

Smart Meter ,

&

AMR/AMI

Development in Myanmar

by

Myint Zaw

Chairman

Electrical & Electronic Association, Myanmar

2019 September 4, Yangon

Myanmar Energy and Its Safety

- Policy Maker
- Policy Consistency
- Law and Enforcement
- Standard
- Regulatory Regime
- Business Model
- Private Participation
- Across Sectors and Region coverage



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**Silencing Metering
for Bit is Periodic**



Current Meter Installation

Current Metering Myanmar



Made in Myanmar in 2003- First Smart Meter



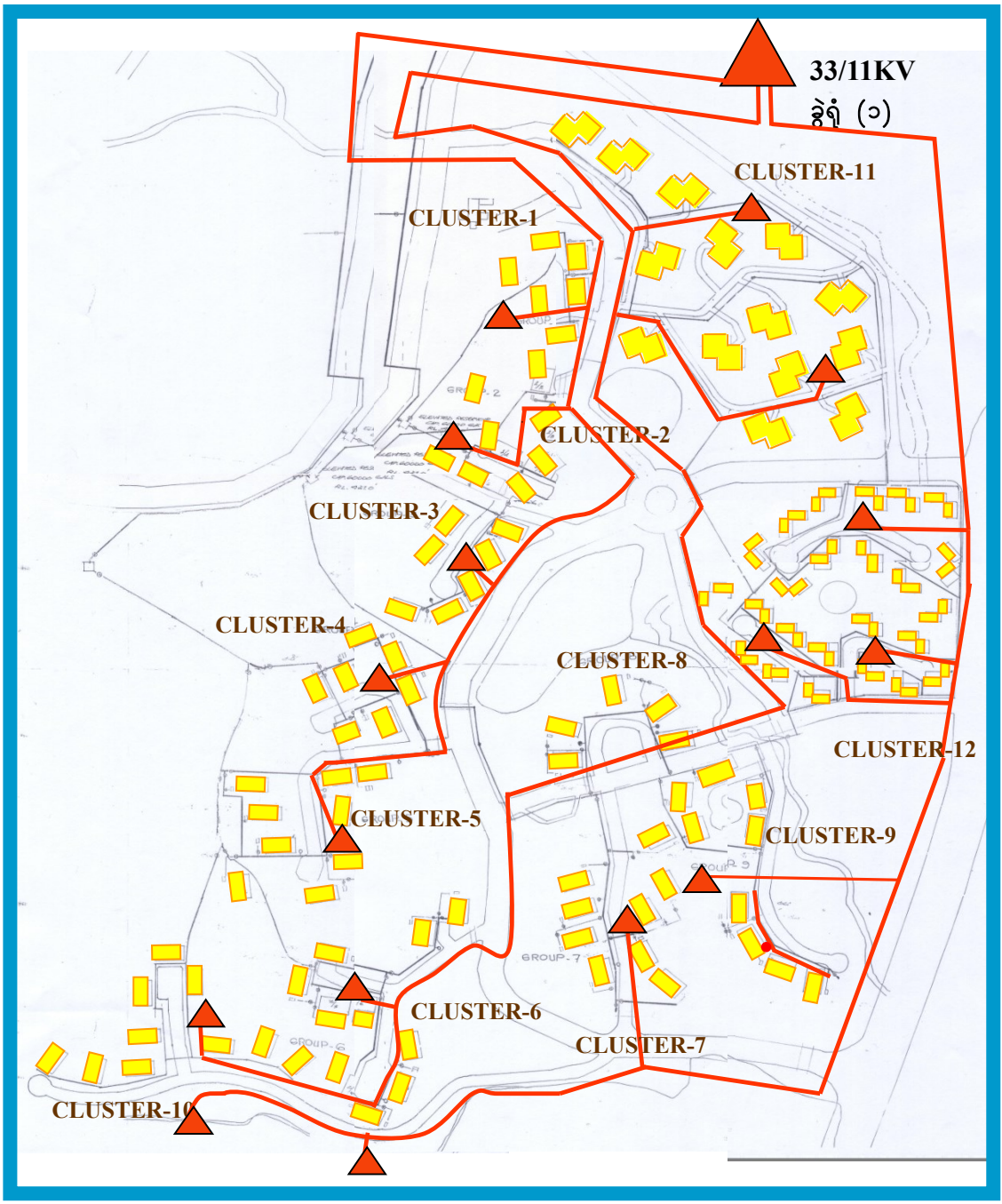
Smart Meter & AMR

Pilot Testing in **Nay Pyi Taw**

with

Power Line Carrier Technology

(2006)

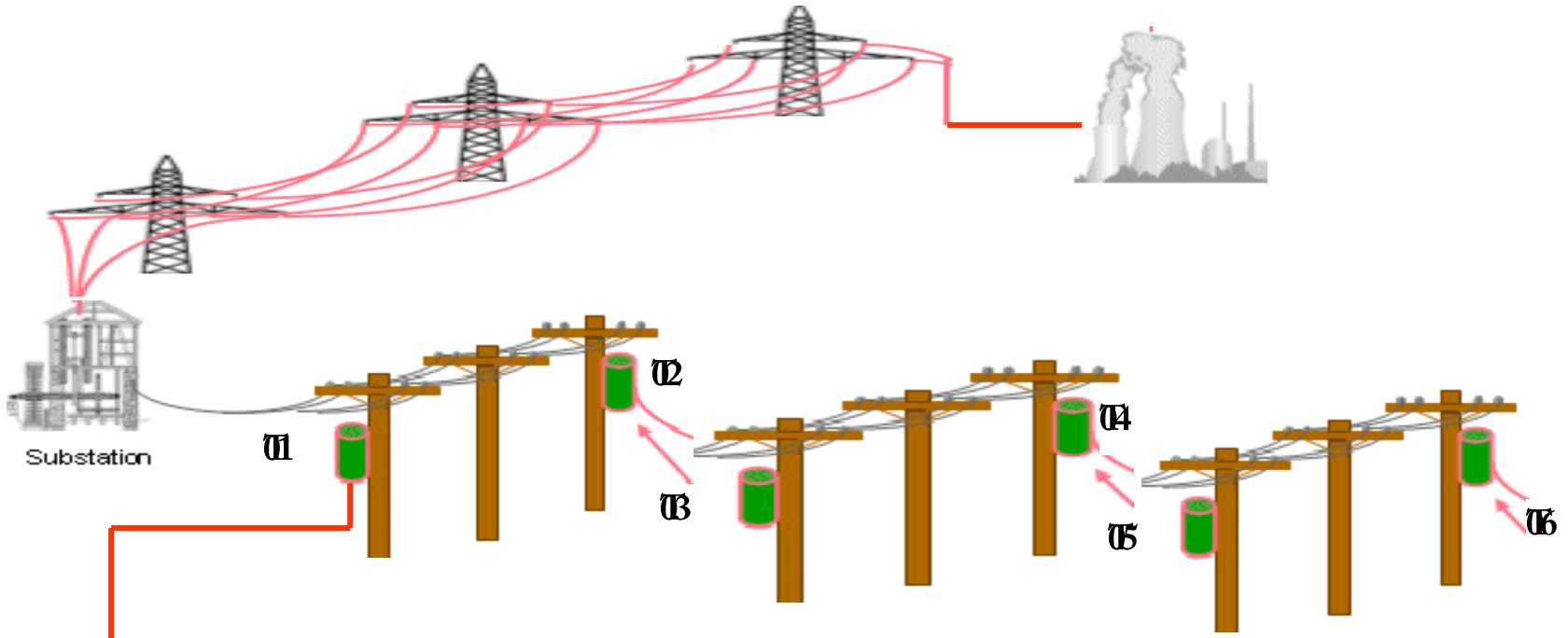


My Pyi Taw

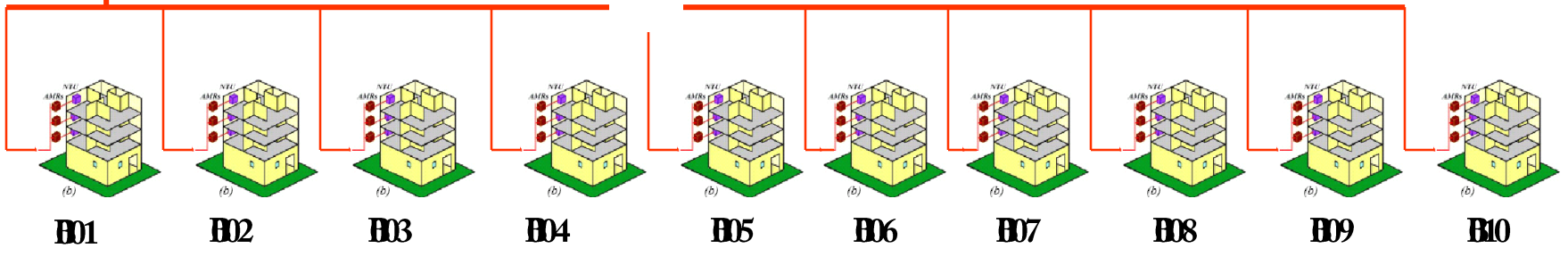
4 Unit x 4 Stories

(၈၀) ကန့်သတ်ပြီး

ဤသဘာဝ ၉ ရပ်ကန့်သတ်



2B



PLC- AMR Meter Installation



PLC - AMR Office



Consumption Graph

Transformer-03

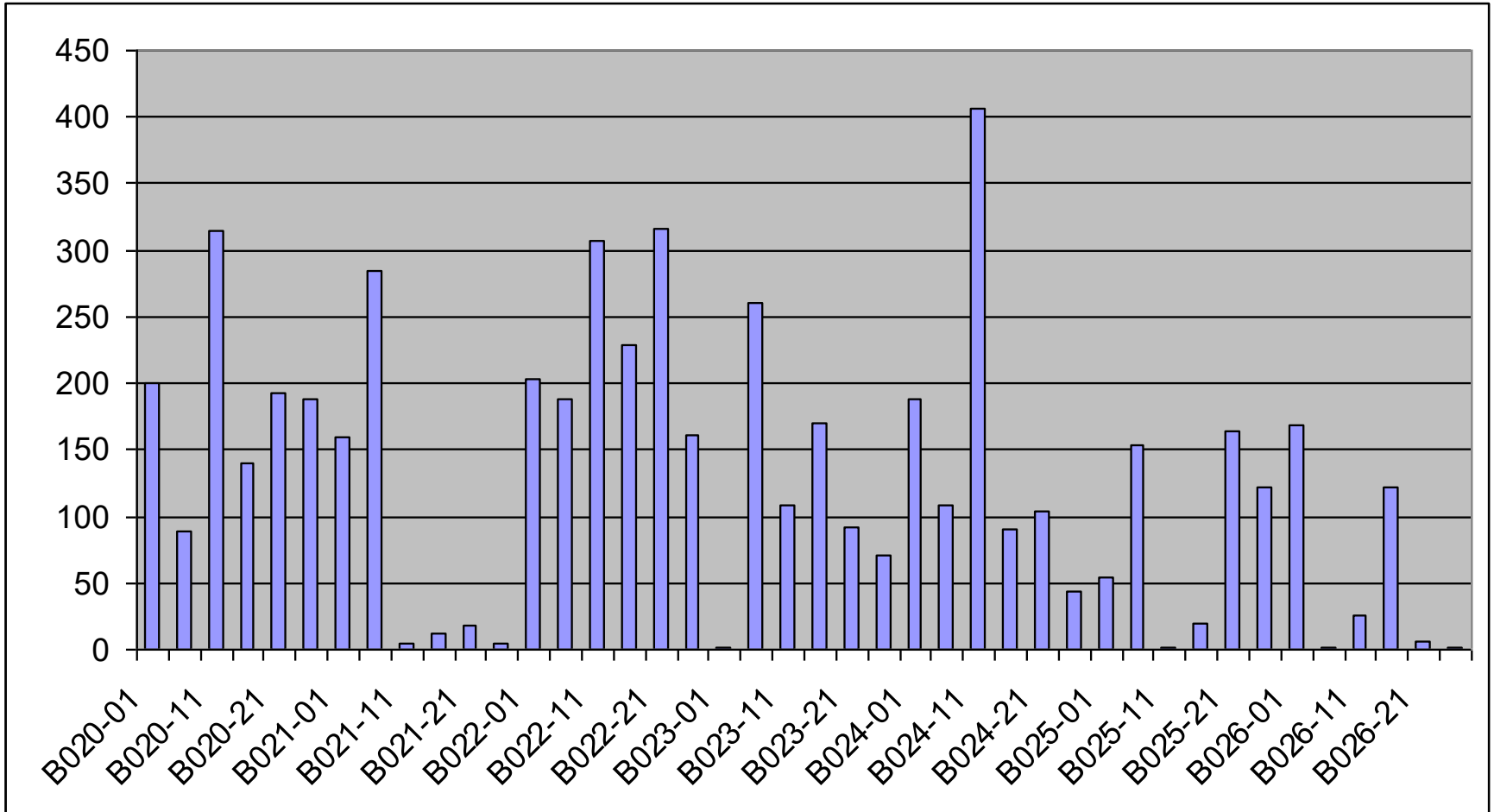
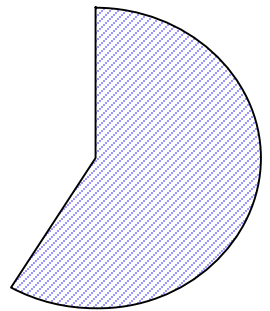
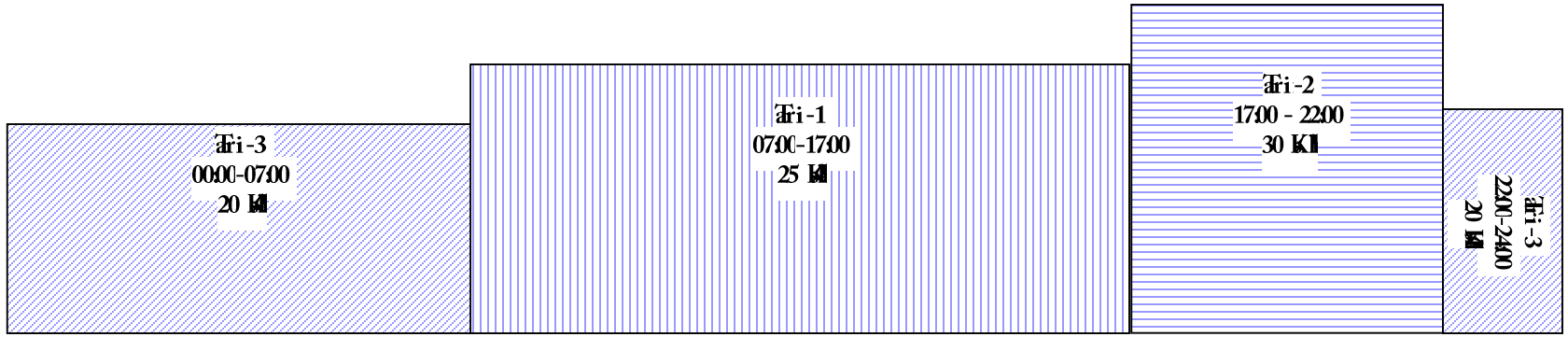
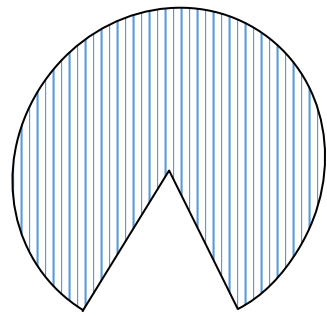


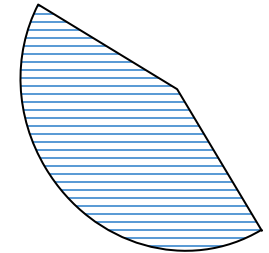
Diagram of the (1)



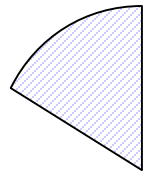
00:00-07:00
Fri-3



07:00-17:00
Fri-1

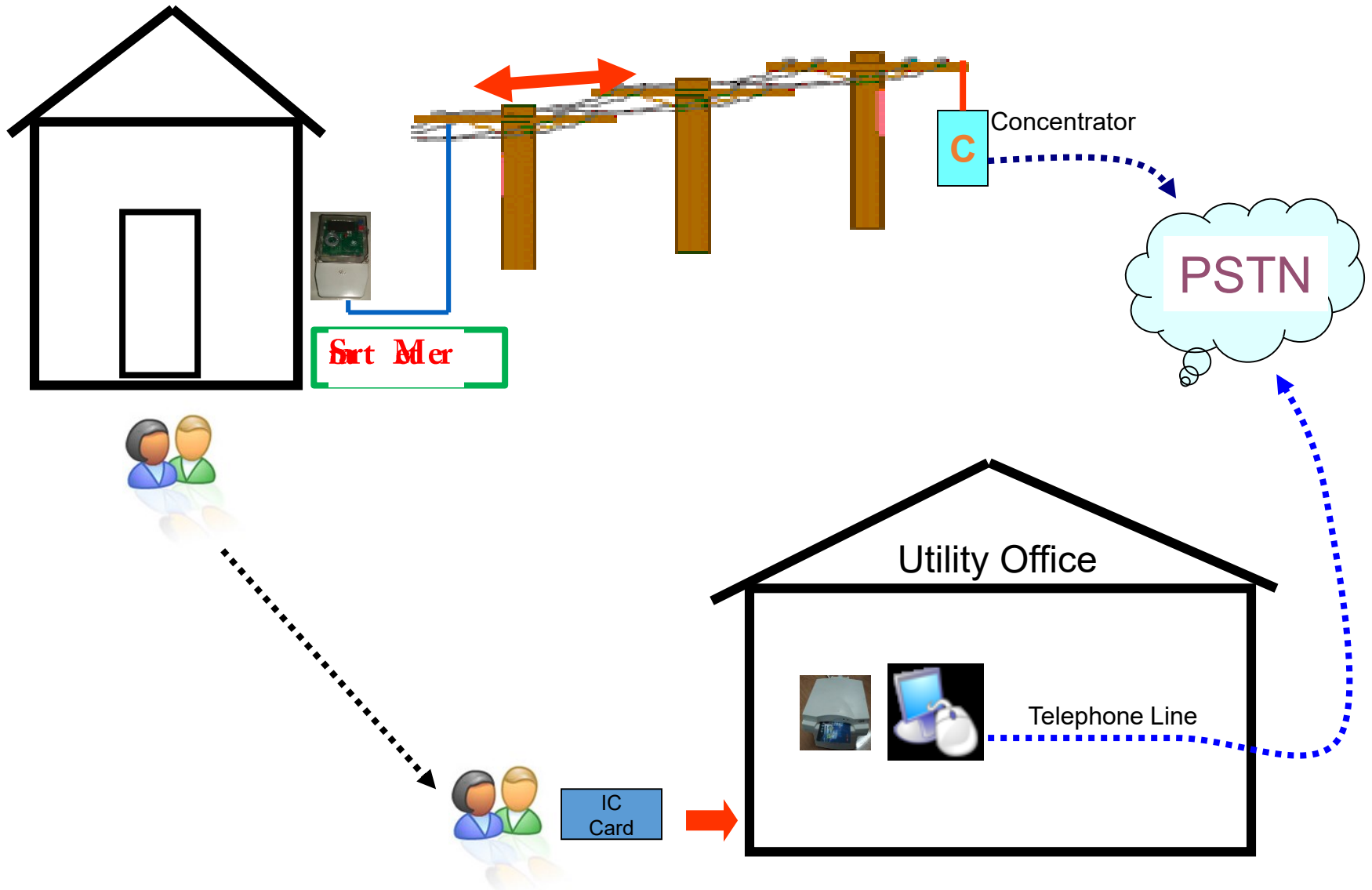


17:00-22:00
Fri-2



22:00-24:00
Fri-3

Network with PLC & PSTN

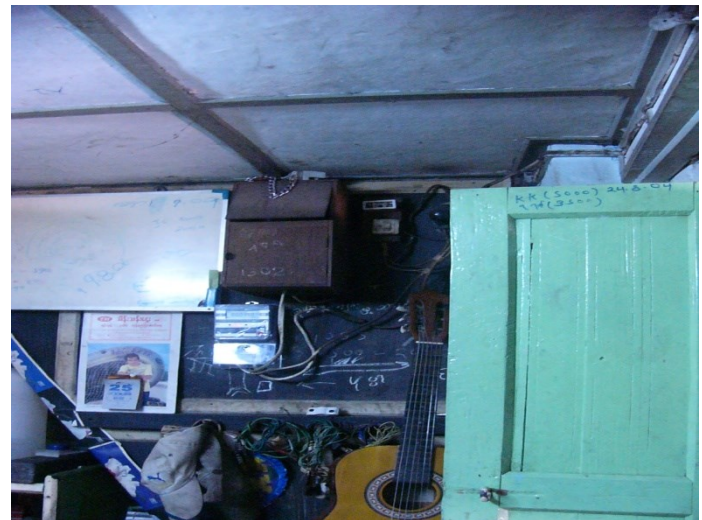


AMR Pilot Test in Yangon (2006)

Old Grid



Meter Installation

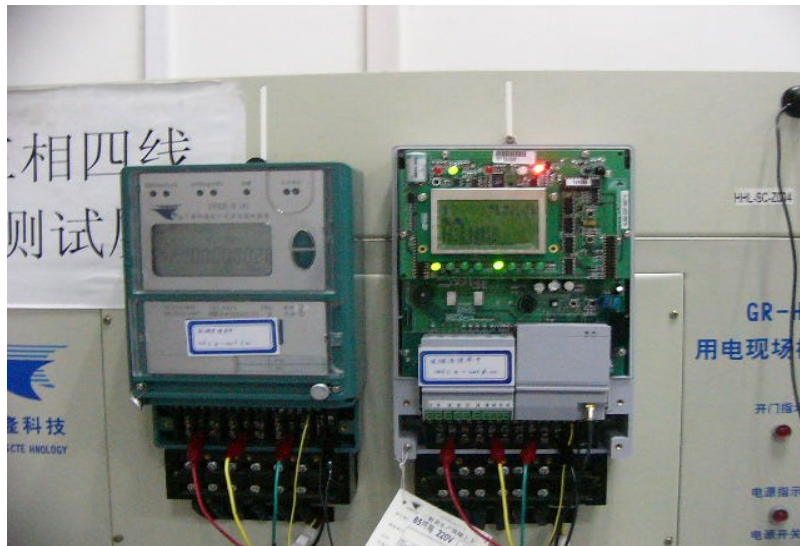


Service Cable need solution



Regional Study Tour

Test Lab, Hualong, Hangzhou University



New Meter Installation at Zibo City, China



Smart Meter & AMR/AMI

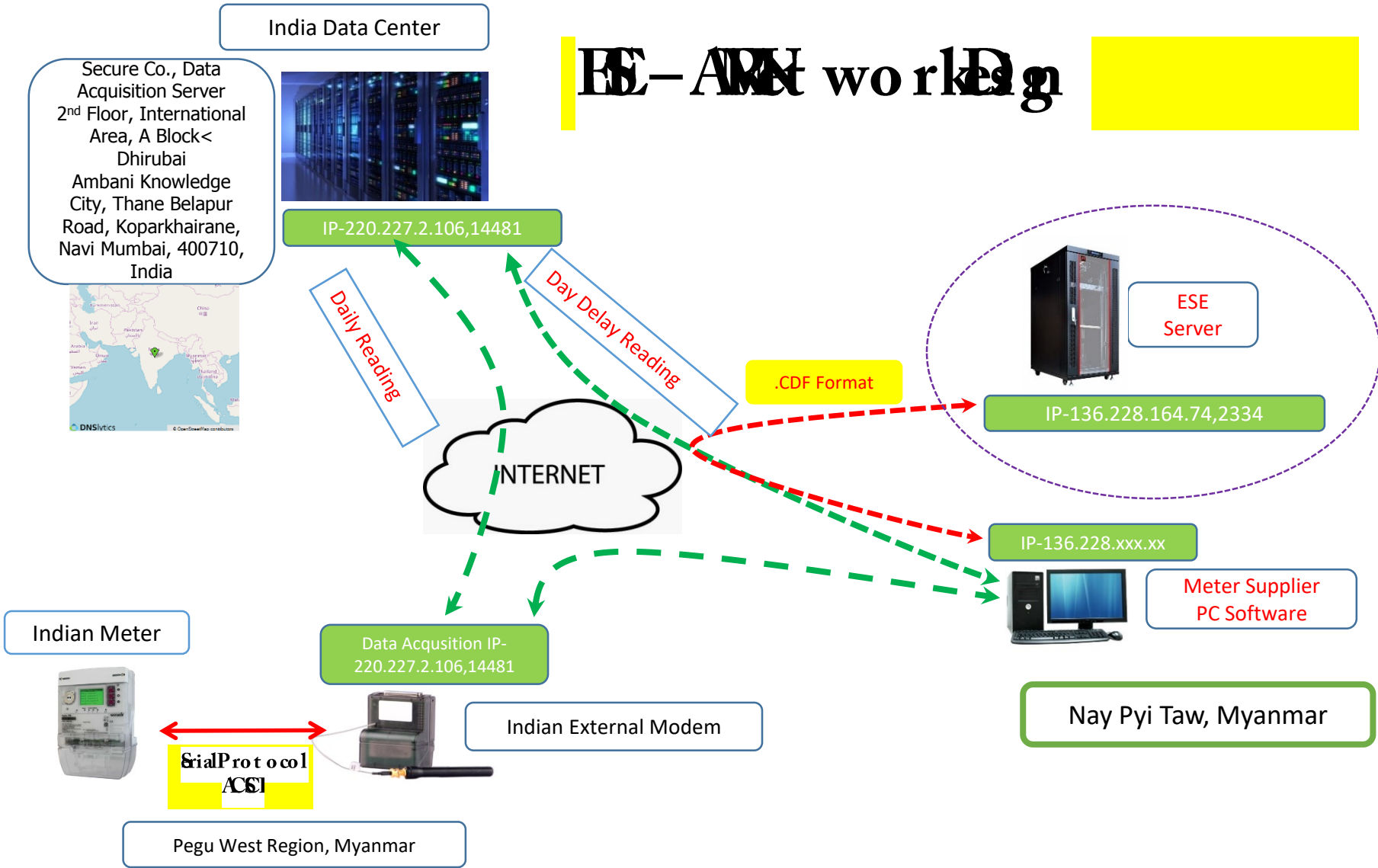
Pilot Testing in **Nay Pyi Taw**

with

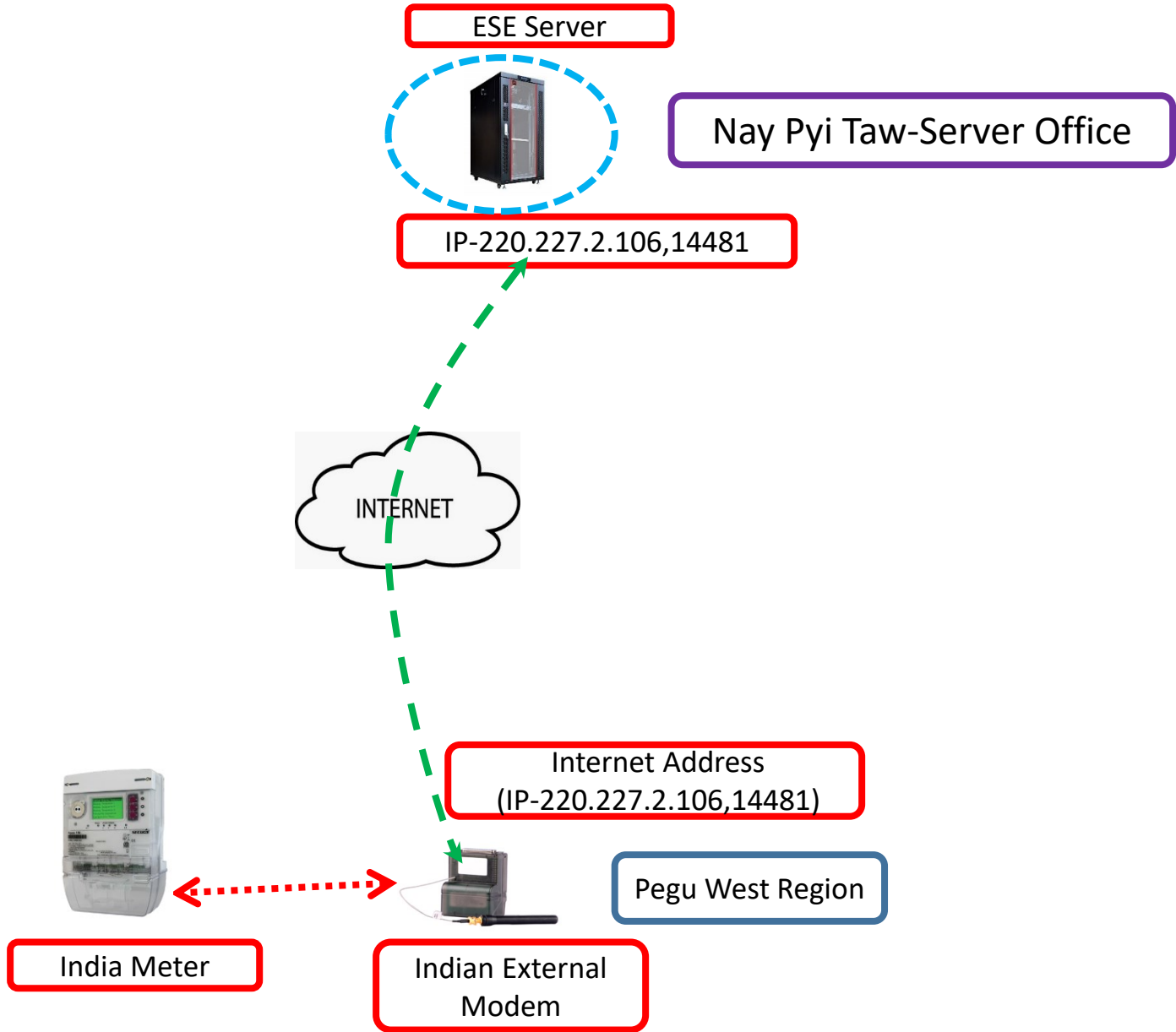
GPRS Technology

(2018-2019)

ESE-AMN working

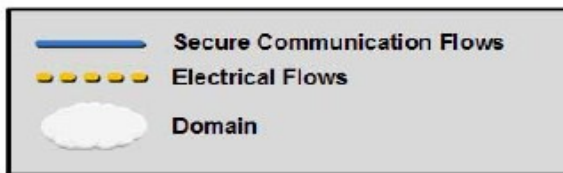
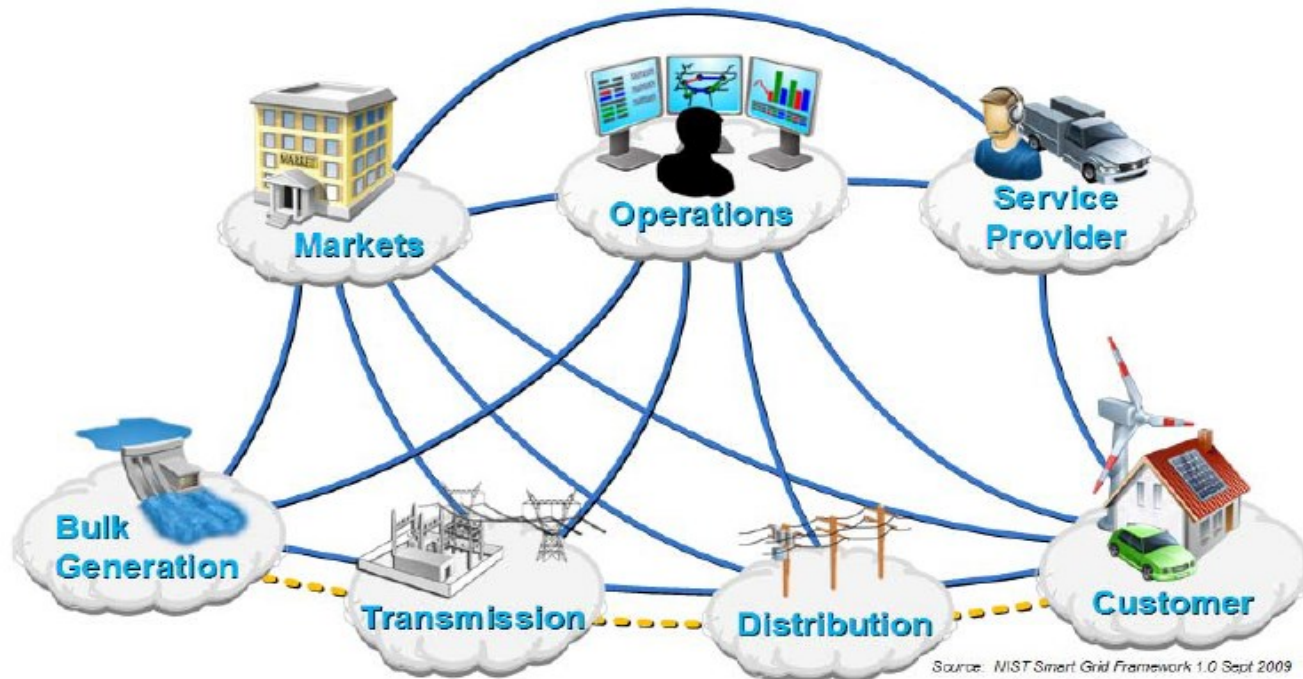


Current Design



International Up to date Model

Conceptual Model



Comprehensive Model for Technology and Business Interoperability

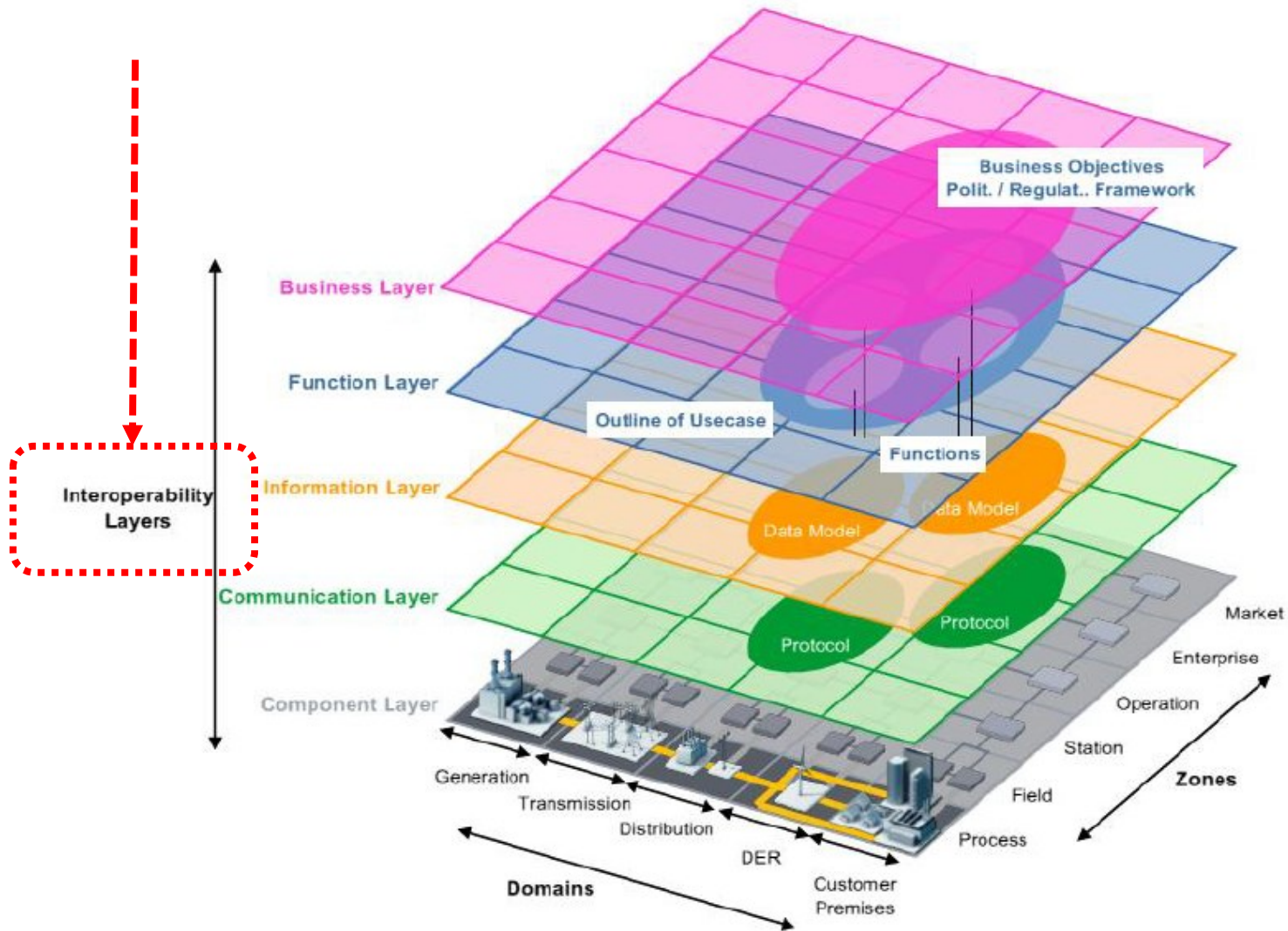


FIGURE 3: LAYERS, DOMAINS AND ZONES DEFINED BY SGAM (TAKEN FROM [17])



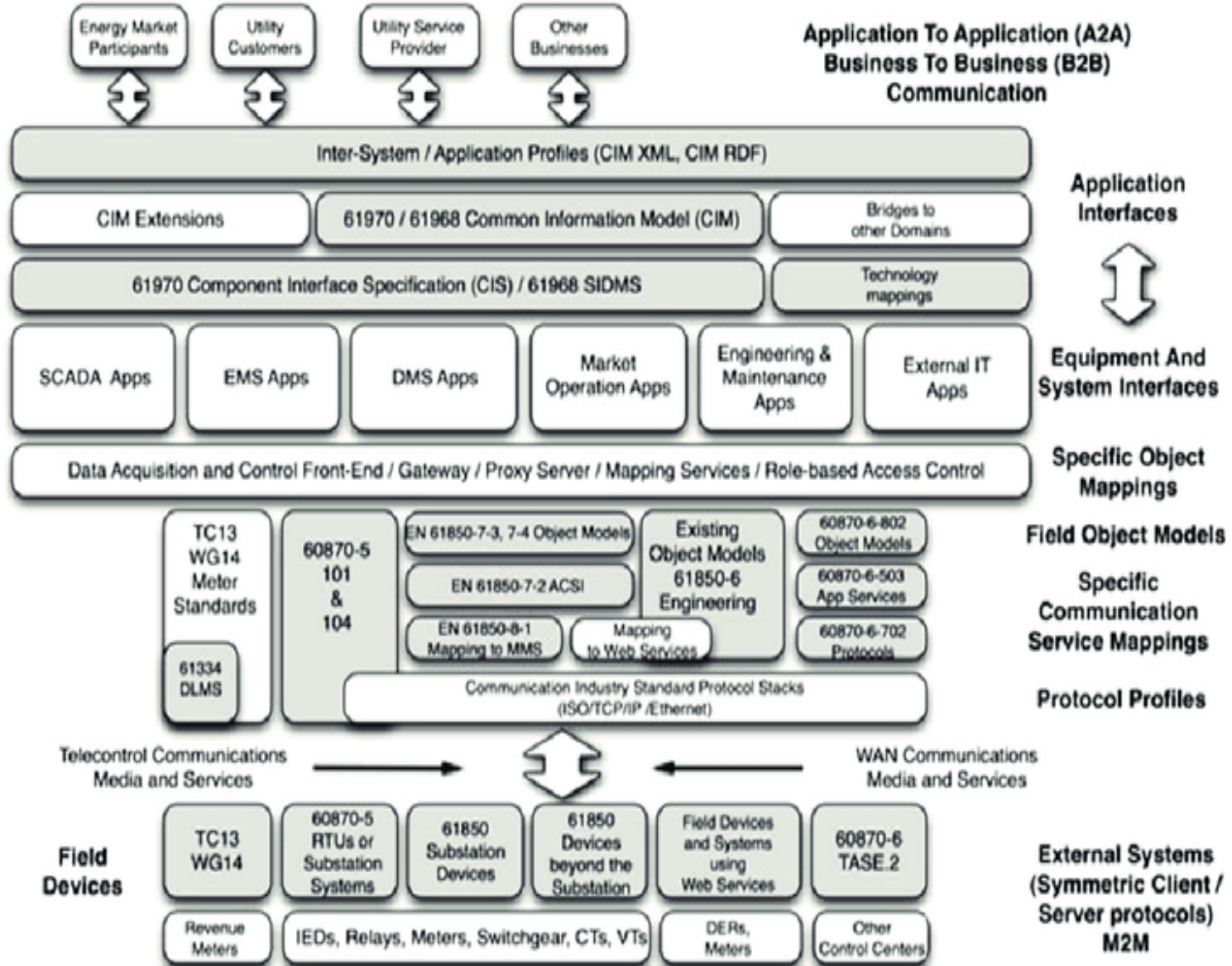
Existing Law

- Standard Law
- Electricity Law

Existing Lab

- YESC Lab under MOEE
- EI lab under MOI

Network, System and Data Management (IEC 62351-7)
 End-to-end Security Standards and Recommendations (IEC 62351-1-6)



Smart Grid Core IEC Standards

Over 100 IEC Standards have been identified as relevant to the

IEC/TR 62357: Service Oriented Architecture (SAO)

IEC 61970: Common Information Model (CIM) / Energy Management

IEC 61850: Power Utility Automation

IEC 61968: Common Information Model (CIM) / Distribution Management

IEC 62351: Security

IEC 62056: Data exchange for meter reading, tariff and load control

IEC 61508: Functional safety of electrical/electronic/programmable electronic safety-related systems

PLC AMR Pilot Testing

**around the region
2006**

BPL Meter Installation in China



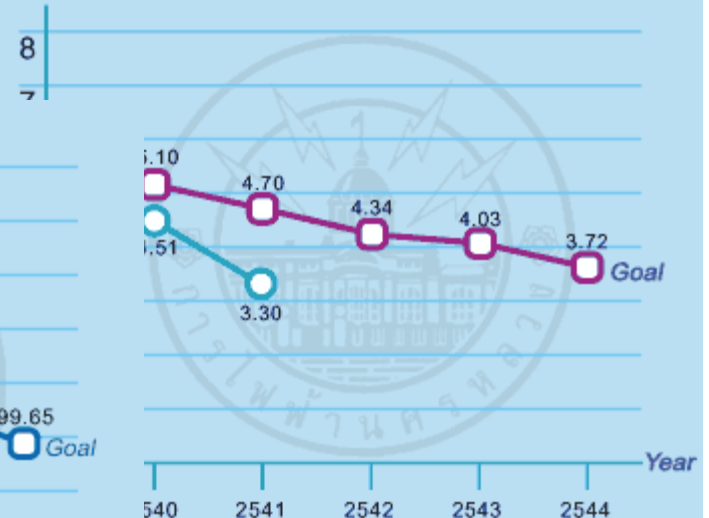
PLC AMR in Thailand

Technology
Distribution System
Development

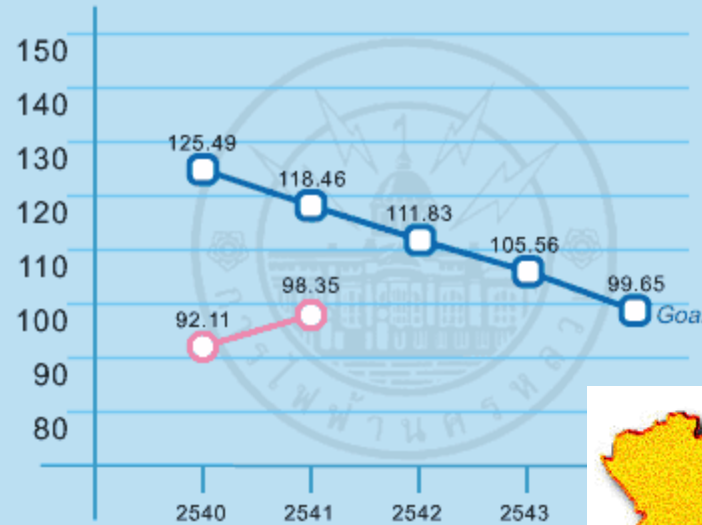


The Improvement of power service
 in accordance with ISO 9002
 GIS Project

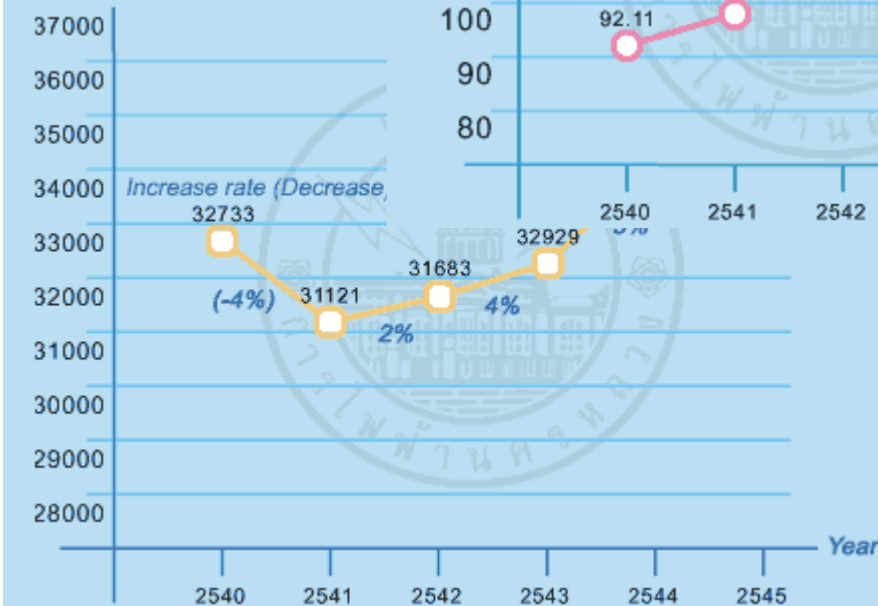
Number of time/Consumer/Year



Minute/Consumer/Year

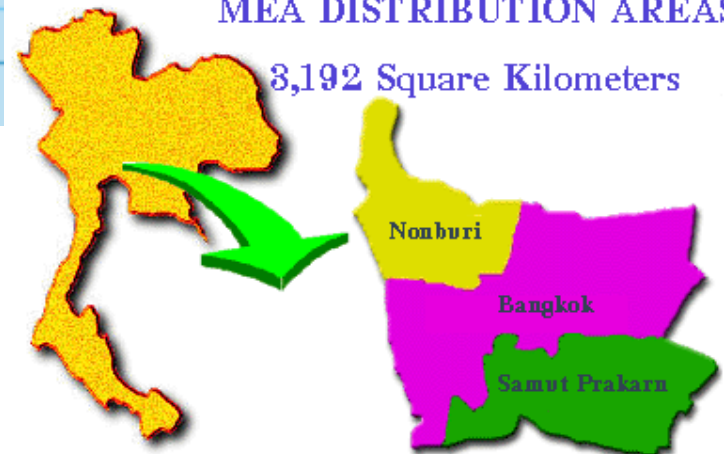


Million Units/Year



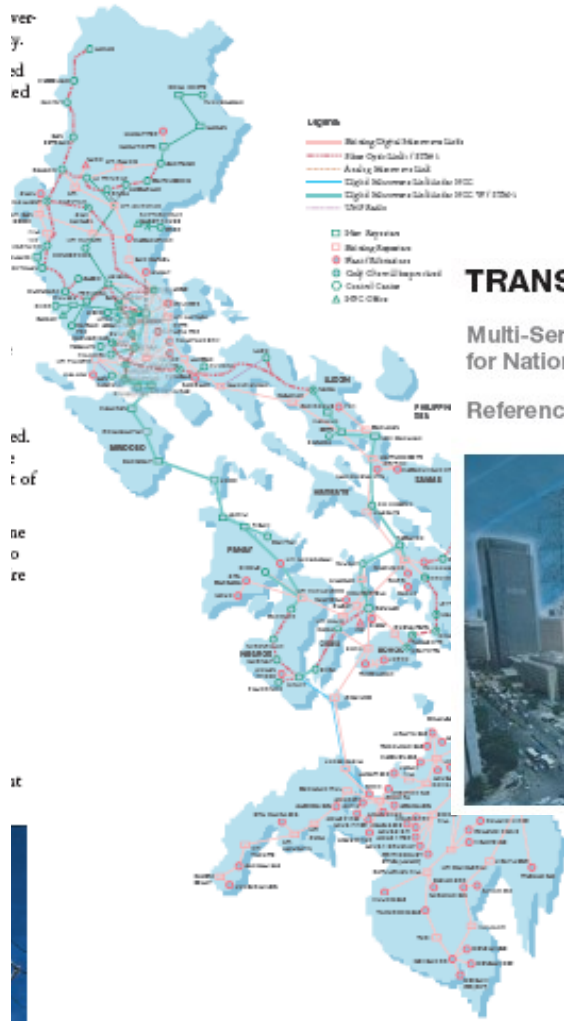
MEA DISTRIBUTION AREAS

8,192 Square Kilometers



PLC AMR in Philippine

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TRANSCO, Philippines

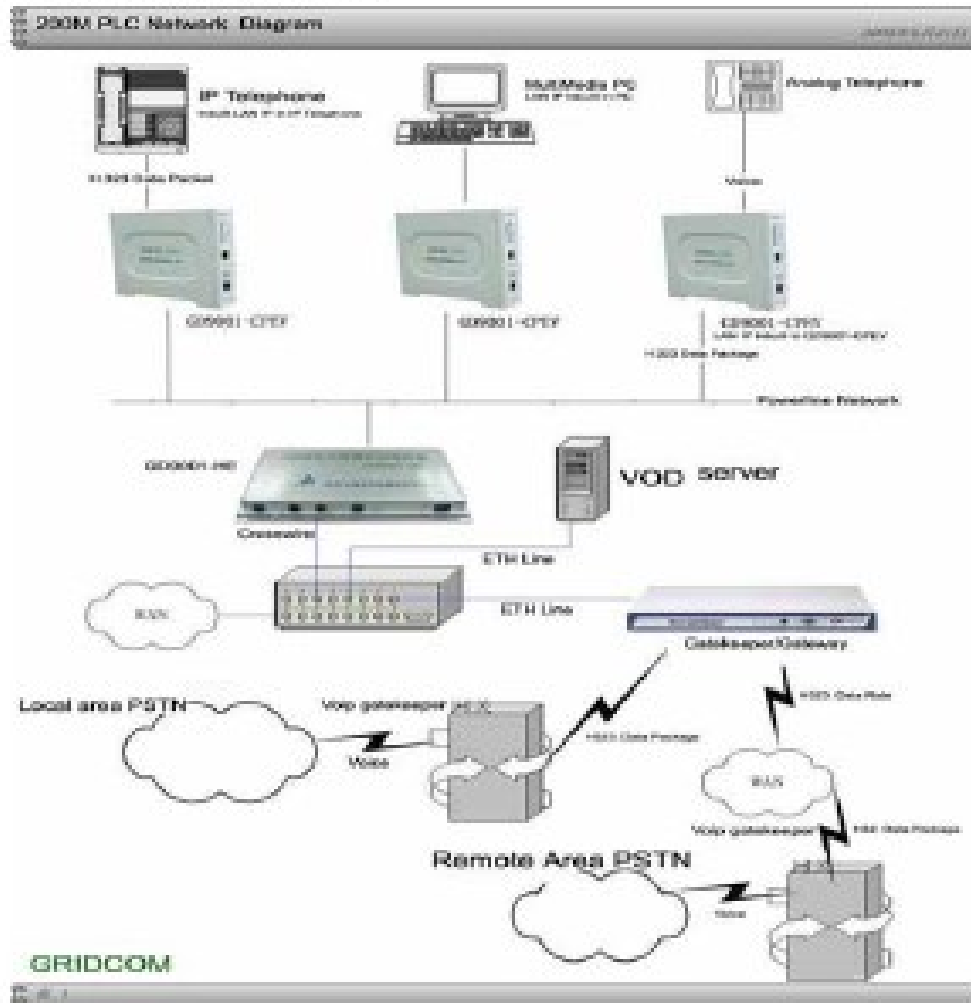
Multi-Service Utility Communication Network for National Transmission Corporation

Reference



PLC AMR in Indonesia

200M PLC Network with Vloq Function



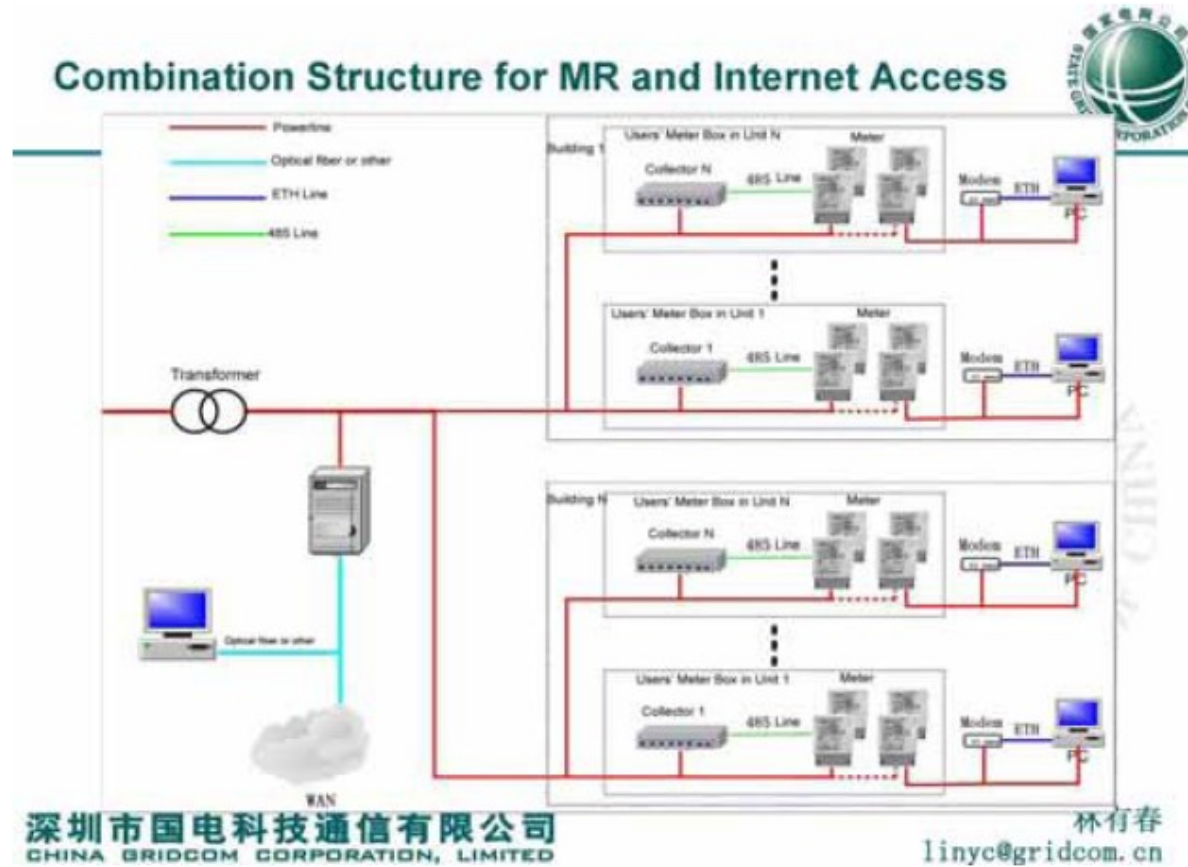
PLC AMR in China



GRIDCOM 深圳市国电科技通信有限公司
CHINA GRIDCOM CORPORATION, LIMITED

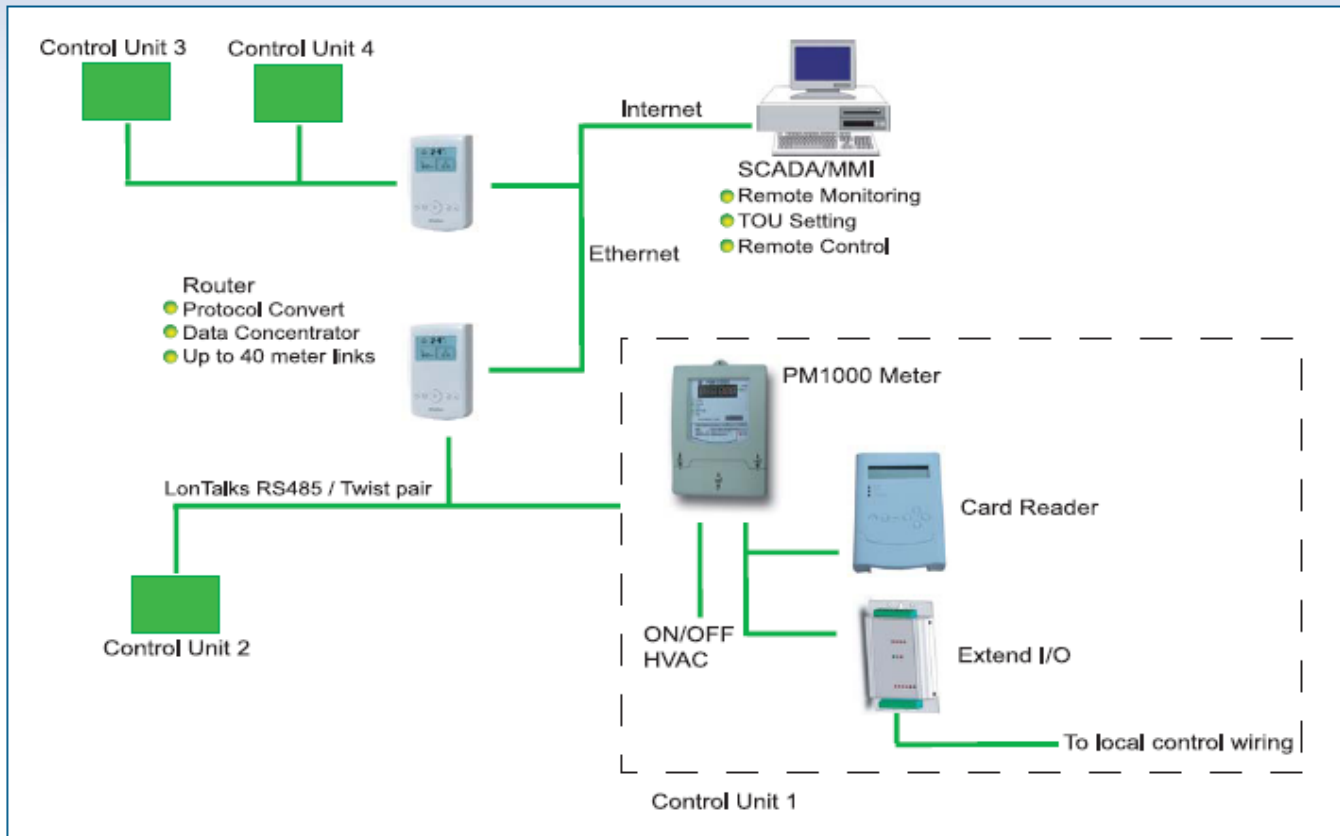
www.gridcom.cn

200M PLC Combination Structure for AMR and Internet Access



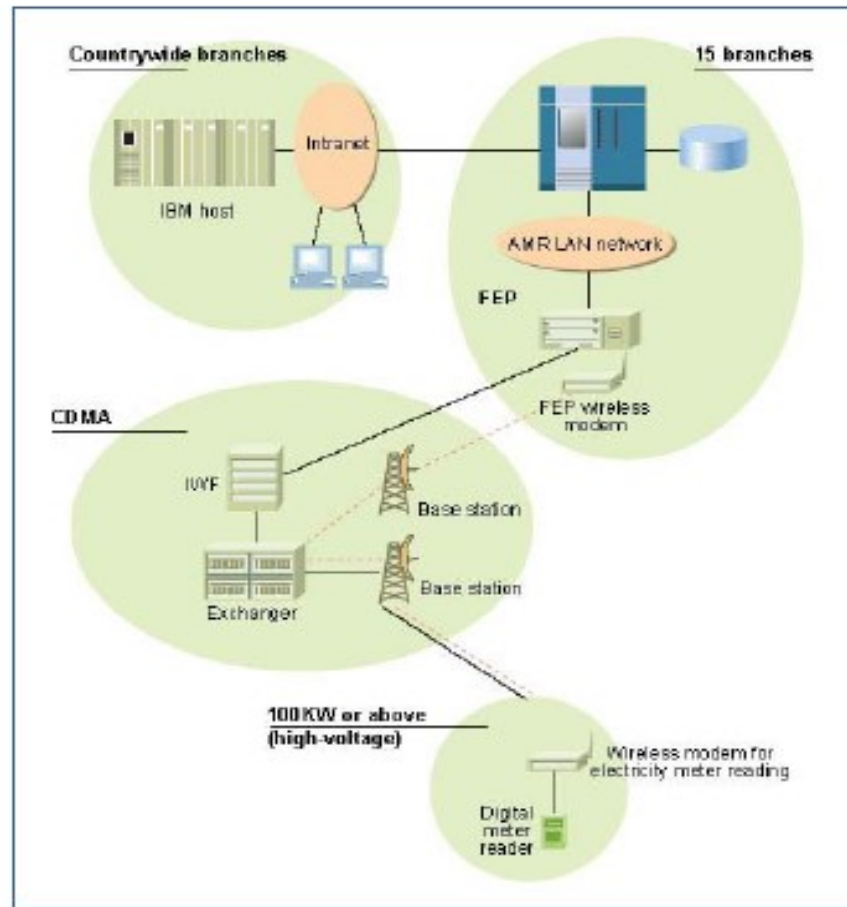
PLC AMR in Taiwan

Application Architecture



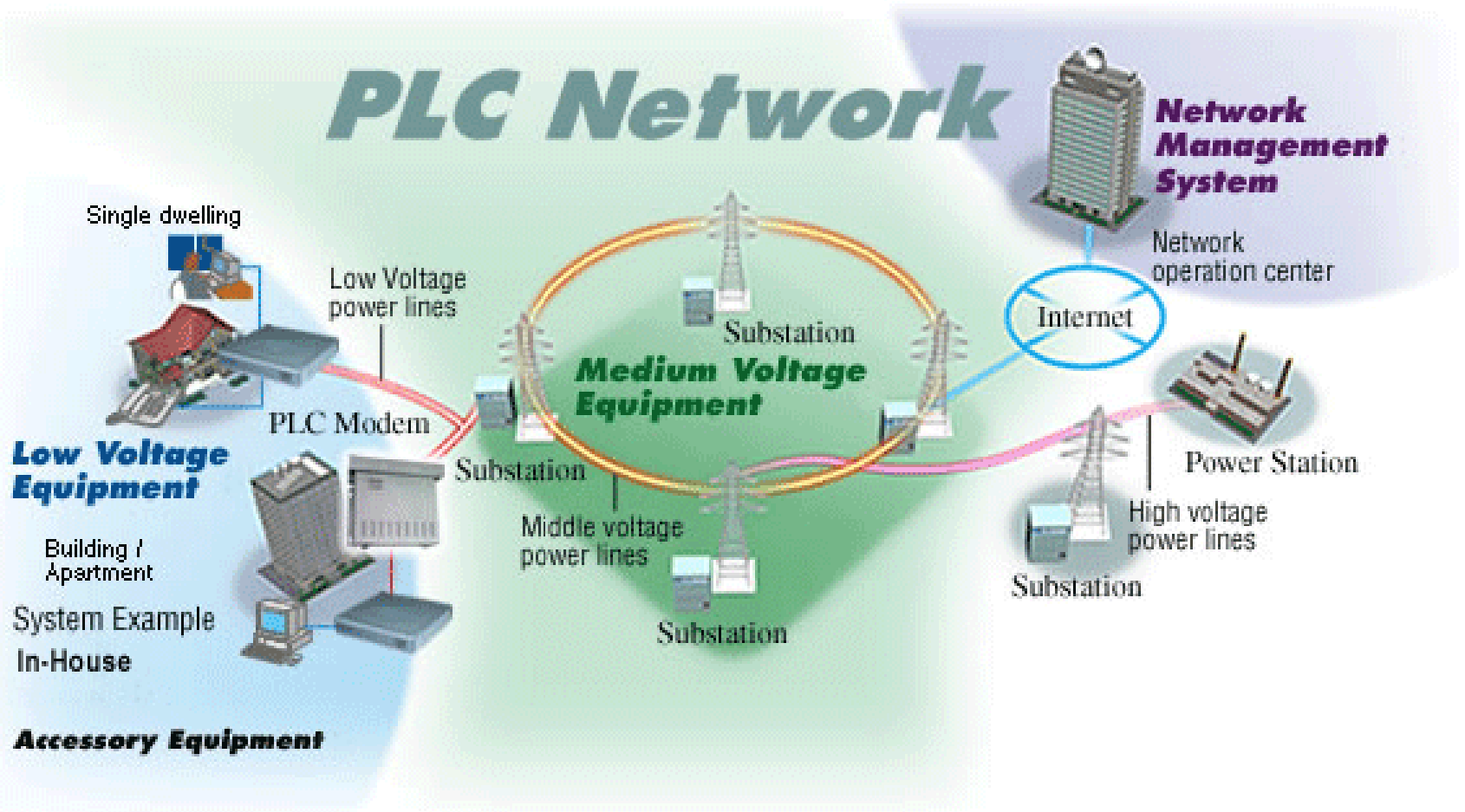
PLC AMR in Korea

KEPCO, successfully implemented AMR system by using wireless communication network.



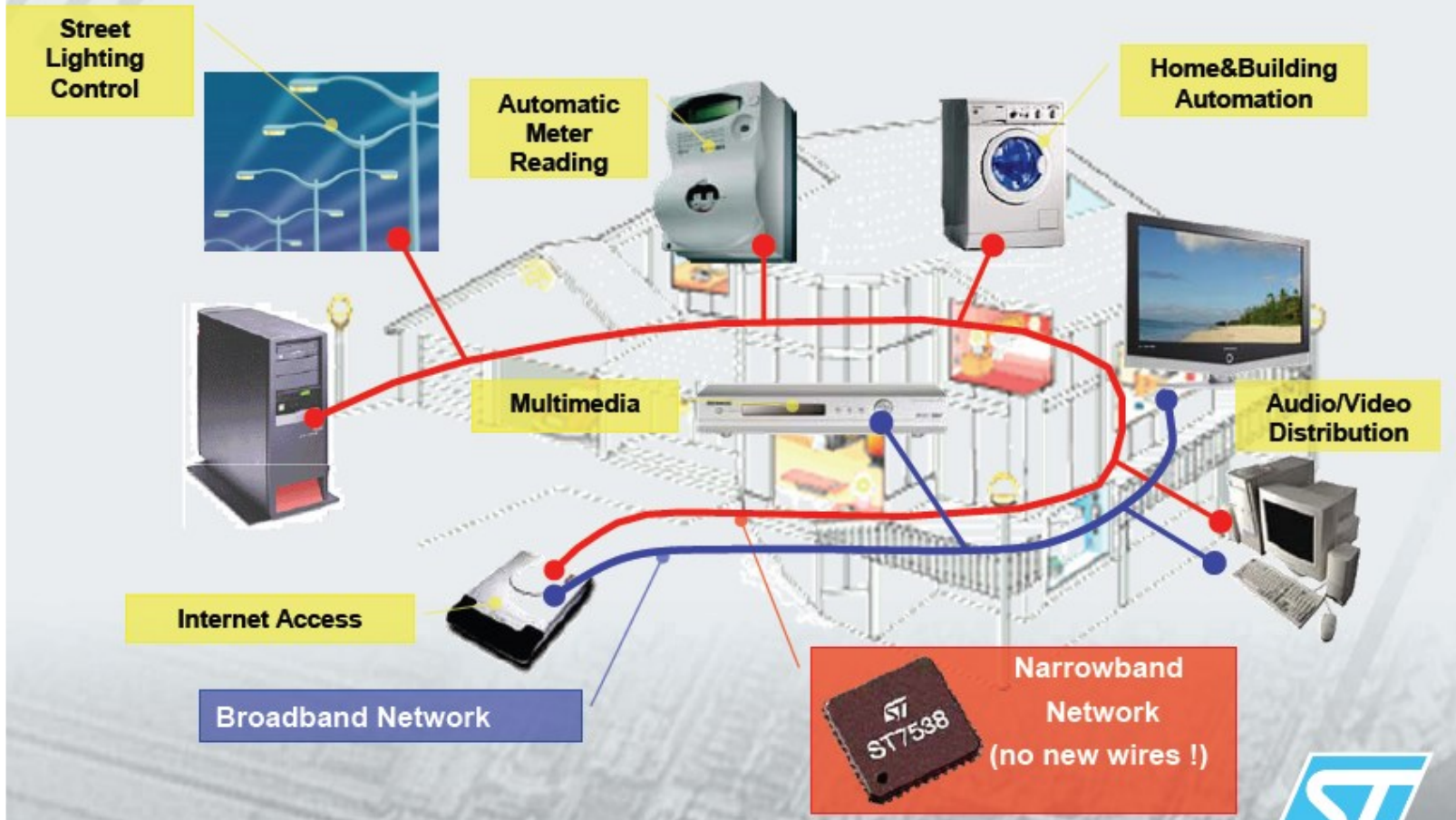
※ AMR system of KEPCO by using CDMA networks.

PLC AMR in Japan



PLC AMR in Italy

ST Narrowband Power Line Transceivers for Automatic Meter Reading (AMR) and Home & Building Automation

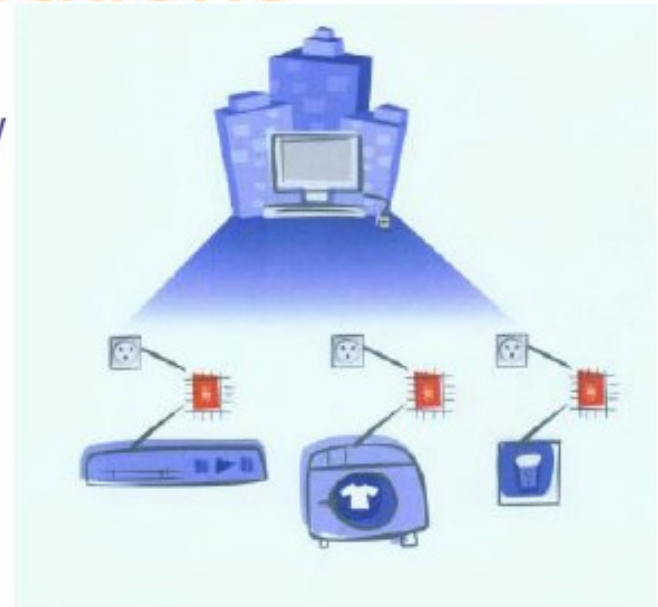


PLCAMR in Isreal



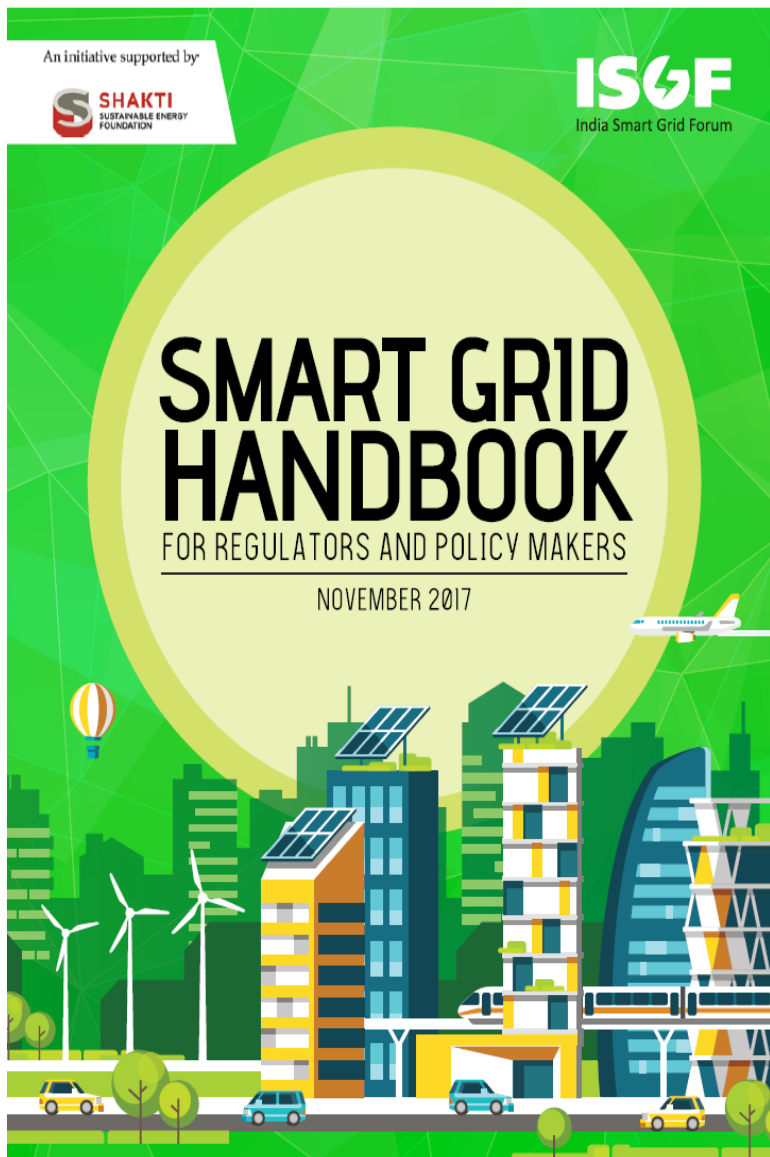
Main Applications

Command & Control / Home Automation /
Smart Home



AMR (Automatic Meter Reading)

We need = Myanmar Smart Grid Forum and Smart Grid Hands Book



Recommendation is-----

- Myanmar Smart Grid Forum

Thank You

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Welcome

Korea Technology Corporation