



**PRIME 1.4 Rollout
of
63,000 Smart meters**



Number of Metering Connections with EEHC

- 63,000 in EEHC RFP1 Pilot Project
- 300,000 in JICA Lot 1

EMG Deployment Areas

- South Cairo Electricity Distribution Co. (SCEDC)
- Middle Egypt Electricity Distribution Co. (MEEDC)
- Alexandria Electricity Distribution Co. (AEDC)

Nature, role and extent of participation

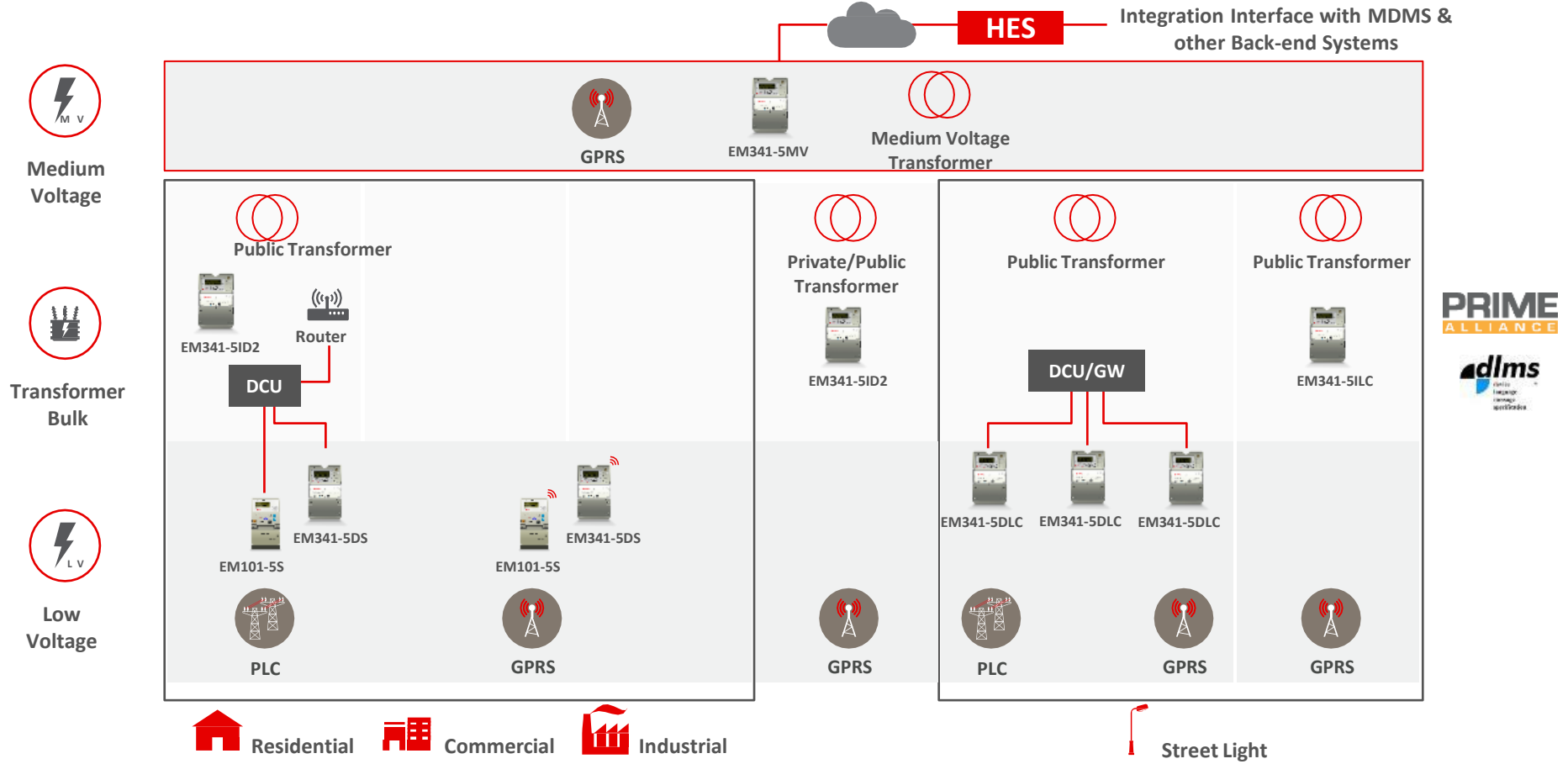
- Engineering / Site Survey
- Supply of Smart Meters, Communication Modules, DCUs & HES
- Installation & Commissioning
- Integration with 3rd Party MDMS
- Training
- 4 years of Operation & Maintenance





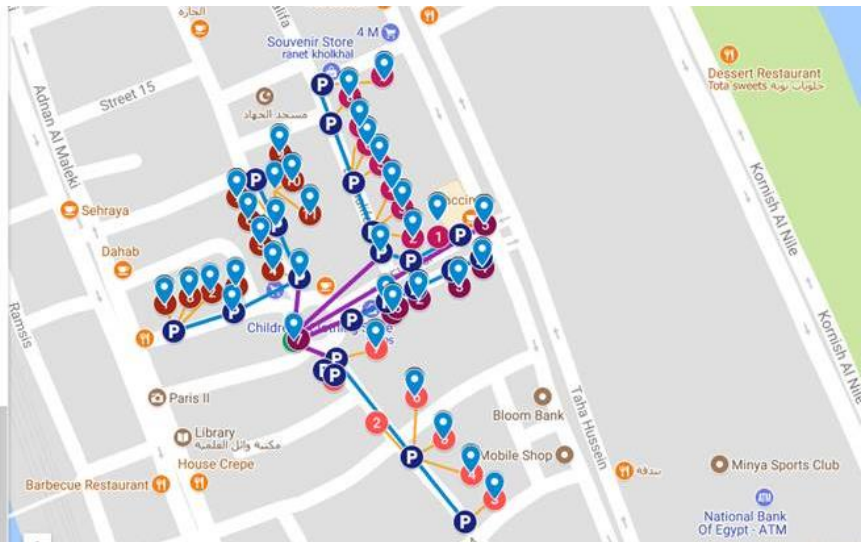
Egypt AMI Case Study

End-to-End System Architecture
98% of the meters deployed used PRIME PLC Communication



Images illustrating the situation in the field

- Poles
 - All items
- Under ground Cables
 - All items
- Over Head Cables
 - All items
- Junctions
 - All items
- 06-List of Installed Meters POC Mini...
 - All items



Meters

- Matching between underground and overhead cables
- Poor wiring connection
- Lack of maintenance of the network



Junctions



Transformers



Poles



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- Using **PRIME v1.4** in **CENELEC A** band, sites become **stable** but still needed about **23 repeaters** over the poles
- Switch to **FCC band** to check the different frequency channels:
 - **One of the sites in Cairo** working with **CH5** & **Minya** working with **CH7** and only **6 repeaters** over the poles are needed

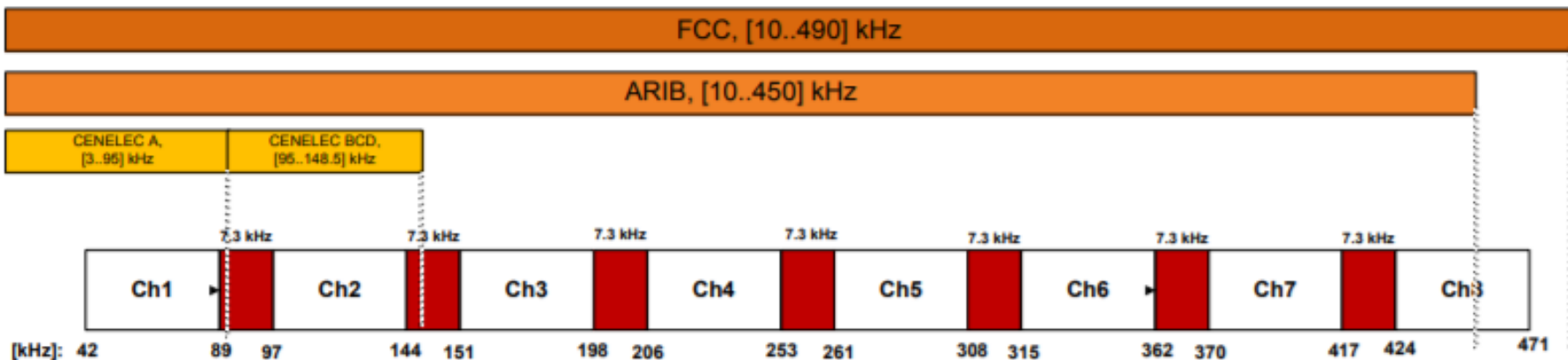


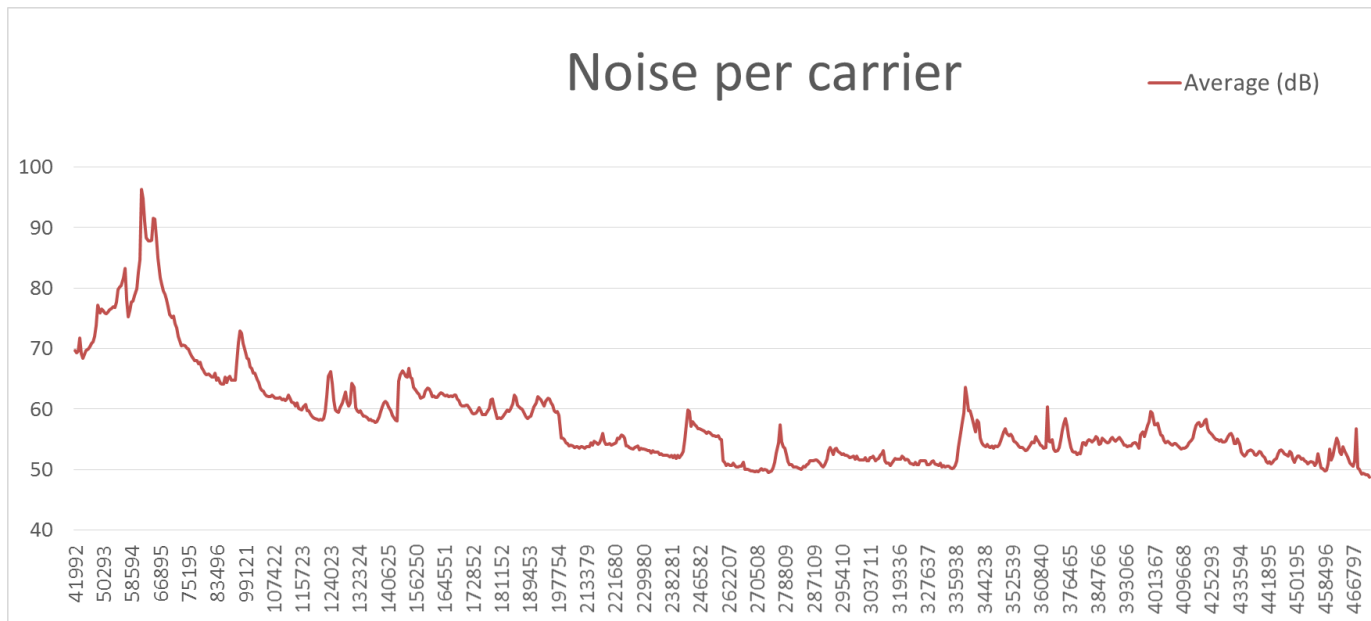
Figure: Prime v.1.4 FCC/ ARIB frequency band extension

* **Source:** whitePaperPrimeV1p4



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- FCC profile: presents lower noise, higher SNR and higher attenuation. Ch3 to Ch8 were selected depending on these factors.
- It is recommended to use one single PRIME channel to avoid spreading the power over frequency (“n > 1” simultaneous channels imply lower SNR, lower link quality, lower baud rate).

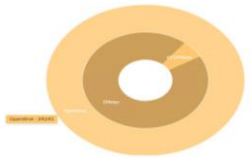
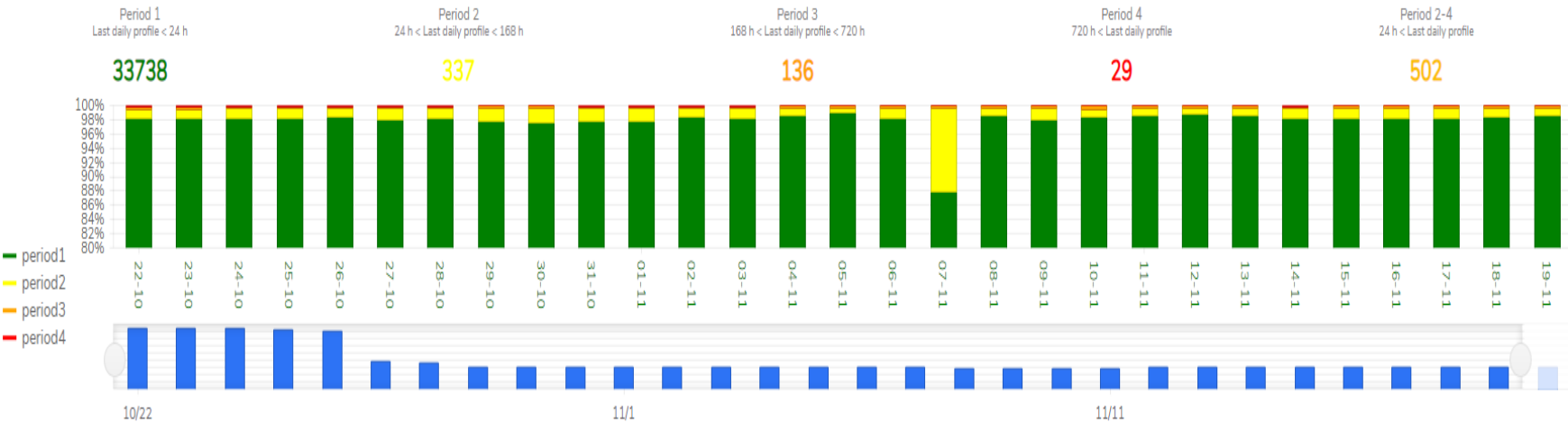


Channel	Noise (db)	SNR (dB)
1	118	10
2	102	20
3	101	19
4	94	26
5	91	29
6	94	27
7	95	25
8	92	28



A sample of the successful Rollout Results from the field

HES KPI's Report for 34,241 Meters in South Cairo



PLC meters 32,216
GPRS meters 2,025

Achieved Targets:

- Daily 98 % (at least on read last day)
- Weekly 99% (at least on read last week)
- Monthly 99.5% (at least on read last month)