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ADB



# 9th International Skills Forum Reimagining Education and Skills Development for a the New Normal

23–27 August 2021

# Digital Access in Education: Lessons Learned from Indonesia



**Prof. Yudho Giri Sucahyo, Ph.D**

Faculty of Computer Science, Universitas Indonesia

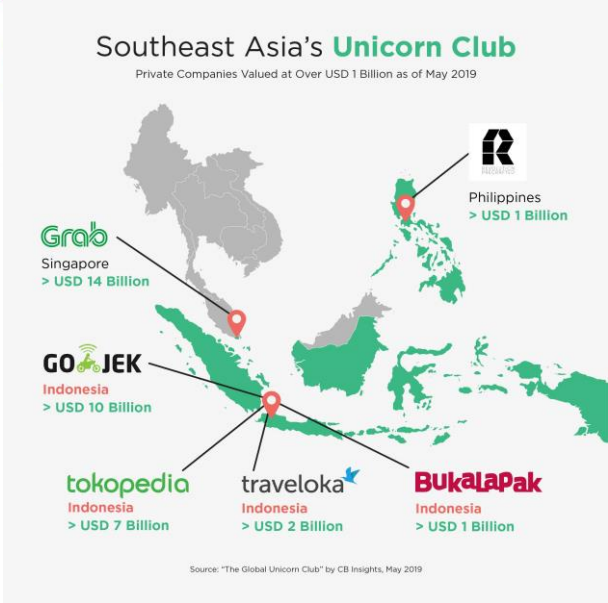
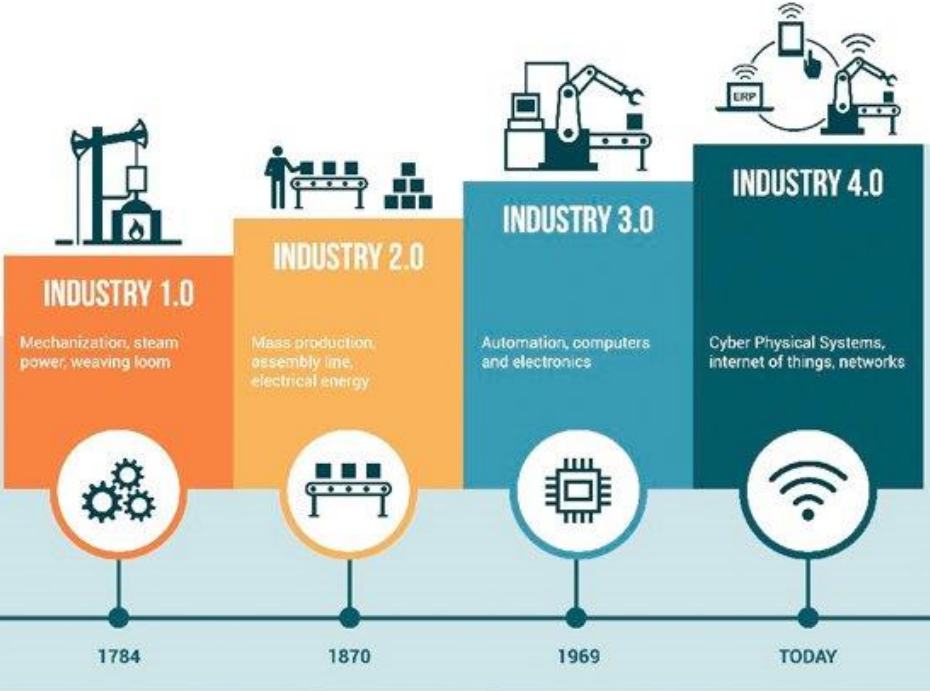
Chairman of PANDI (.id Registry)

yudho@cs.ui.ac.id

# Digital Skills



# Industry 4.0 and Society 5.0



# President's Directive

## Jadikan Pandemi Covid-19 Momentum Percepatan Transformasi Digital



“Segera lakukan percepatan perluasan akses dan peningkatan infrastruktur digital. Percepat penyediaan layanan internet di 12.500 desa/ kelurahan serta di titik-titik layanan publik.”

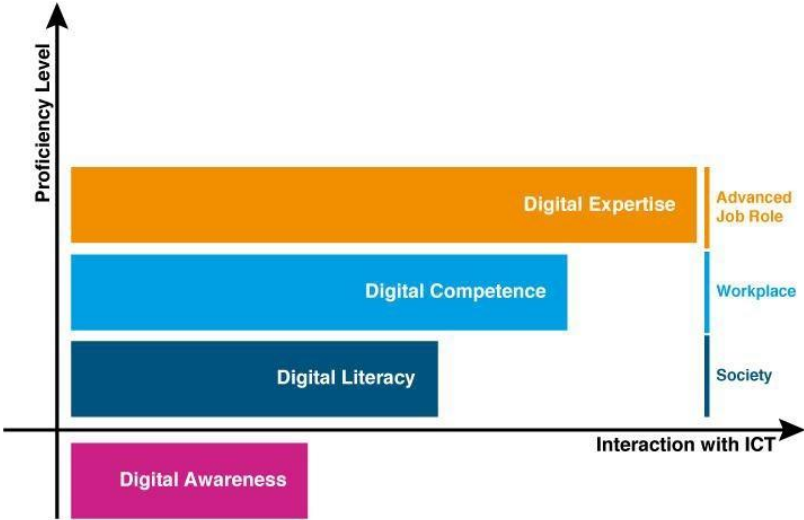
*President Jokowi*  
Senin, 3 Agustus 2020

### 5 LANGKAH PERCEPAT TRANSFORMASI DIGITAL

1. “Segera lakukan percepatan perluasan akses dan peningkatan infrastruktur digital dan penyediaan layanan internet.”
2. “Persiapkan roadmap transformasi digital di sektor-sektor strategis. Baik di sektor pemerintahan, layanan publik, bantuan sosial, pendidikan, kesehatan, perdagangan, industri, maupun penyiaran.”
3. “Percepat integrasi pusat data nasional.”
4. “Siapkan kebutuhan SDM talenta digital.”
5. “Yang berkaitan dengan regulasi, skema pendanaan dan pembiayaan segera disiapkan secepat-cepatnya.”



*President Jokowi*  
Senin, 3 Agustus 2020

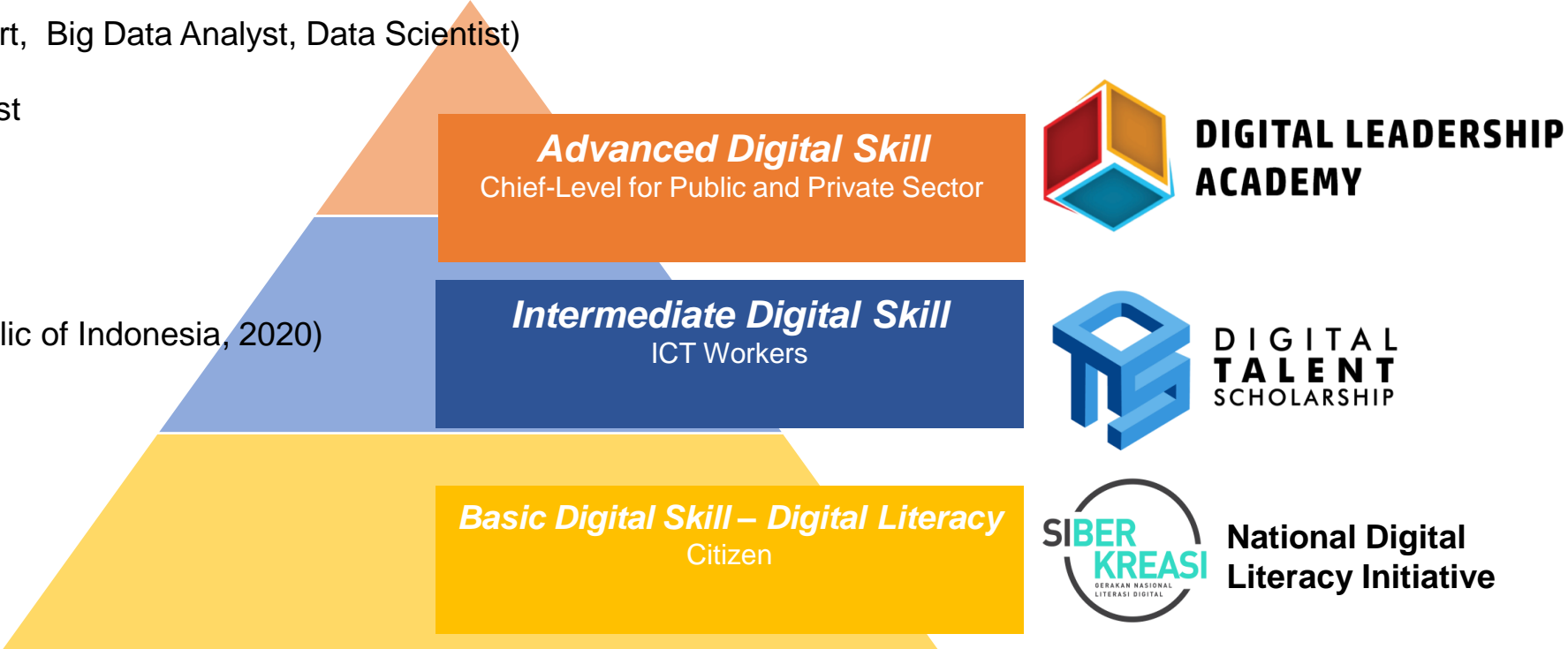


# Digital Competencies

## 8 Most Needed Hardskills in Indonesia

- 35.000 Full Stack Programmer
- 30.000 Business intelligence (AI Expert, Big Data Analyst, Data Scientist)
- 13.000 Network Engineer
- 11.000 Storage Management Specialist
- 8.000 Internet of Things Specialist
- 6.000 Enterprise Architect
- 5.100 Cloud Computing Specialist
- 4.500 Graphic Designer

(Source: Ministry of ICT Republic of Indonesia, 2020)



# Indonesian Online Education Startups



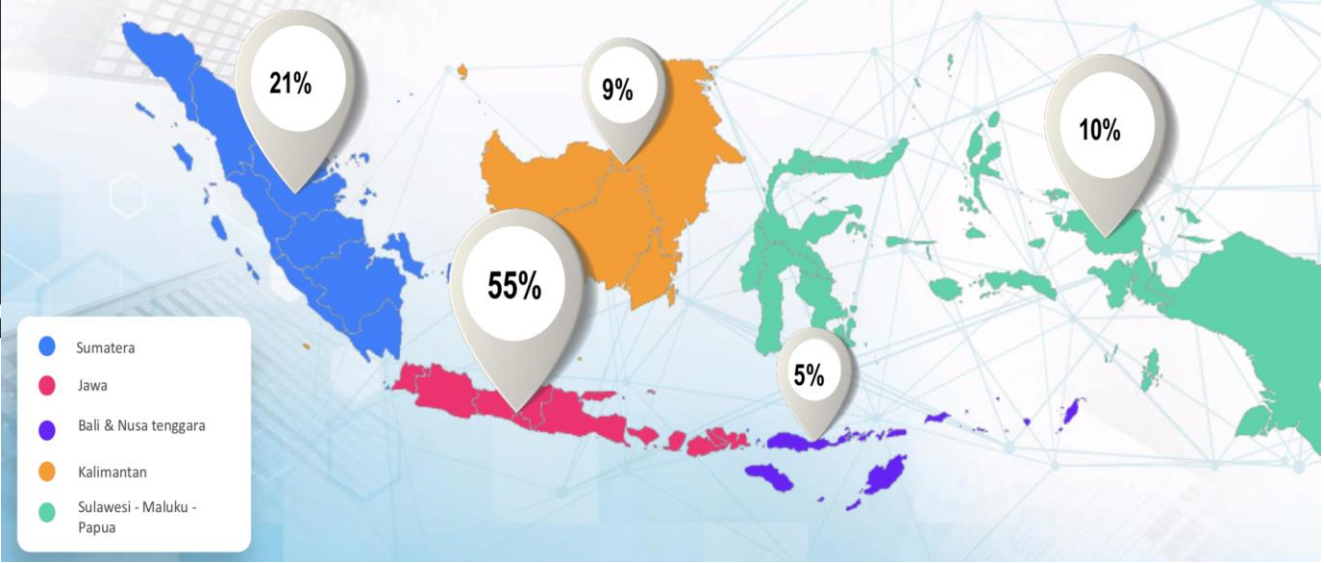
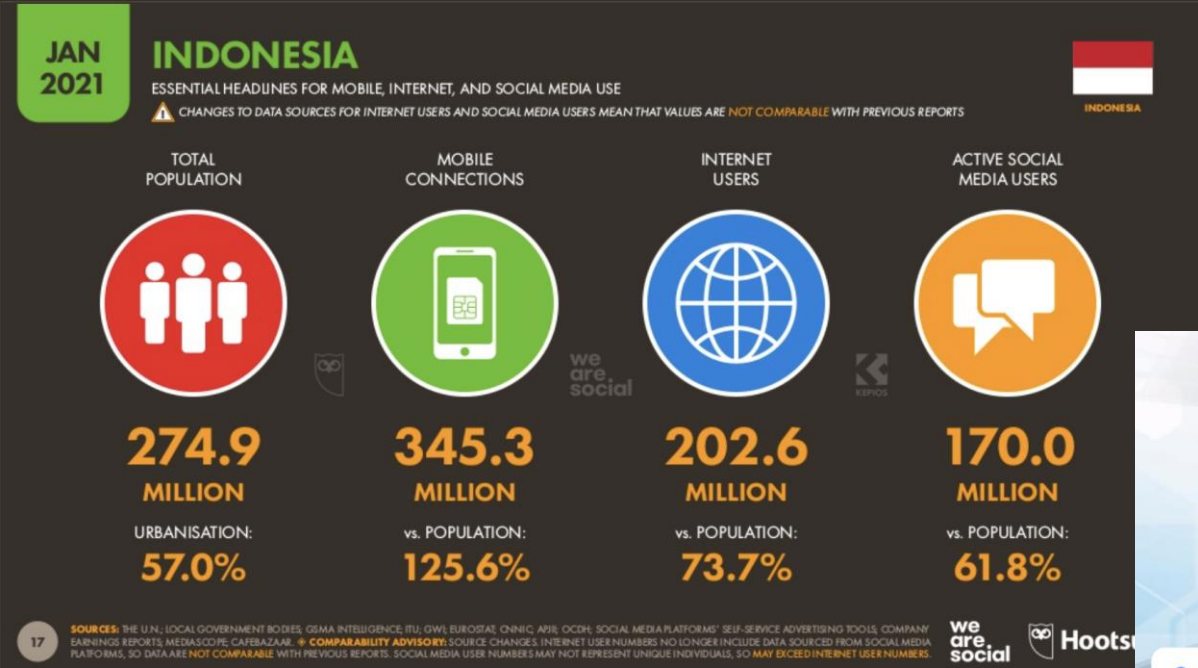
Source: Pangerapan, S.A, Transformasi Digital Sektor Pendidikan, Kominfo, 2020

# Infrastructure



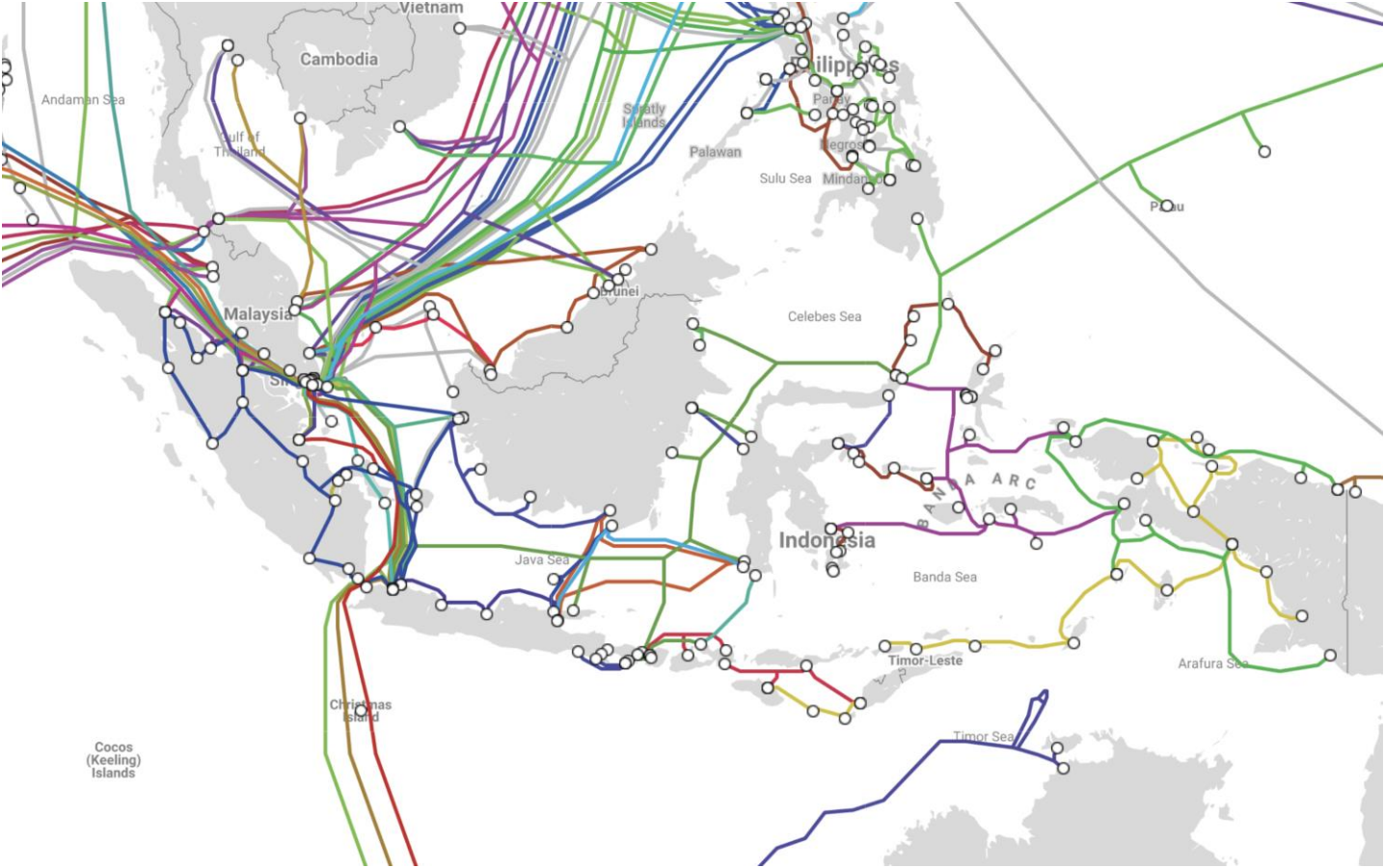


# Indonesia Digital Profile



Source: APJII Internet Survey, 2019

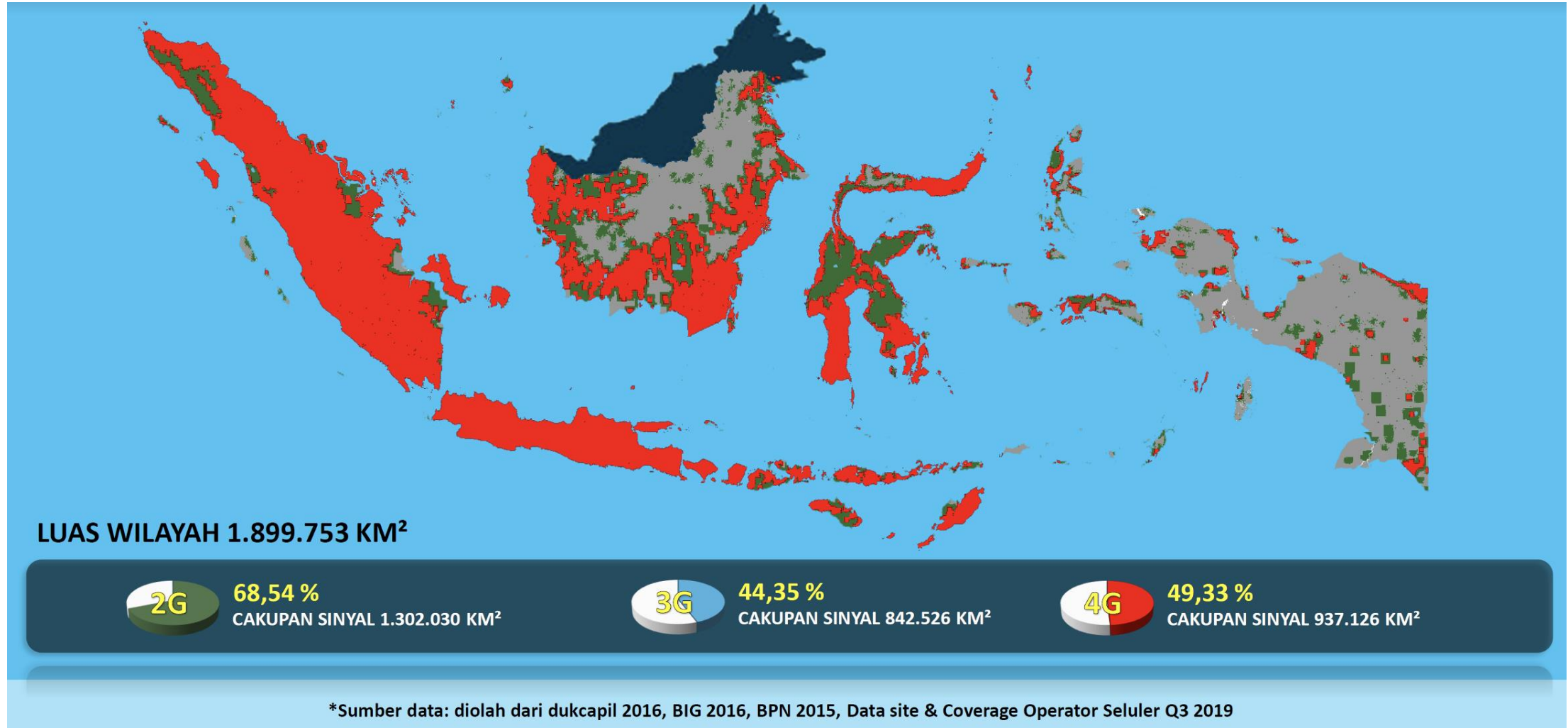
# Indonesia Internet Backbone – PALAPA RING



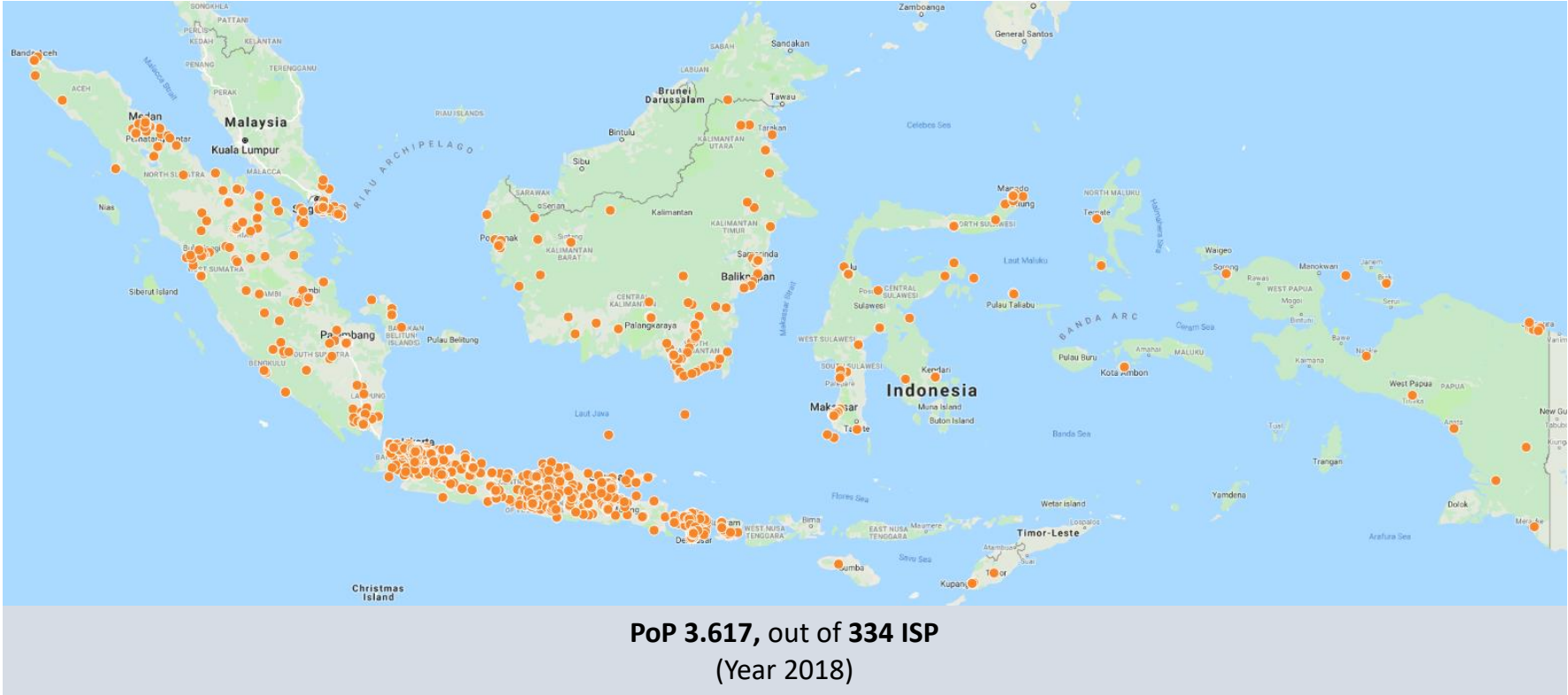
Source: submarinecablemap.com



# Signal Coverage



# PoP (Point of Presence) - ISP



# Access for Villages, via Satellite

**Live Streaming**  
PANDI ID Registry

**Webinar: Tol Langit Desa**

## Menuju **Desa Merdeka Akses Internet** di Hari Kebangkitan Teknologi Nasional

  
**Johnny C. Plate**  
Menteri Kominfo

  
**Syahrul Yasin Limpo**  
Menteri Pertanian

  
**Abdul Halim Iskandar**  
Menteri Desa PDT & Transmigrasi

  
**Yudho Ciri Suchyo**  
Ketua PANDI

  
**Hammam Riza**  
Ketua BPPT

  
**Laksana Tri Handoko**  
Ketua LIPI

**Senin, 10 Agustus 2020**  
**Pukul 10.00 WIB s/d Selesai**

**Register Now: [s.id/maudomaingratis](https://s.id/maudomaingratis)**  
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## Desa Berinovasi

tahun 2020

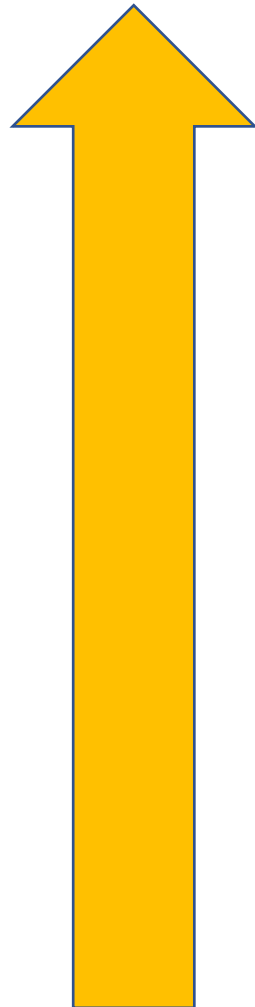
Kerja sama:



## Lessons Learned from Indonesia

- Limited Internet Access
- Availability of smartphones/laptops
- Limited Internet Quota – related to Funding
- Limited Direct Communication between Teacher and Students
- Limited competencies of parents to help their children (homework etc.)
- Working parents – Limited time
- Limited Digital Technology Competencies of parents and teachers

# ICT Access Hierarchy



**Access to Local Content**

**Access to Content**

**Access to Internet**

**Access to Internet Infrastructure**

**Access to Computer**

**Access to Electricity**

**Access to Education**

**Access to Funding**

Thank you

