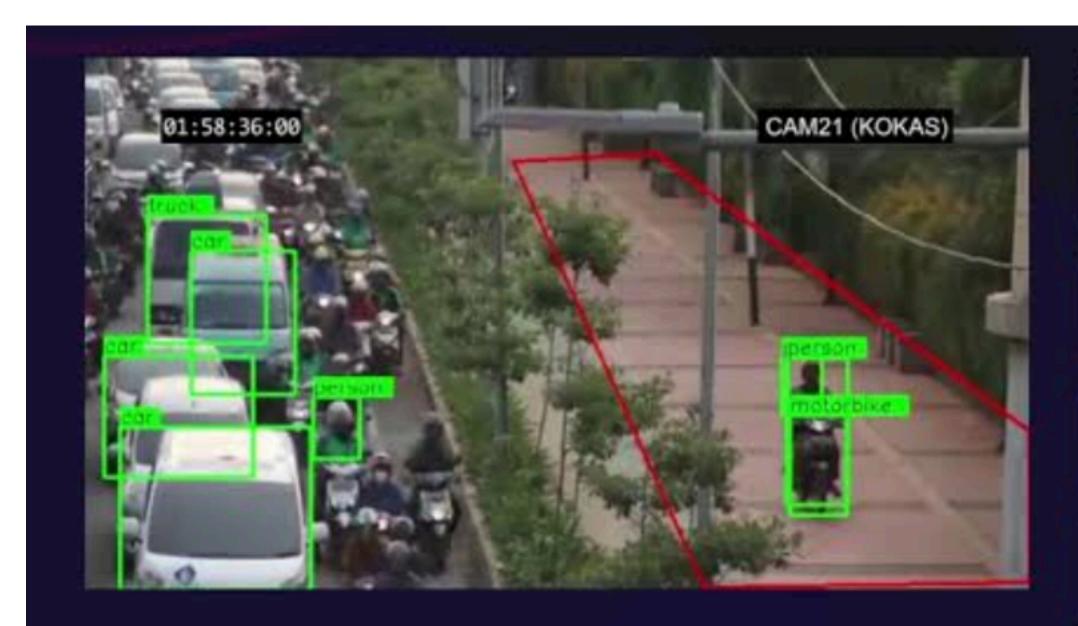
Figure 1: On the left, detection/classification with YOLOv3. On the right, motion detection with Lucas-Kanade Optical Flow.



Figure 2: A scene pre- and post-segmentation.







HISTORICAL DATA



1343 🐝 Melawan Arus





DETECTED



Melawati Trotoar 13.00 PM



Melawan Arus 12.47 PM



Melewati Trotoar 12.44 PM



Melawan Arus 12.42 PM



Melawan Arus 2.38 PM





ML Application at JSC: Corona Likelihood Metric

Risk Assessment in CLM

Three types of data are used as the reference for calculating CLM



Demographic conditions

(age, sex)



History of Covid-19 symptoms

(in the last 14 days)

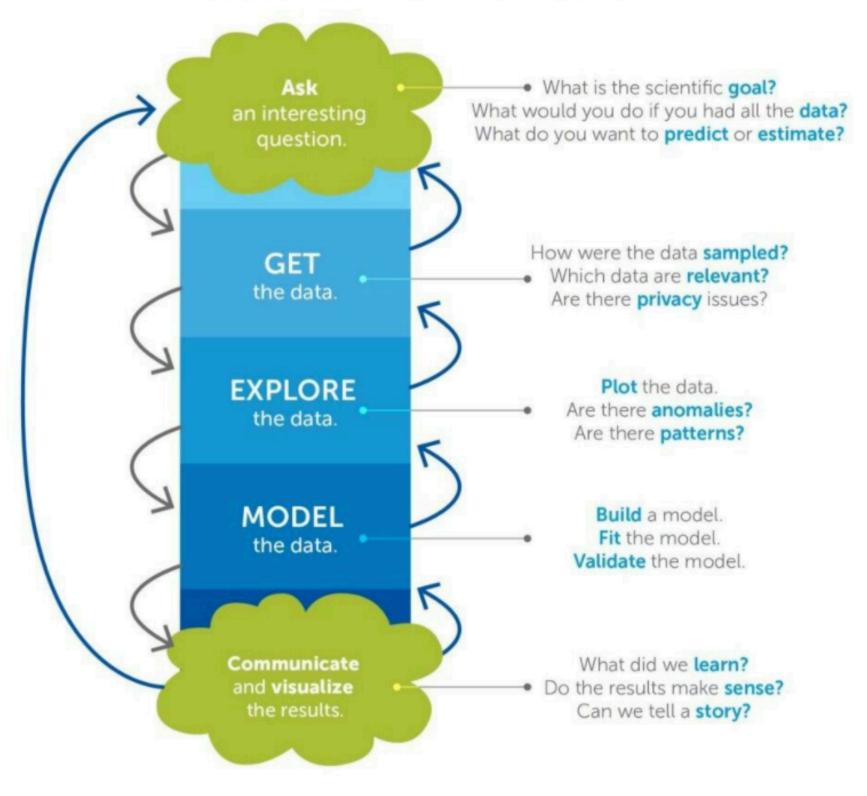


Patient history

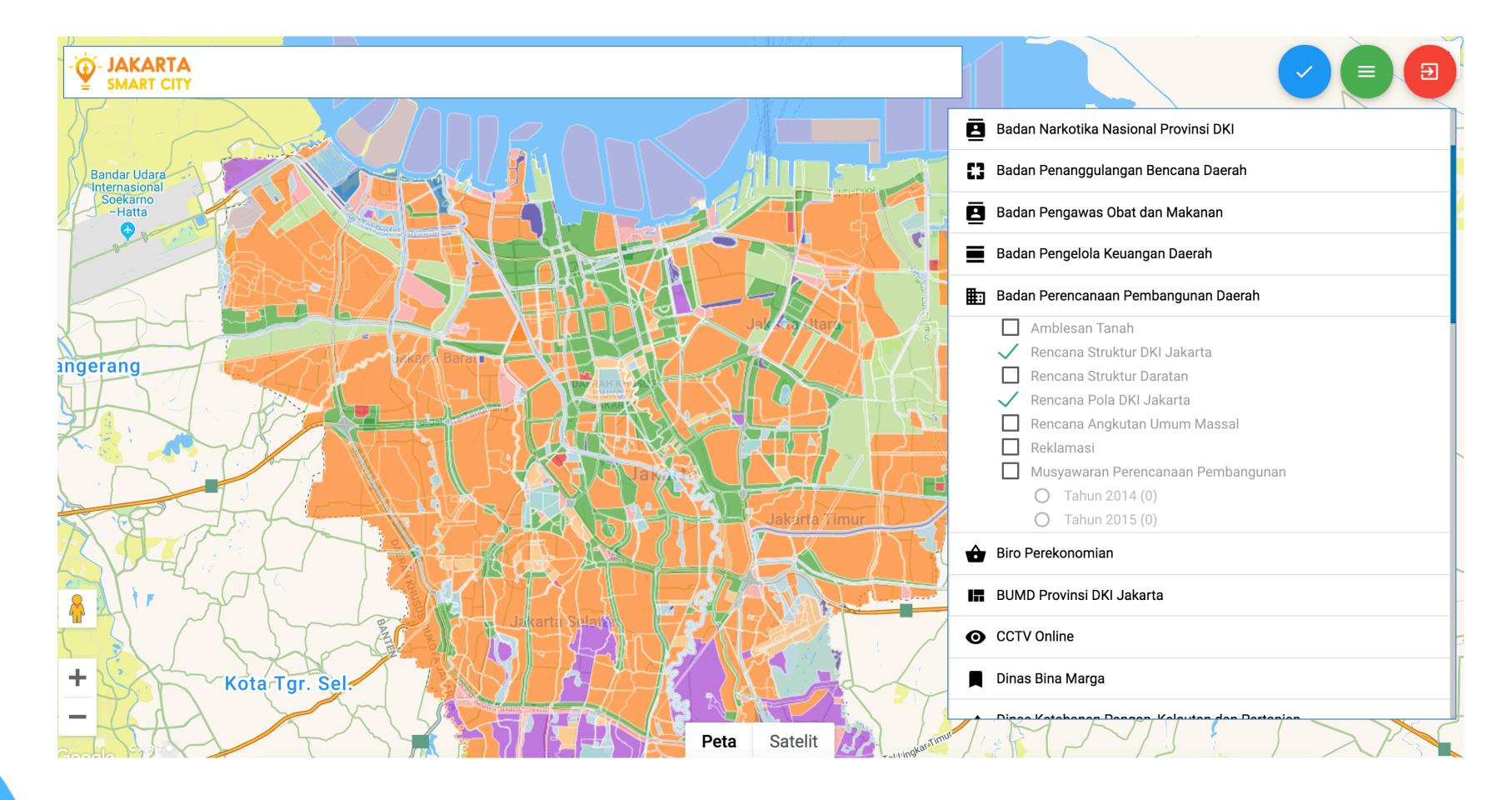
(travel, contacts, health facilities visitation, and if someone is a health workers)

What Your Result Means?

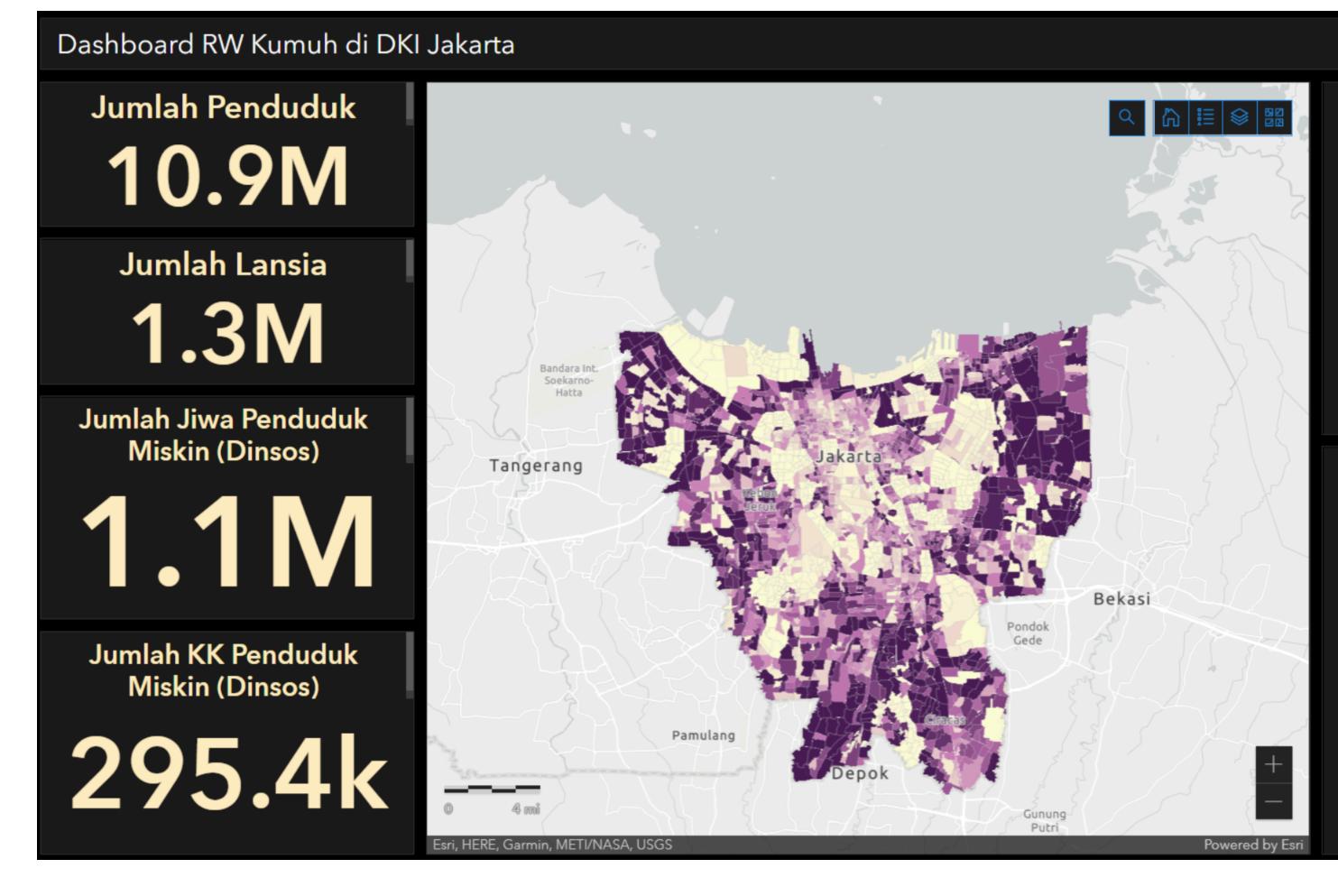










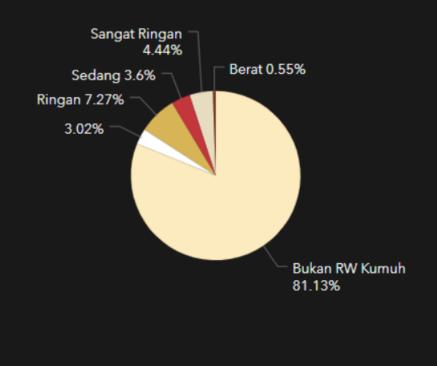


Penerima Bansos

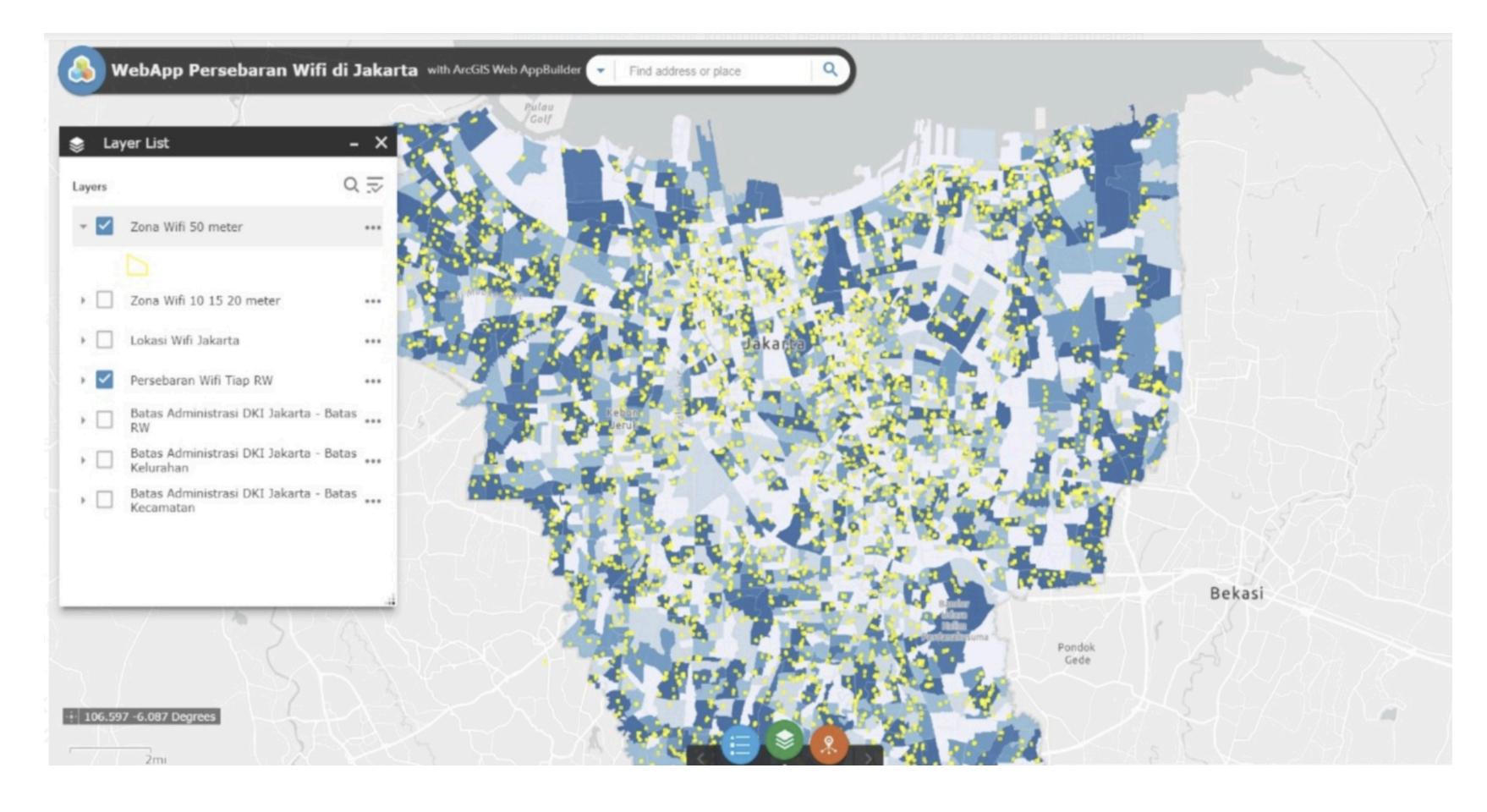


Golongan RW Kumuh

Ξ













MRT Impact Analysis





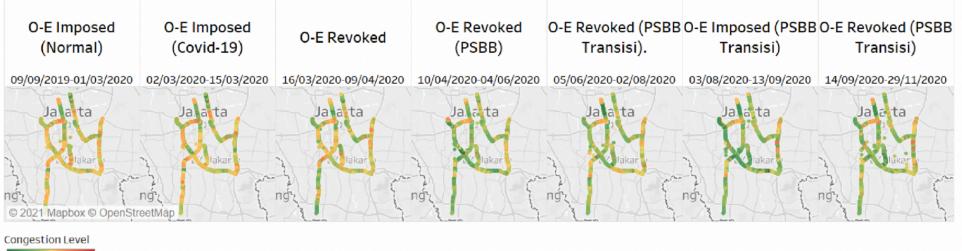




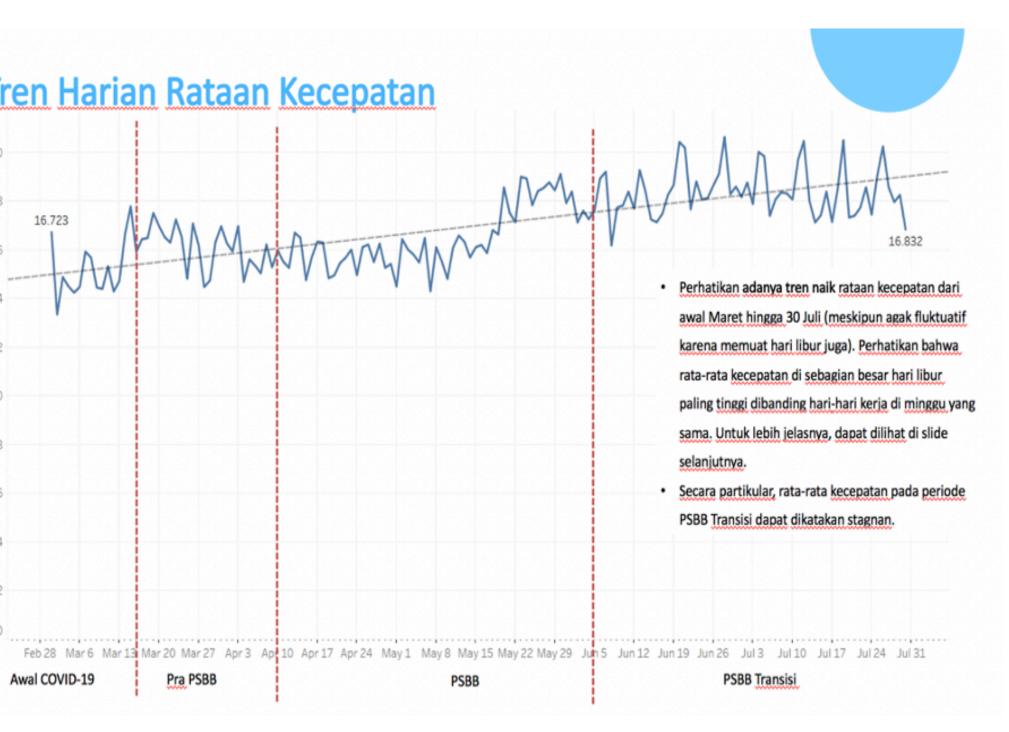


Social Mobility Limitation Assessment

Hari / Pagi/Sore												
	Monday		Tuesday		Wednesday		Thursday		Friday		Grand	Tren Lie
Jalan	Pagi	Sore	Pagi	Sore	Pagi	Sore	Pagi	Sore	Pagi	Sore	Total	Tren Hai
Marunda Makmur	9.27	11.86	9.84	12.06	9.26	12.51	9.34	11.74	8.03	11.15	10.61	
Mampang Prapatan	12.35	10.19	12.12	10.46	12.07	10.56	12.62	11.94	12.91	11.59	11.68	20
Tambak	12.61	12.07	11.96	10.71	11.97	12.12	13.04	11.63	11.05	12.18	11.97	
RC Veteran	12.01	13.59	12.04	13.61	12.06	14.19	12.63	14.71	12.40	14.39	13.21	18
Gunung Sahari	12.78	14.44	12.81	14.02	12.35	13.85	12.51	14.30	12.83	13.95	13.39	16.723
N1 Jalan Raya Bekasi	13.09	14.42	13.05	14.21	13.12	14.36	13.89	14.29	13.84	13.80	13.80	16
Ciledug Raya	12.04	14.56	14.01	14.34	13.64	14.08	14.01	13.71	14.22	14.15	13.85	L-A-
Pangeran Tubagus Angke	13.97	13.70	14.18	14.47	14.66	14.86	14.74	14.10	13.93	14.19	14.28	Ê 14
Joglo Raya	12.92	15.17	13.69	15.20	12.86	15.23	13.72	15.29	13.26	15.50	14.32	ue [/
Cempaka Putih Raya	14.19	13.57	16.24	15.18	13.80	14.21	14.92	14.67	14.60	14.16	14.50	(km
Fatmawati	14.45	12.83	15.55	14.47	15.54	14.43	15.97	14.55	15.23	13.79	14.66	Rata-rata Kecepatan (km/Jam) 10 8
Karang Tengah Raya	16.64	16.57	16.67	16.63	16.84	16.05	16.44	15.98	15.83	15.65	16.33	edao
Pondok Gede Raya	15.99	16.96	16.90	16.26	17.31	16.47	16.64	16.71	15.94	17.59	16.68	9 10 B
MH Thamrin	18.50	14.61	16.67	15.51	17.17	16.25	16.94	16.21	17.53	17.36	16.72	-rat
Inspeksi Banjir Kanal Timur	16.31	16.95	14.59	18.10	15.00	16.12	19.92	17.53	18.34	19.11	17.23	8 8
Raden Saleh	16.34	16.83	17.41	17.27	16.98	17.56	18.24	17.26	17.11	17.50	17.25	4
Panjang Raya	16.37	19.06	16.14	18.55	16.36	18.79	15.51	19.17	16.69	19.16	17.59	6
Kapuk Kamal Raya	17.99	17.50	17.67	17.50	18.05	18.10	17.87	17.48	17.50	17.34	17.70	
Kalimalang	18.41	19.33	19.55	20.40	18.18	20.38	20.06	19.83	19.27	19.85	19.56	4
N2 Jalan Raya Bogor	18.46	20.15	20.42	21.26	20.78	19.93	20.98	20.03	20.62	19.21	20.19	
Lingkar Luar Barat	19.42	22.42	20.38	21.91	20.26	21.35	19.20	21.75	19.55	20.82	20.79	2
Salemba Raya	20.28	21.90	20.36	21.86	20.27	23.53	21.49	23.00	21.91	22.86	21.66	2
N1 Daan Mogot	19.18	22.21	22.31	22.71	22.55	23.91	23.66	23.10	23.21	23.75	22.62	0
N1 Perintis Kemerdekaan	22.39	24.73	20.43	23.94	21.07	26.88	21.27	27.68	23.10	25.49	23.79	Feb 28 Mar 6 M
I Gusti Ngurah Rai	23.17	24.99	23.80	22.84	25.32	23.63	25.86	24.36	26.39	24.68	24.43	Awal COVID-19
Grand Total	15.94	16.97	16.56	17.12	16.57	17.33	16.91	17.28	16.81	17.21	16.87	Awai COVID-15



1.000 5.000



Jakarta smart city





Thank You!