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FACULTY OF
COMPUTER
SCIENCE

The Shape of Smart Cities in Indonesia

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- *ISACA (Information Systems Audit and Control Association) Academic Advocate*
- Secretary of Academic Senate Universitas Indonesia
- Member of *e-Government* Lab, Faculty of Computer Science, UI
- Member of PANDI (.id Registry)
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- *Academic Advisory Council APIDE (The Asia Pacific Institute for Digital Economy)*
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- *Resource Person for 100 Smart Cities Movement of MCIT the Republic of Indonesia*
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Agenda



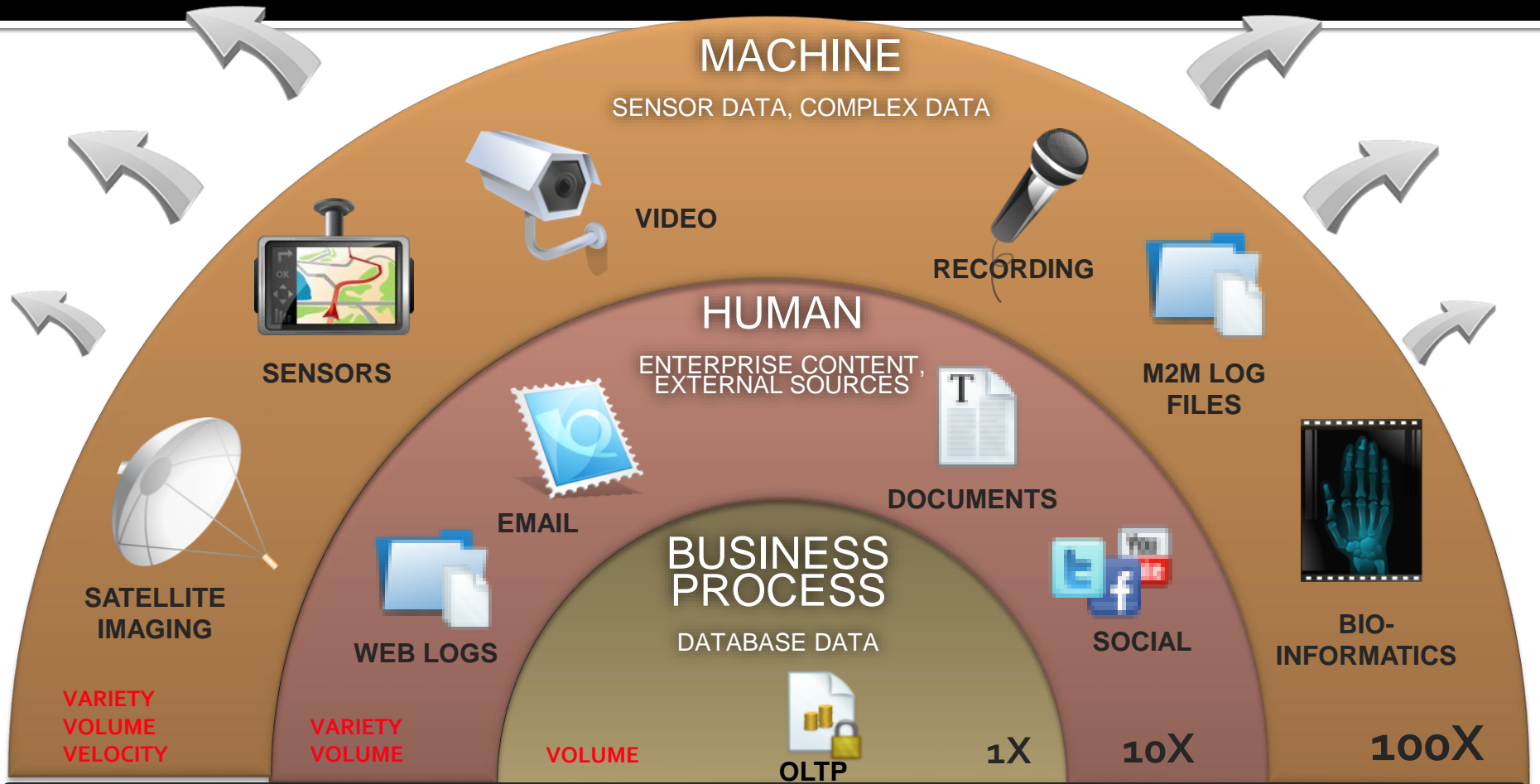
- Digital Future
- Jakarta Smart City
- Digital Competency and Literacy
- Digital Divide

Digital Future?

According to UN

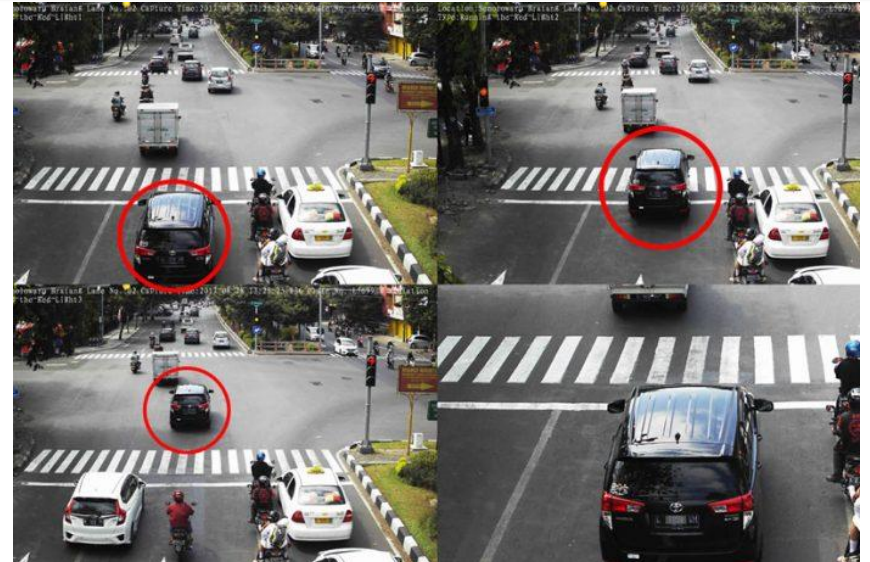


Big Data



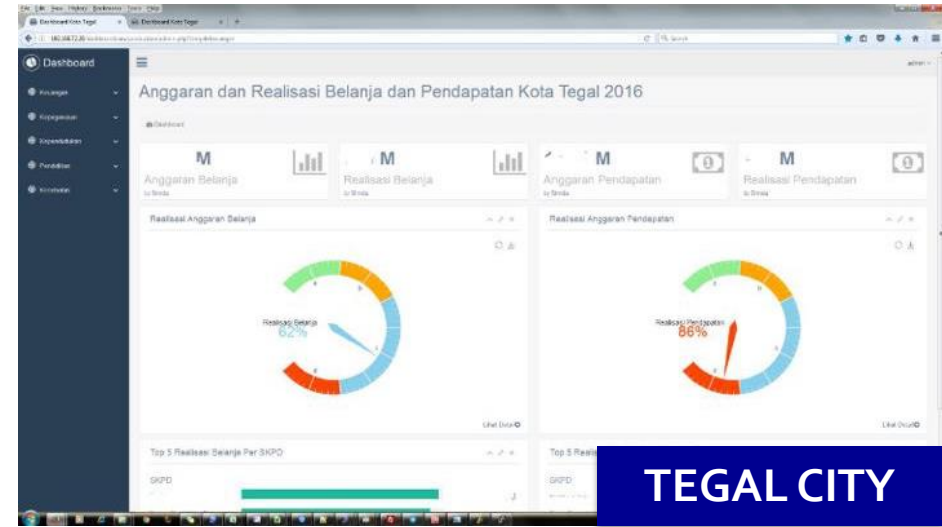
Data will be more complex and real-time

Internet of Things (IoT)



SURABAYA CITY

Command Center (IoT + Spatial + Big Data + 5G + AI)





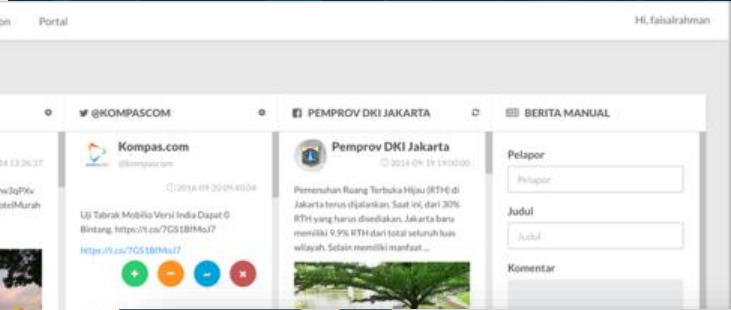
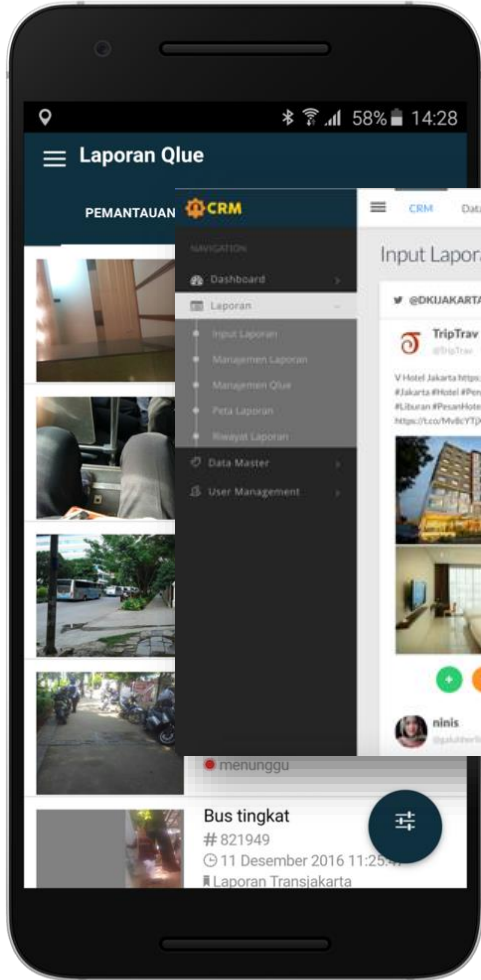
Jakarta Smart City

About Jakarta Smart City

- Established in 2015
- **Vision**
 - Jakarta as the capital of Indonesia is safe, comfortable, prosperous, productive, sustainable and globally competitive;
- **Mission**
 - Improving the quality of infrastructure, strengthen the economy, social and cultural cohesion, improving the environmental conditions and the efficient use of natural resources, improving government performance, strengthen innovation and creativity

Features: Citizen Relationship Management

Jakarta Provincial Government Official Aspiration Platforms



HI, faisalrahman

CRM Data Integration Portal

CITIZEN RELATIONSHIP MANAGEMENT

USERNAME
romer induh pegawai

NAMA STAFF

EMAIL
USERNAME@EMAIL.NET

DINAS
DINAS KOMUNIKASI INFORMATIKA DAN KEHUMASAN

JUMLAH LAPORAN USER

Hari: Hari

Menunggu	374.983
Sedang dikerjakan	345.443
Disposisi	345.542
Koordinasi	456.456
Selesai	231.123

JUMLAH LAPORAN SKPD

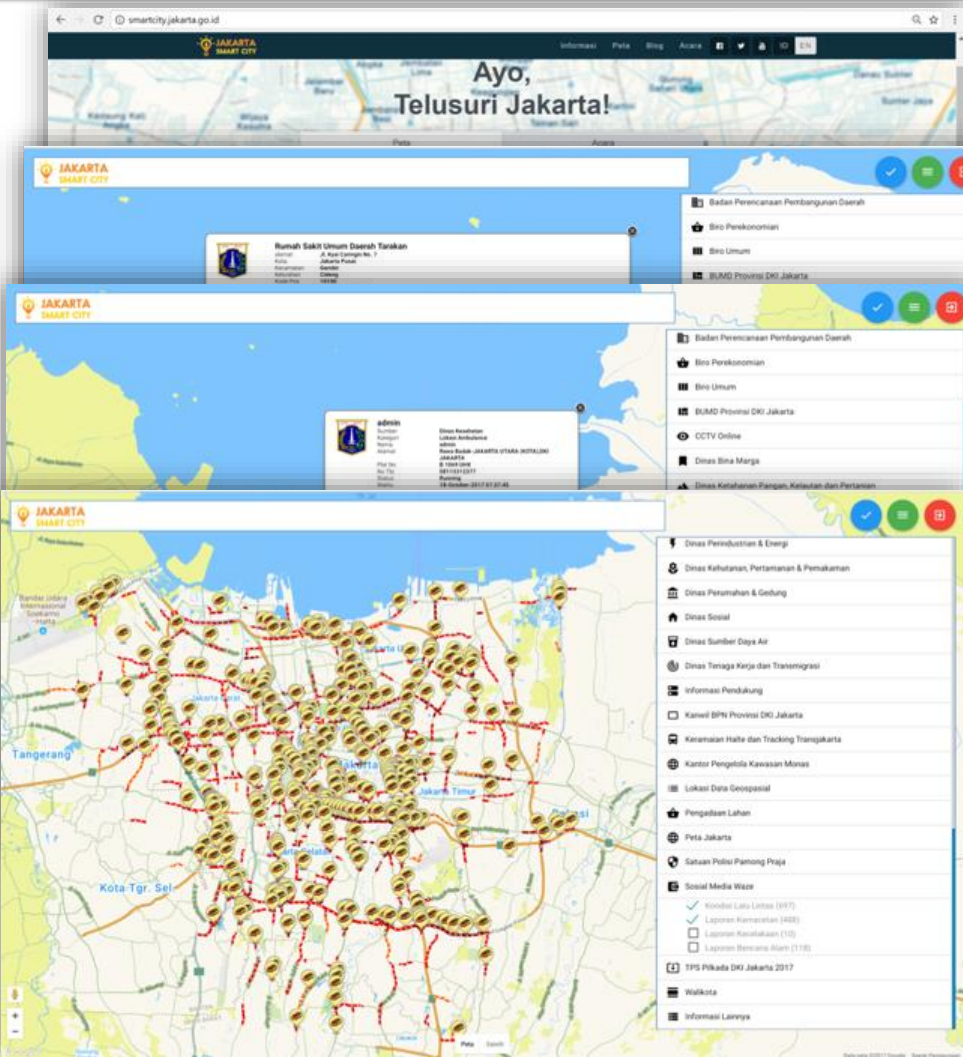
JS chart by amCharts

Platform	Diterima	Dikerjakan	Selesai
Facebook	1,000,000	900,000	450,000
Twitter	900,000	750,000	650,000
Qlue	950,000	900,000	900,000
LAPOR	950,000	900,000	890,000
SMS	950,000	800,000	750,000

- LAPOR 1708**
- dki@jakarta.go.id**
- QLUE**
- Sub-District Offices**

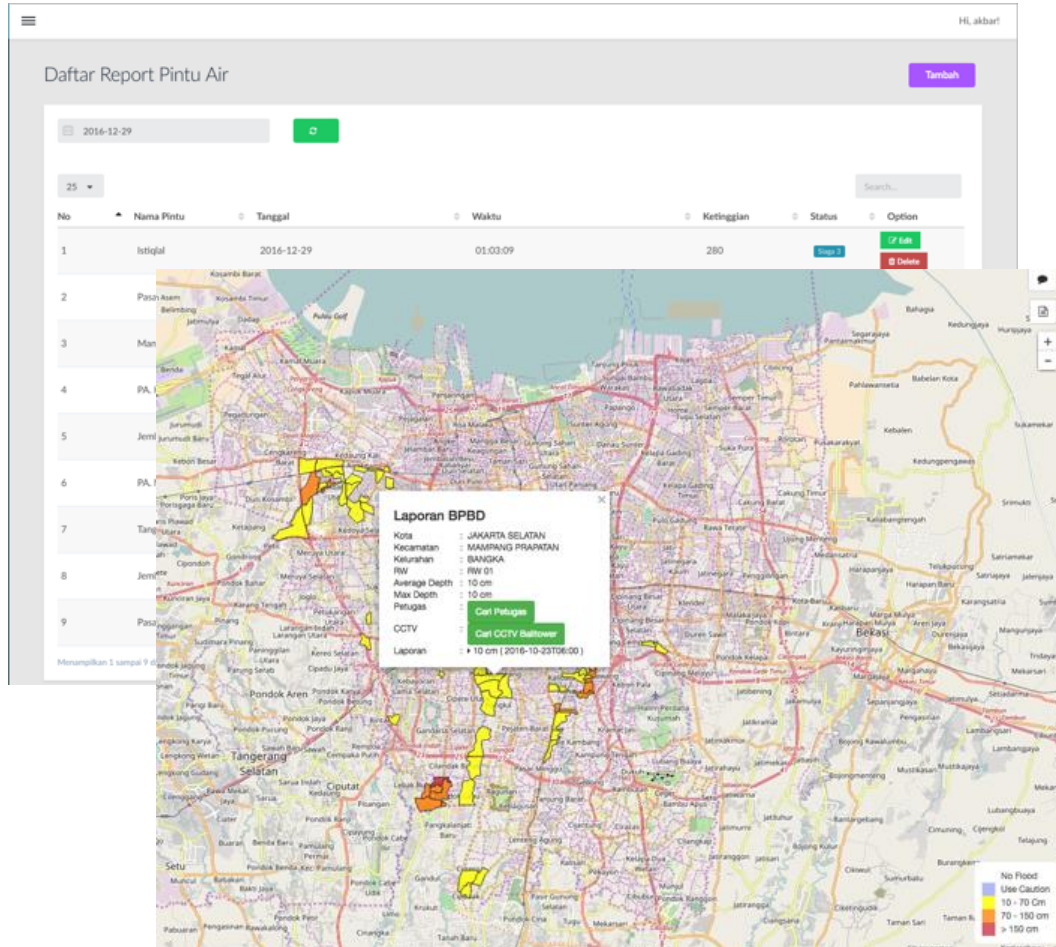
ED UP

Features: Smart City Maps smartcity.jakarta.go.id/maps



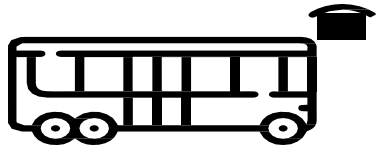
- Map-based data integration across agencies – *Open Government*
 - Real-time data feed from more than 7000 CCTVs
 - SMEs that are supported by Jakarta Government
 - Land prices information
 - Hospital rooms availability
 - Food prices

Features: Flood Monitoring

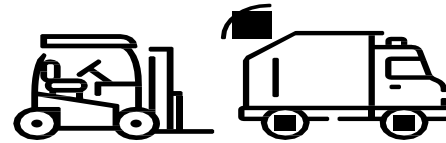


- Flood Maps
- Flood Report from Citizens
- Water Pump Conditions
- Post Conditions Observation
- Flood victims
- Donation amount

Features: IoT for Monitoring and Controlling



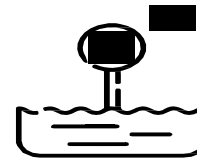
Monitors TransJakarta Buses



Monitors Garbage truck and Heavy Duty Vehicles



Monitors Ambulance



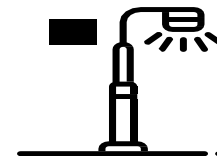
Monitors Water Level



7362 CCTVs



Monitors Air Quality



Controls Public Street Lights

API Jakarta

- Startup can use Jakarta API to develop applications

api.jakarta.go.id/



Fire Station Data



Hospital Data



Ambulance Data



Waste Disposal Data

Big Data Portal



Periodic Report

JAKARTA SMART CITY



Komparasi Bulanan

Juni 2018

Divisi Data & Analytics

Monthly Summary

Total Laporan
6.379
213 laporan/hari

Jumlah Pelapor
934
55 pelapor/hari

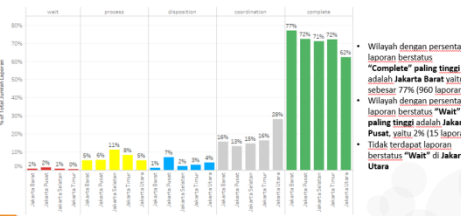
Rerata Waktu Penyelesaian
170,0
▲ 145,4%

Mei: Jumlah Laporan 8.031

Juni: Jumlah Laporan 6.379

Status Laporan: Wait, Process, Disposition, Coordination, Complete


Status Laporan Per Wilayah



- Wilayah dengan persentase laporan berstatus "Complete" paling tinggi adalah Jakarta Barat yaitu sebesar 77% (960 laporan)
- Wilayah dengan persentase laporan berstatus "Wait" paling tinggi adalah Jakarta Pusat yaitu 2% (115 laporan)
- Tidak terdapat laporan berstatus "Wait" di Jakarta Utara

Status Laporan: Wait, Process, Disposition, Coordination, Complete

JAKARTA SMART CITY

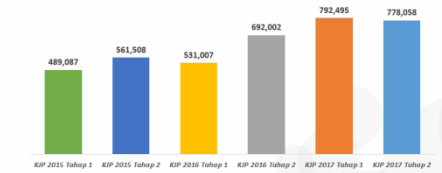


ANALISIS TRANSAKSI KARTU JAKARTA PINTAR

PERIODE MARET - MEI 2018

7 Juni 2018
Divisi Data & Analytics

Jumlah Penerima KJP



Periode	Jumlah Penerima KJP
KJP 2015 Tahap 1	489,087
KJP 2015 Tahap 2	561,508
KJP 2016 Tahap 1	531,007
KJP 2016 Tahap 2	692,002
KJP 2017 Tahap 1	792,495
KJP 2017 Tahap 2	778,058

Jumlah penerima KJP 2017 Tahap 2 menurun 1,8 % dibandingkan dengan jumlah penerima KJP 2017 Tahap 1, namun jika dibandingkan dengan tahap yang sama di tahun sebelumnya (KJP 2016 Tahap 2), jumlah peserta KJP meningkat 12,4 %

Perbandingan Nilai Transaksi berdasarkan Kategori Toko dengan Bulan Sebelumnya

Kategori Toko	Nilai Transaksi		Selisih
	April 2018	Mei 2018	
Pakaian & Aksesoris	4.582.818.212	3.292.155.342	-1.470.662.879
Buku & ATK	1.124.363.906	654.041.548	-470.324.360
Sepatu, Tas, Seragam	863.626.348	546.000.300	-317.626.048
Supermarket	23.500	23.500	-23.500
Transportasi	20.000	23.000	3.000
Sekeloa	13.200.000	13.240.000	40.000
Sembako, Susu, Makanan	350.000	1.489.000	1.139.000
Koperasi & Sekolah	53.403.770	62.979.775	9.576.005
Lainnya	603.240.202	687.874.736	84.634.534

- Penurunan nominal pembelanjaan paling besar terjadi di toko kategori "Pakaian & Aksesoris" yang menurun sebesar Rp 1,47 M dibandingkan dengan bulan April 2018

JAKARTA SMART CITY



ANALISIS SEBELUM & SESUDAH

PENATAAN JALAN JATIBARU RAYA (DEPAN STASIUN TANAH ABANG)

17 Agustus 2018
Divisi Data & Analytics

Overview Laporan Lalu Lintas via Waze

- Pada minggu ke-34 penataan Tanah Abang (10 Agustus - 16 Agustus 2018) terlibat adanya penurunan jumlah laporan lalu lintas sebanyak 10% dibanding minggu ke-33 sebelum (3 Agustus - 9 Agustus 2018).
- Jumlah laporan mengalami penurunan pada tiap harinya dimana penurunan paling signifikan terjadi pada hari Minggu yaitu sebesar 32%.

Perbandingan Jumlah Laporan Lalu Lintas Day on Day

Perbandingan Jumlah Laporan Lalu Lintas per Periode

Kategori Laporan yang Mengalami Penurunan dan Peningkatan

Top 3 Kategori Laporan dengan Penurunan Terbesar

Kategori	Penurunan Laporan
Konvensional Jalan Berjalan	74
Konvensional Trotoar	97
Konvensional Bypass	238

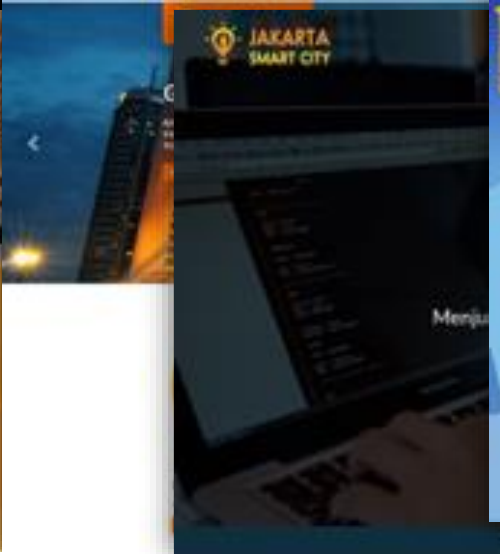
Top 3 Kategori Laporan dengan Peningkatan Terbesar

Kategori	Peningkatan Laporan
Daerah Cakupan	35
Jalan Bypass	48

Peringatan Jumlah Laporan "Konvensional Tidak Berjalan" terbesar terjadi di 6. Rukon sat

Peringatan Jumlah Laporan "Sungai Cusur" terbesar terjadi di 8. Flyover Jatiwarna

Transparent



Open [

Presentin
Agency in I

API Ja
inform
Jakar
Contains info
indicators from
Jakarta in the

Pelayanan Jakarta

The Jakarta Service Portal contains information about the one-door service managed by DKI Jakarta's Capital Investment

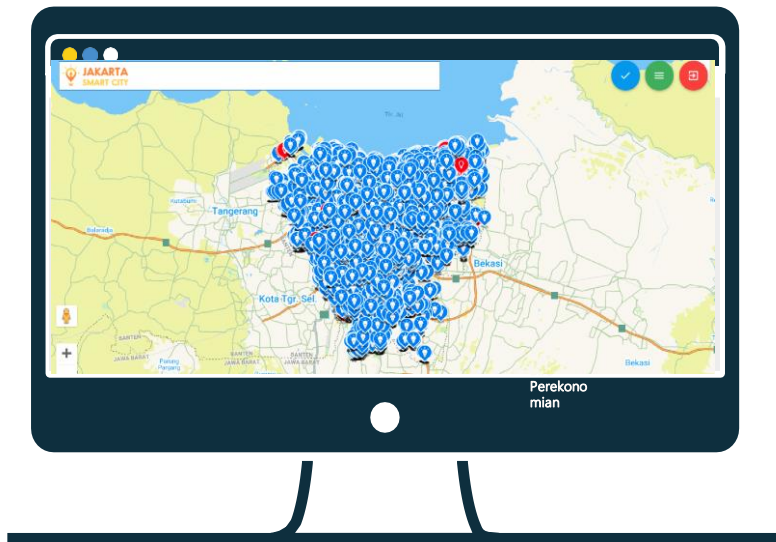
DKI Jakarta Provincial Government has been included

in the example of "Indonesian Open Government best practice."

<http://opengovindonesia.org/front/bestpracti>

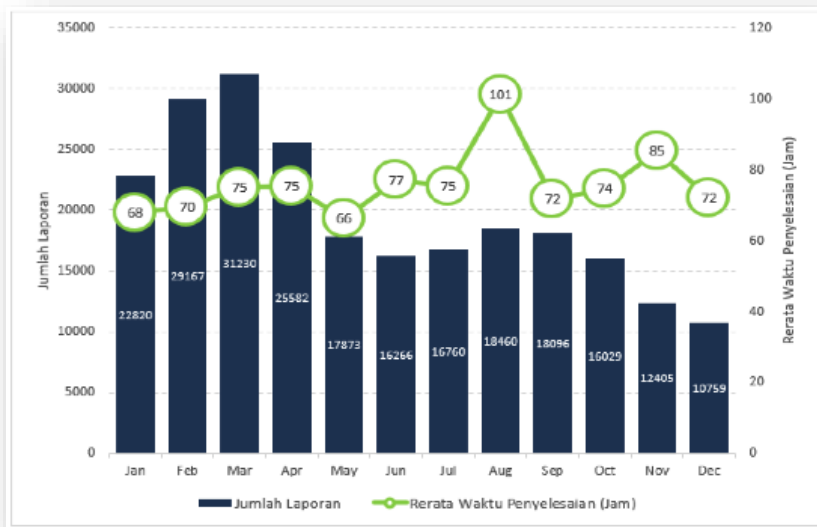
smartcity.jakarta.go.id

Efficient - Smart Street Light



- Place sensors & replace **240.886 street lights** into LEDs
- **40-50% energy use efficiency** & **37% budget efficiency**
- Centralized monitoring system, more efficiency in monitoring and maintaining street lights
- Light intensity varies to get more efficiency

Effective – Completion of Citizen Reports



BEFORE

2015: 14,852 reports, average completion time 300 hours

AFTER

2017: 235,447 reports, average completion time 76 hours

Digital Competency and Digital Literacy

Indonesia Digital Profile

JAN
2018

DIGITAL IN INDONESIA

A SNAPSHOT OF THE COUNTRY'S KEY DIGITAL STATISTICAL INDICATORS



TOTAL
POPULATION



265.4
MILLION

URBANISATION:

56%

INTERNET
USERS



132.7
MILLION

PENETRATION:

50%

ACTIVE SOCIAL
MEDIA USERS



130.0
MILLION

PENETRATION:

49%

UNIQUE
MOBILE USERS



177.9
MILLION

PENETRATION:

67%

ACTIVE MOBILE
SOCIAL USERS



120.0
MILLION

PENETRATION:

45%

we
are
social



we
are
social

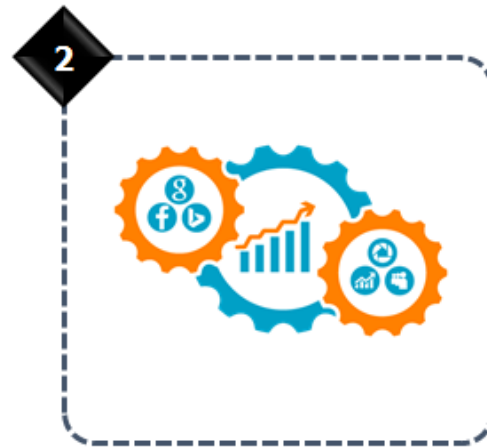


From Digital Competency to Digital Transformation



DIGITAL COMPETENCY

Understanding how the Technology is used



DIGITAL USAGE

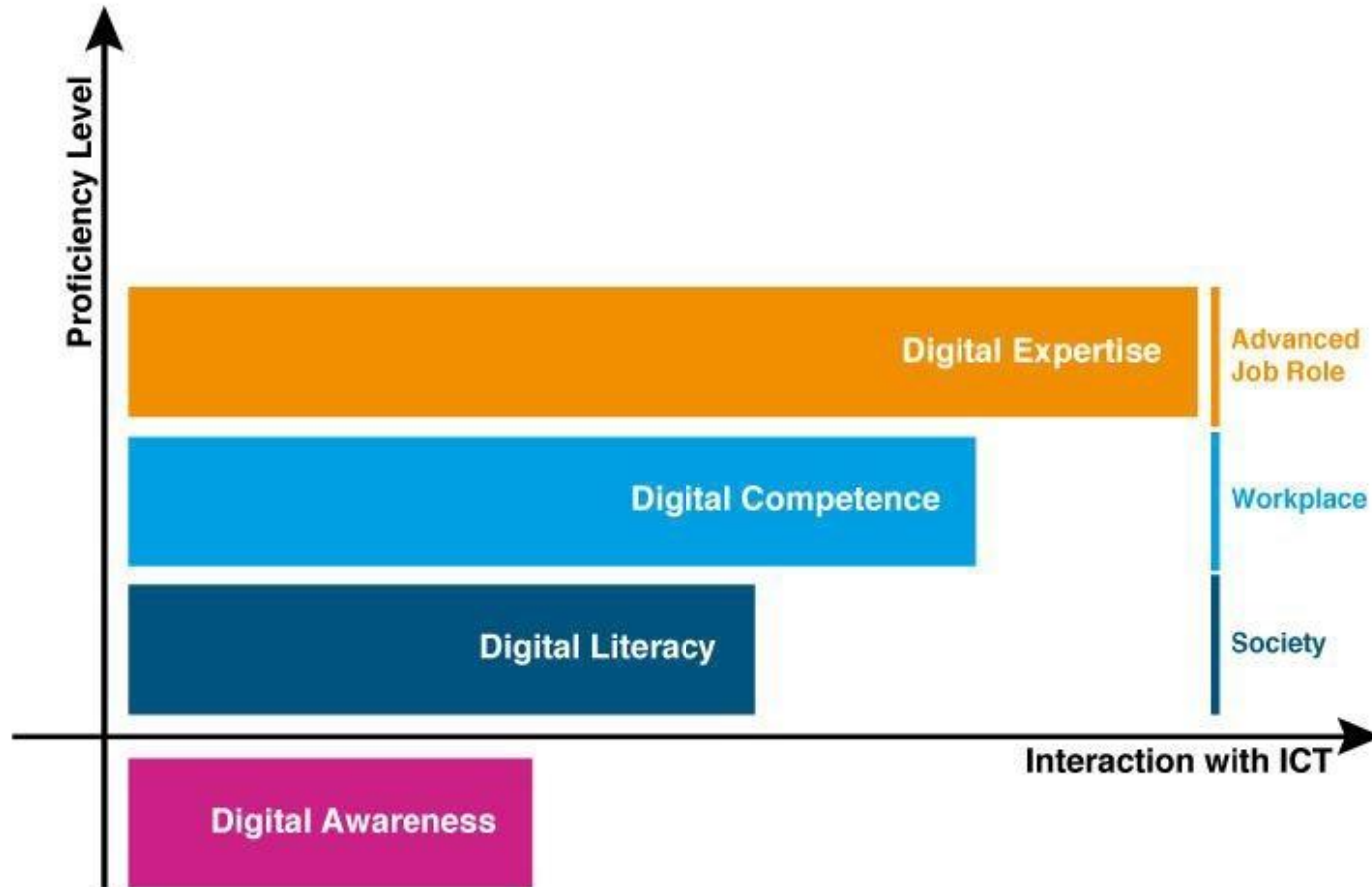
Actually using the Technology



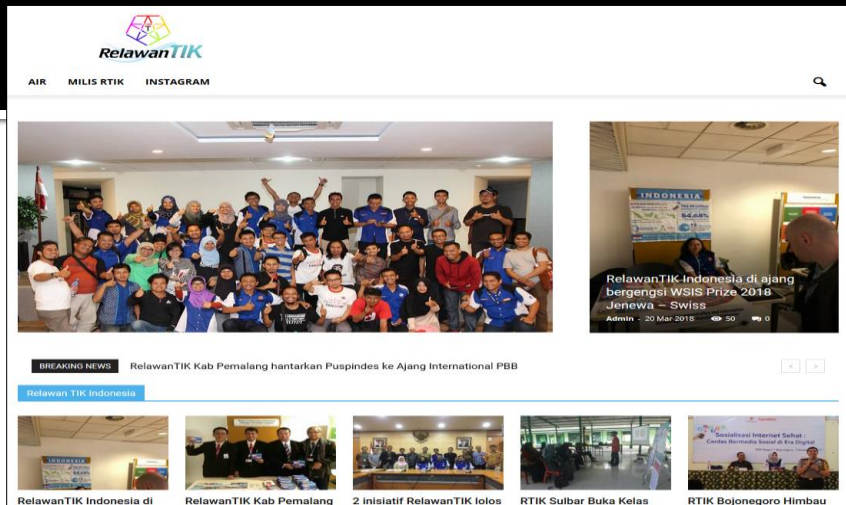
DIGITAL TRANSFORMATION

Altering Business Practices to Implement Technology Changes

Developing the Digital Literacy in the Society



Digital Literacy Education



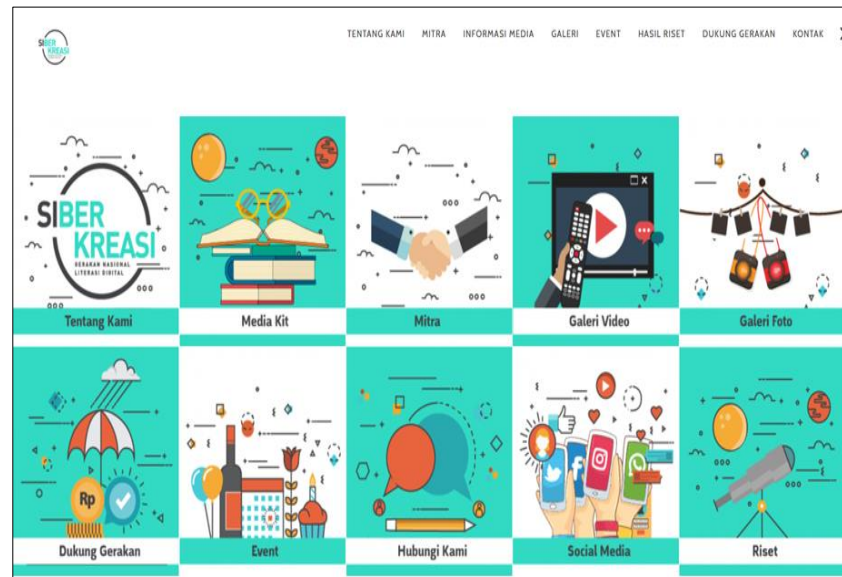
<http://relawantik.or.id>



<http://literasidigital.id>



<http://internetsehat.id>



<http://siberkreasi.id>

Digital Competence



SELAMA TAHUN
1 juta GRATIS
Idomain

+ HOSTING + PRELOAD Indonesia Go Online
CONTENT WEB + PELATIHAN <http://1juta.id>
untuk UMKM, Desa, Komunitas, Pondok Pesantren
Sekolah SMP/SMA sederajat / LPK

Central Government?

THE 13TH WASEDA – IAC

IN. 1. Ranking in Asia-Pacific Countries

GO
RE

Augu

1.

N

2	Japan	81.236	6	India	57.071
3	Russia	58.449	7	Mexico	53.441
4	Indonesia	58.032	8	China	52.865



Kementerian PPN/
Bappenas



APEKSI



KOMPAS GRAMEDIA

INDONESIA SMART CITY SUMMIT 2017 GERAKAN MENUJU 100 SMART CITY

Makassar, 22 - 23 May 2017
Visit : indonesiasmartcity.id



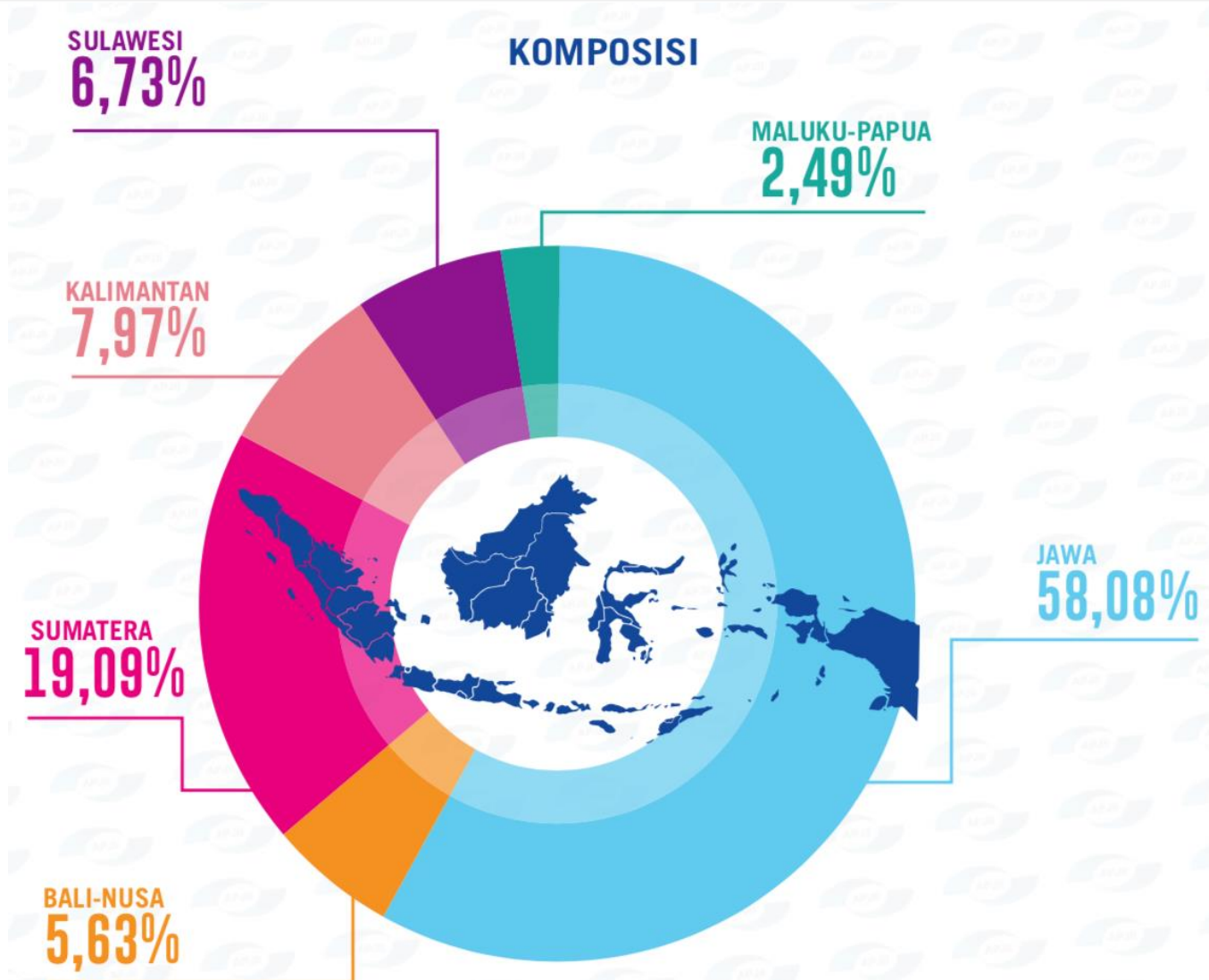
Gerakan Menuju

100
Smart City
2017

Table 7: D-Government Ranking in Big Population Countries

Digital Divide

Digital Divide



Facebook Usage Analysis

JAN
2018

FACEBOOK USAGE ANALYSIS

A CLOSER LOOK AT FACEBOOK USE, BROKEN DOWN BY MOBILE USE AND SELF-DECLARED GENDER OF USERS



TOTAL NUMBER OF
MONTHLY ACTIVE
FACEBOOK USERS



130.0
MILLION

we
are
social

ANNUAL CHANGE IN
FACEBOOK USERS
vs. JANUARY 2017



+23%



PERCENTAGE OF
FACEBOOK USERS
ACCESSING VIA MOBILE



92%

we
are
social

PERCENTAGE OF
FACEBOOK PROFILES
DECLARED AS FEMALE



44%



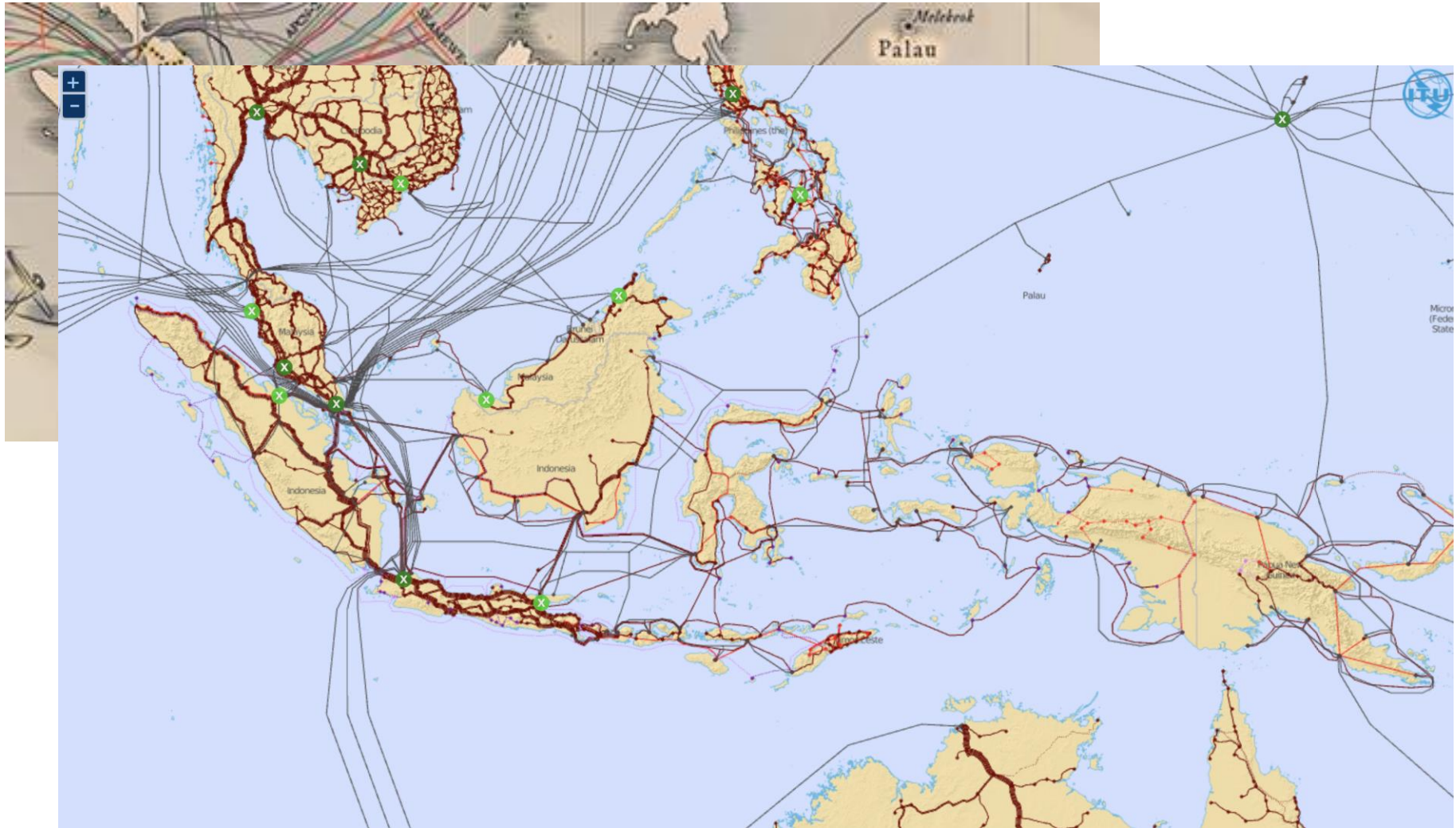
PERCENTAGE OF
FACEBOOK PROFILES
DECLARED AS MALE



56%

Infrastructure – Palapa Ring

submarinecablemap.com



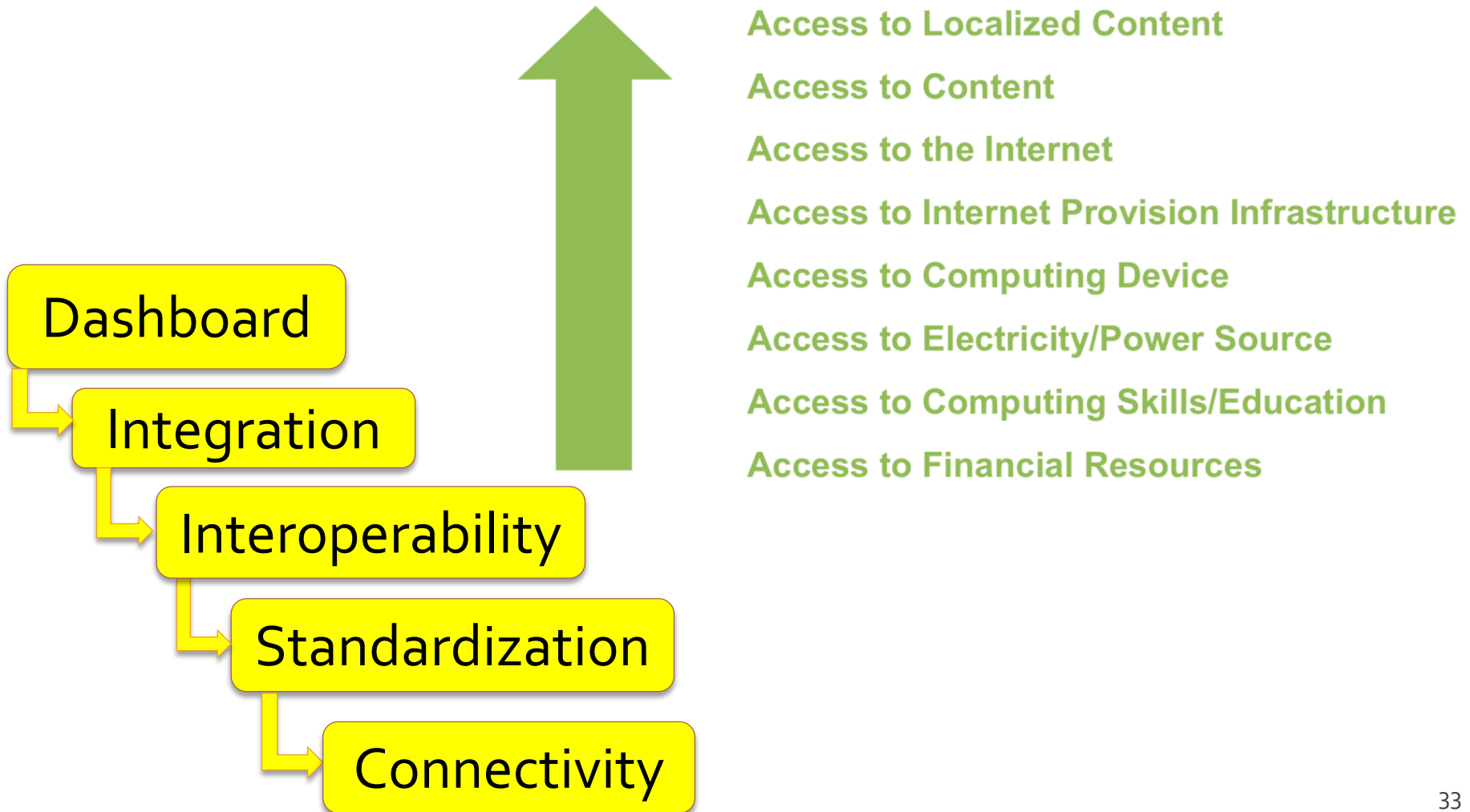
Infrastructure - Digital Divide



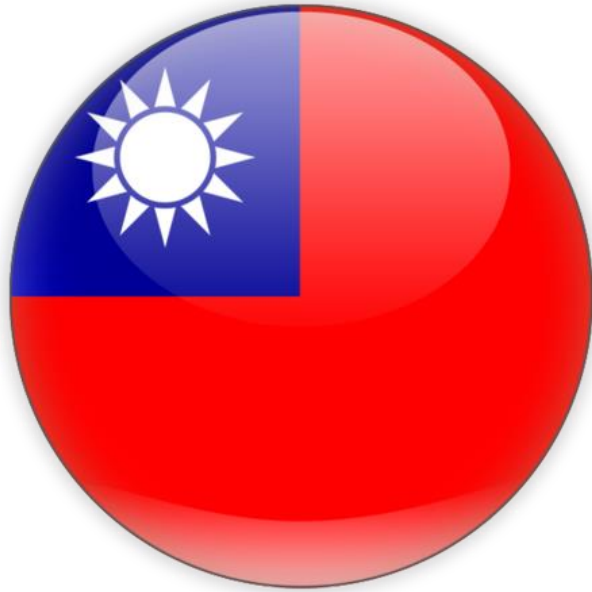
Research:

1. ICT Acceptance among Fishermans (Ruldeviyani, Prasetiawan, Suchahyo 2015)
2. ICT Acceptance among Farmers (Ruldeviyani, Rahayu, Suchahyo 2015)

ICT Access Hierarchy



谢谢 – Terima Kasih



**Together, let us make a
Better Digital Cities**

References

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- Global Connectivity Index 2017, Huawei, 2017
- The World in 2050 – Will the shift in global economic power continue?, PwC, 2015
- The 13th Waseda – IAC International Digital Government Rankings 2017 Report, 2017.
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- Internetworldstats.com
- Submarinecablemap.com