



## **BRICK & BYTE INNOVATIVE PRODUCTS PVT. LTD.**

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## Smart Energy Management Solutions

## Dual Source Prepaid Metering





# Legacy Metering Systems

Problems in private distribution by developers

Huge Operational expenditure on the following:

- Managing assets through an 'army' of field staff
- Manual Meter Reading Collection
- Manual Billing & Reporting

Lack of real time information on thefts, tampers, losses / leakages and health of distribution network infrastructure

Lack of automated and real time control over the distribution network

Poor Credit Management – bad debts, cumbersome reconciliation, outstanding dues, disputes, etc.



# What is AMI?

**Advanced Metering Infrastructure (AMI)** comprises of state-of-the-art electronic/digital hardware and software, which combine **interval data measurement** with continuously available **remote communications**. These systems allow **bi-directional communication**, thus enabling measurement of detailed, **time-based information and frequent collection** and transmittal of such information to various parties.


AMI typically refers to the full measurement and collection system that includes meters at the customer site, communication networks between the customer and a service provider, and data reception and management systems that make the information available to the service provider.

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## Power Line Carrier Communication (PLCC)

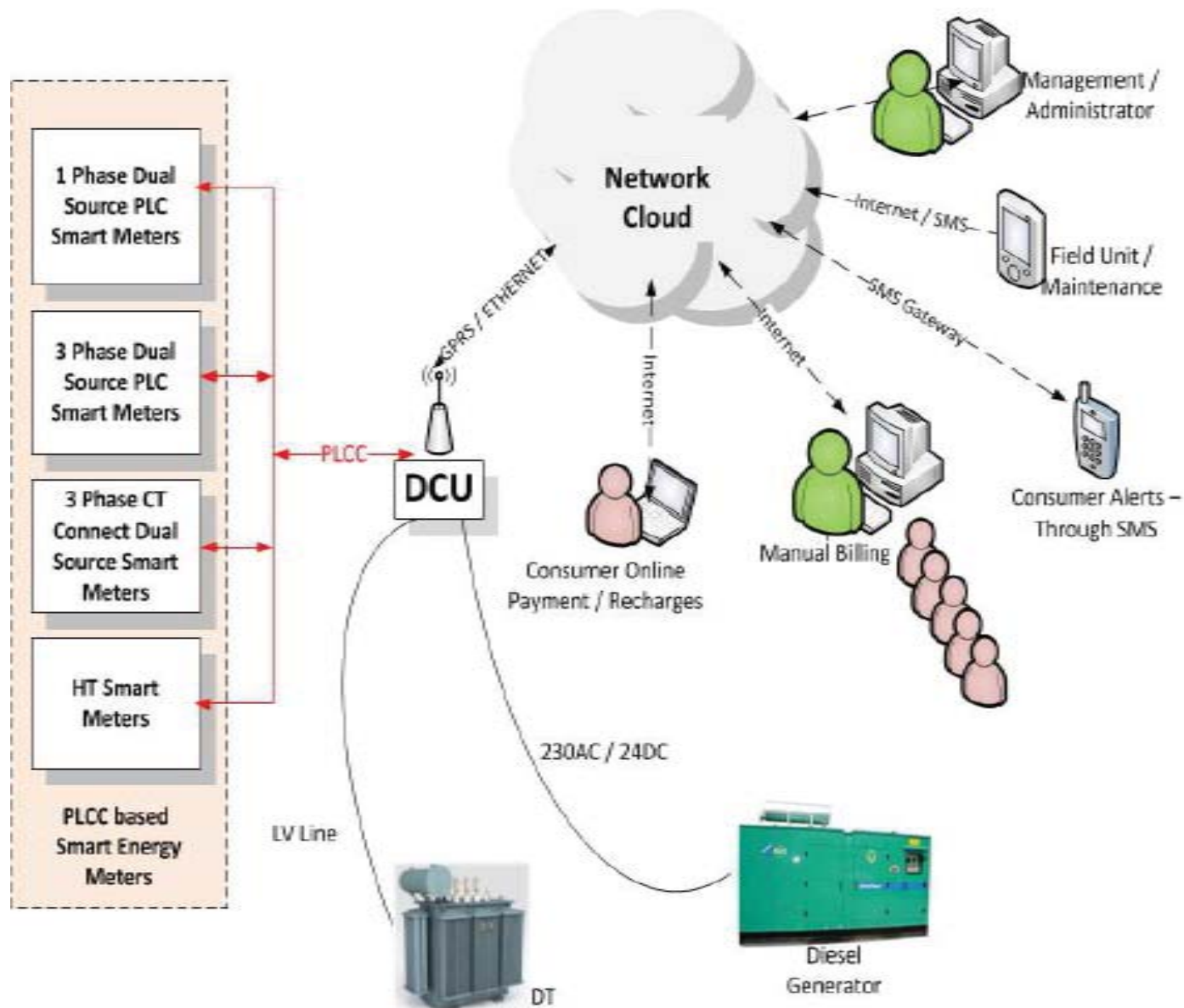
B&B's USP is the use of Power Line Carrier Communication (PLCC) technology for communication in the distribution network. All AMI features have been successfully executed through our solution, using the existing electrical wires for **two-way data communication**, also known as PLC Communication.

PLC significantly reduces expenditures – both capital and operating- for the distribution companies and ensures seamless communication channel without potential points of failure due to external dependencies.



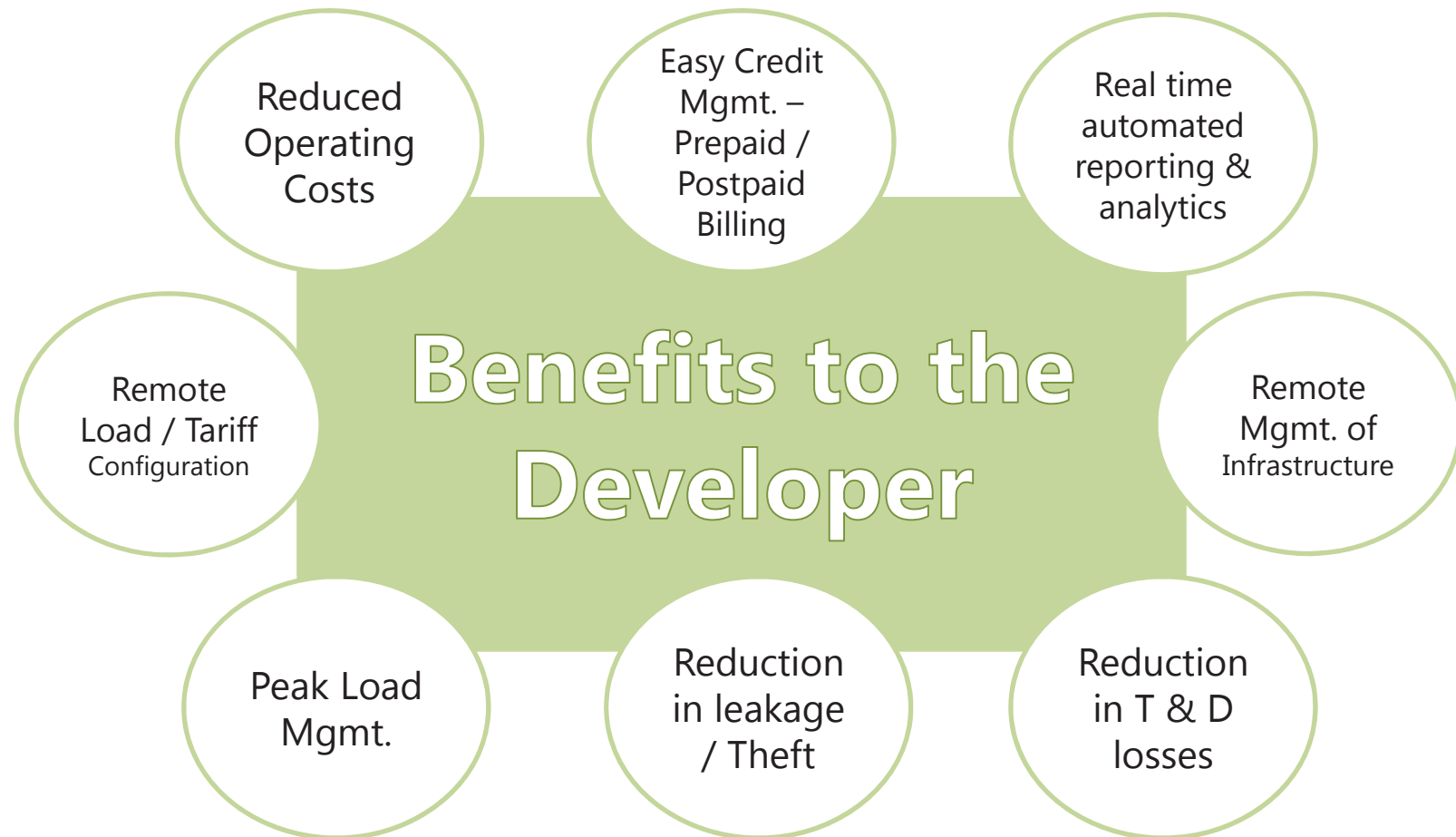
# Basic Solution Architecture

## B&B's AMI Solutions



# Need for Change

In private real estate developments





# More Benefits

## Brick & Byte's AMI Solutions

### Remote & Advanced Control of Distribution Network Infrastructure

Connection / Disconnection	Load Profile	Tariff Plans	Asset Health
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Real Time Meter Data

Energy Audit / Load Forecasting

Flexible Tariffs / Billing

Reduction in operational costs

Demand Response Management


No Additional Communication Infrastructure

Single window Accounting, Reporting, Analytics and Reconciliation

Multiple Bill Payment options – **Prepaid / Postpaid**

Tamper / Theft / Outage Prevention & Notifications

Customer Self-Login On the Cloud – Bill payment, Usage info, etc.







# Benefits to the Customer

## Multiple Bill Payment / Recharge Channels

Net banking, credit / debit cards, etc. through our 'On the cloud' **GENII™** software platform, from anywhere

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## Consumer Self-Login

Remote access to own consumption details and billing information (history, outstanding, etc.) in real time, allowing greater **transparency**

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## Notifications

Real time alerts for low balance, payments / recharges, disconnection, etc.

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## Seamless Recharging

No coupon / vending system for meter recharges ensuring no visits to the meter. Recharges through Net banking / Debit / Credit Cards / Single Click by Admin for Cash

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## Multiple Charges

Single corpus for multiple charges – electricity, maintenance, etc. ensuring ease of payments for customer

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## Plug Anywhere – In House Display Unit (IHDU)

Since the IHDU communicates with the meter on Power Lines, the customer can plug it anywhere inside his / her house and it shows all parameters from the energy meter.

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# Brick & Byte vs Competition







## Versus 'RS-485 based Meters'

<u>Requirements</u>		Other Metering System
RS 485 parallel cable network – Cost of cable and laying	✗	✓
Conduits / pipes to lay RS 485 network	✗	✓
Converters – RS 232 to RS 485	✗	✓
Repeaters after every 15-30 meters to boost signal	✗	✓
Injectors for DG Signal pulse	✗	✓
Maintenance Cost for all external communication media	✗	✓
Multiple points of failure in the distribution network	✗	✓


## Versus 'GPRS based Meters'

<u>Requirements</u>		Other Metering System
External GPRS Modem for each meter	✗	✓
GPRS Data Connection Monthly Cost per Meter	✗	✓
Injectors for DG Signal Pulse	✗	✓
Dependency of un-reliable mobile network coverage in India	✗	✓
Signal boosters in the area – capital expenditure and maintenance	✗	✓
Multiple points of failure in the distribution network	✗	✓


## Versus 'RF based Meters'

<u>Requirements</u>		Other Metering System
RF Transmitters / Receivers for every building: Capital Expenditure & Maintenance	✗	✓
Dependency on 'clear line of sight' model for low frequency RF to work	✗	✓
Only successful in a closed group deployment to allow 'mesh' creation	✗	✓
Communication channel has distance limitations	✗	✓
Injectors for DG Signal pulse	✗	✓
Multiple points of failure in the distribution network	✗	✓

# Versus Other Metering Systems

<u>Requirements</u>		Other Metering System
External DG signaling wiring to each meter	✗	✓
External wiring between meter and in-home display unit	✗	✓
Programmable Logic Controller (one for a cluster of 3 meters) for DG Signaling	✗	✓
Battery bank to step down 230AC DG signal	✗	✓
Token / Coupon / Code based Recharges	✗	✓
Unmatched maximum limit for Recharges	✓	✗
Reliable wired metering communication using existing electrical wires	✓	✗

# Versus Other Metering Systems

<u>Requirements</u>		Other Metering System
Recharges through Payment Gateway - Net Banking, Credit / Debit Cards, etc.	✓	✗
Customer Self Login – Usage, Billing, Payments, Alerts, etc.	✓	✗
Never Visit the Meter Again Policy	✓	✗
Interface Units for each cluster of meters	✗	✓
In House Display Unit on Power Lines – Plug anywhere in the house	✓	✗

## Contact Us



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