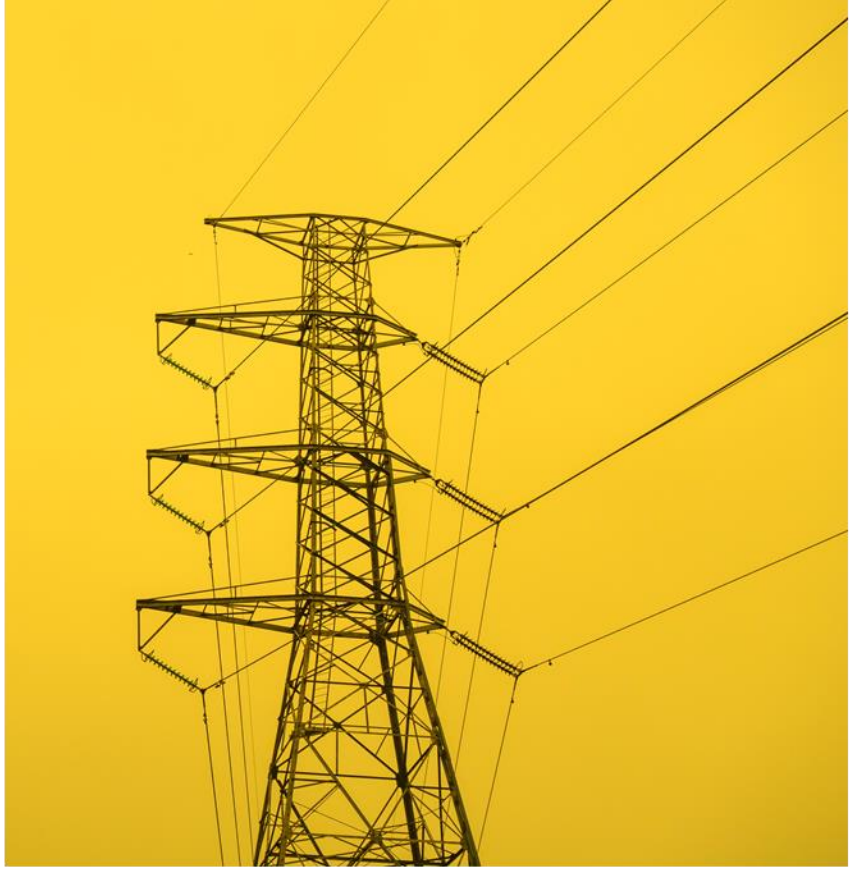

Erasmus Days 2020

Electrical Engineering Department, Faculty of Engineering
Atma Jaya Catholic University of Indonesia

Budi Kartadinata; Annisa Sarah

budi.kartadinata@atmajaya.ac.id; annisa.sarah@atmajaya.ac.id

With the support of the Erasmus+ Programme of the European Union

Introduction to Indonesia

Indonesia is the largest archipelago and the fourth populous country in the world

- Population: 273,523,615
- Area: 1,919,440 km² (Land: 1,826,440 km²; Water: 93,000 km²)
- Electrification Rate: national 98% (2018) → in 2013 was only 80%
- Installed Capacity 64.924,80 MW
- Primary Resource: 81,3% non-renewable (from Steam, Combined Cycle, Gas, Diesel, etc), the rest of 18.7% is renewable (Hydro, Wind Power, Bio-gas, Geothermal, Solar, etc)
- Renewable energy potential: Hydro PP (supporting 8.27% of energy nationally - 2018)

- Will expect huge increase of the energy demand to support the Industrial Revolution (Industry 4.0), needs to transform to some renewable option for sustainability

3

- the distribution is not equal, extreme differences in geographical environment
- Lots of players, different protocols, huge challenge in developing national smart grid system

1

2

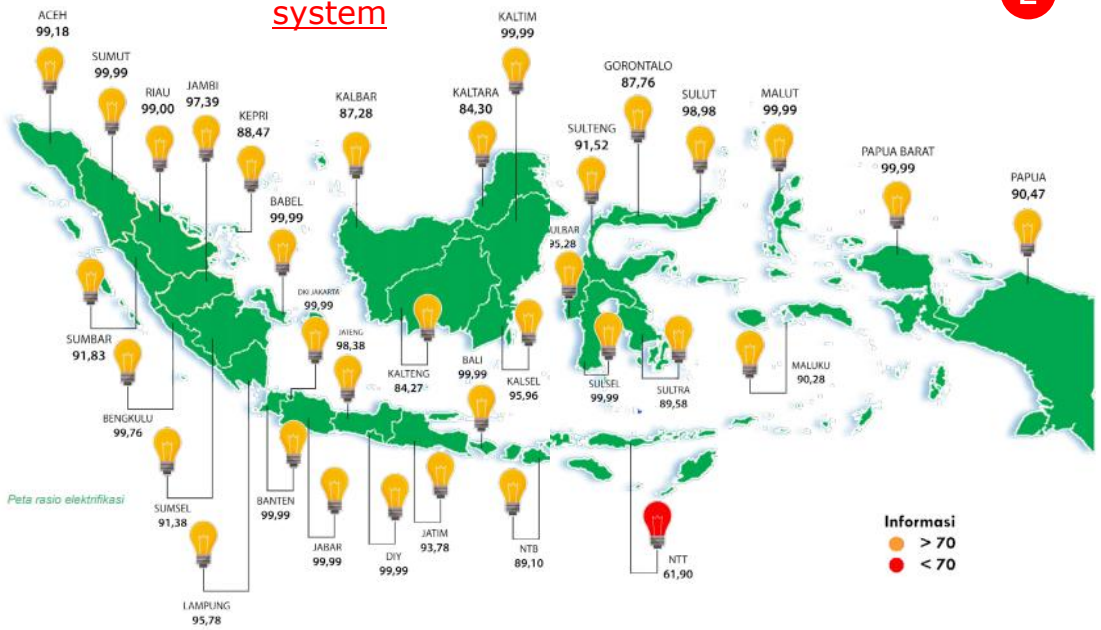

Figure 1. Electrification Rate in different cities
Source: ESDM

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Proposed Solution for eACCESS Project x Unika Atma Jaya:

Indonesia needs quickly transform the power sector with young generation of power engineers oriented on non-conventional solutions

Unika Atma Jaya modernizes the existing undergraduate curriculum in electrical engineering with new subjects dealing with smart power systems, smart grids, power economics. We also upgrade our laboratory facilities.

Benefit for Unika Atma Jaya, Consortium, and Indonesia:

1. **Students will increase their employability** → become familiar with theory and practice of modern solutions for the power industry, have access to modern, well-equipped laboratories.
2. **Academic staff may exchange experiences and develop exciting teaching platform**
3. **Support Industry collaboration** → discussion to a cheap, safe, sustainable solution for future power industries

Unika Atma Jaya year-1 Progress:

Course Development (Undergraduate Programme):

Develop (New Course)	Modernize (Existing Course)
Management of Electric Power Distribution	Renewable Energy
Introduction to Electric Power Distribution	Power Electronics
	SCADA
	Programmable Logic Controller

Lab Modernization:

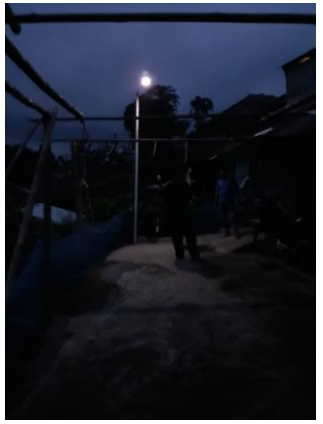
Modernize Electrical Energy Conversion Laboratory with computer simulation laboratory to running exercises in Smart-Grid System

Industry Collaboration:

Discussion, Student Internship
Partner: PT Guna Elektro, Indonesia

Social Contribution:

Installing Solar Street Light (2019) in Ponggang Village, West Java



What's next?

- ✓ Modernize the lab, starting in early 2021
- ✓ Will start offering eACCESS related course in late 2021
- ✓ Held more seminar, training, and discussions with Industry

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Thank You

Please contact us if you are interested to collaborate!

Electrical Engineering Department,
Faculty of Engineering
Universitas Katolik Indonesia Atma Jaya

Annisa.sarah@atmajaya.ac.id

Annisa.sarah@atmajaya.ac.id

Eaccess.atmajaya.ac.id