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# DISTRIBUTION UTILITY MEET DUM 2025

SESSION PARTNERS



## SPECIAL PLENARY SESSION

# INNOVATIVE POLICIES AND REGULATORY INTERVENTIONS FOR SUSTAINABILITY OF DISCOMS

## Future Proven Connectivity

*Presented By*

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Distribution Utility Meet | 04 - 05 November 2025 | [www.dumindia.in](http://www.dumindia.in)



# INTRODUCTION

## Analogue/AMR

Billing

Reading app



- Flat rate
- Monthly reads
- Manual / AMR / Drive by
- Wireless M-Bus

## 1<sup>st</sup> Gen Smart

Billing

MDM

HES



- Time of Use
- Hourly reads
- PCL, RF Mesh, NB-IoT, LTE-M

## 2<sup>nd</sup> Gen Smart

Billing

MDM

HES



- Time of Use, Real-Time Pricing
- 15-5-1 min reads
- RF Mesh, 4G

## 3<sup>rd</sup> Gen Smart

Apps, CIU

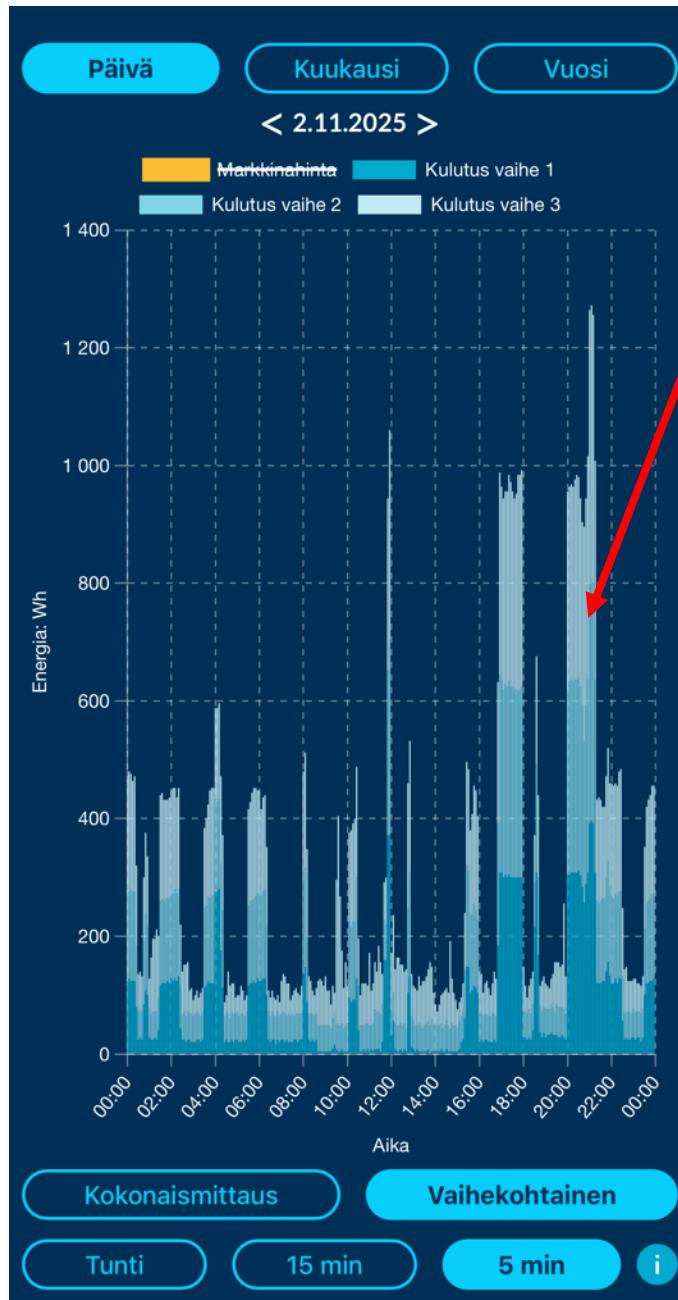
Load monitor  
and control

Edge compute



- Real-Time Pricing
- 5 min to < 1 s reads
- Event stream
- NR+, 6G(?)
- Data as a Service

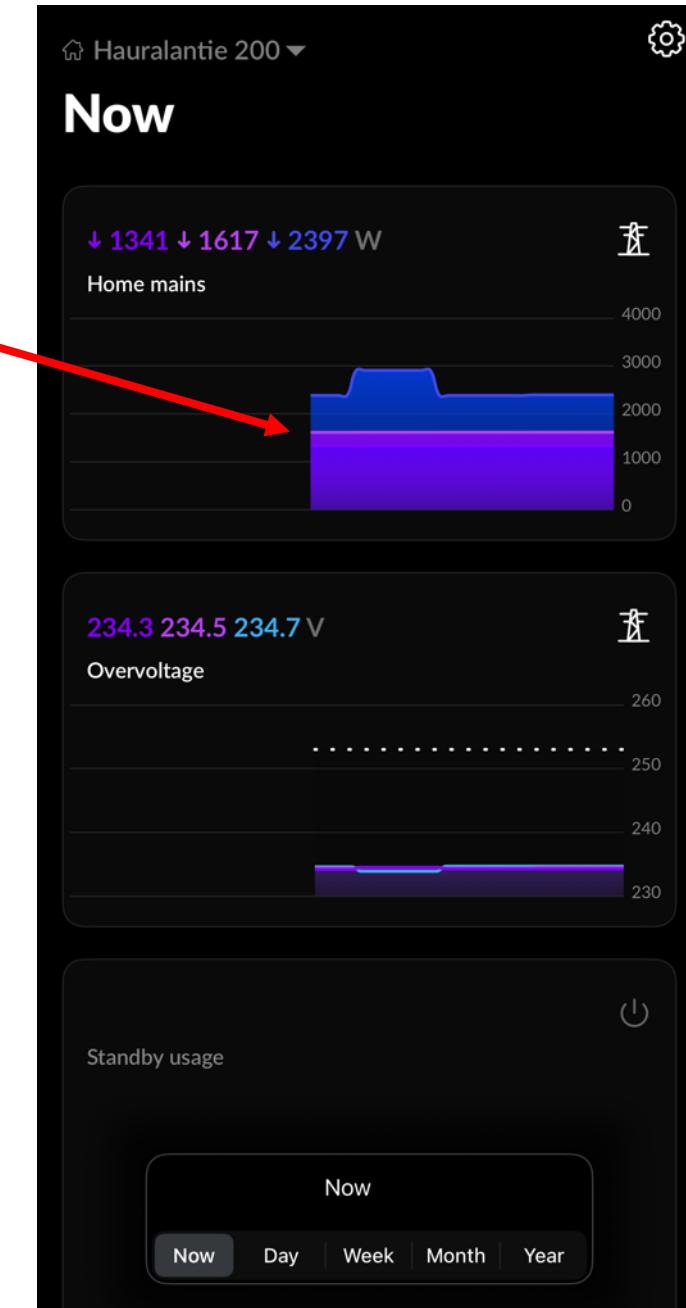
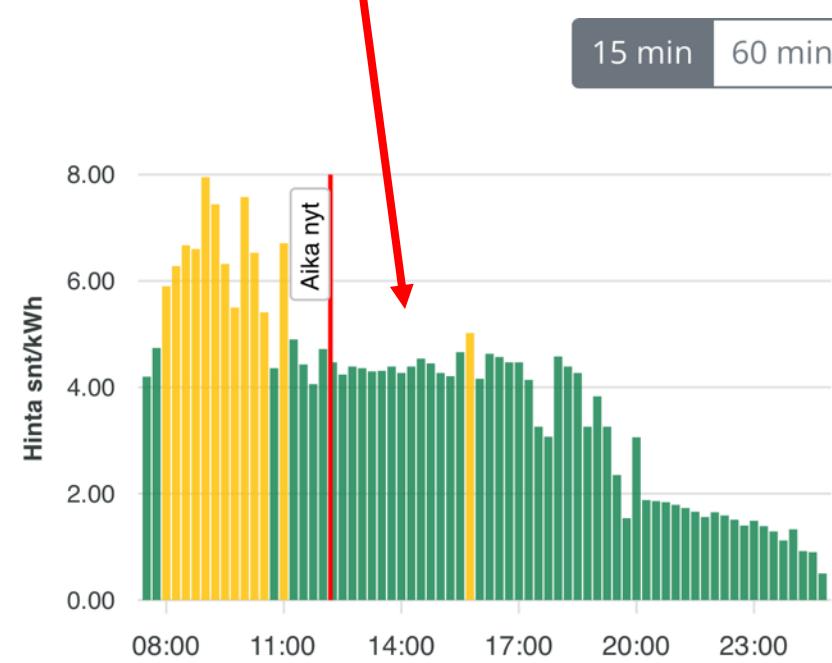




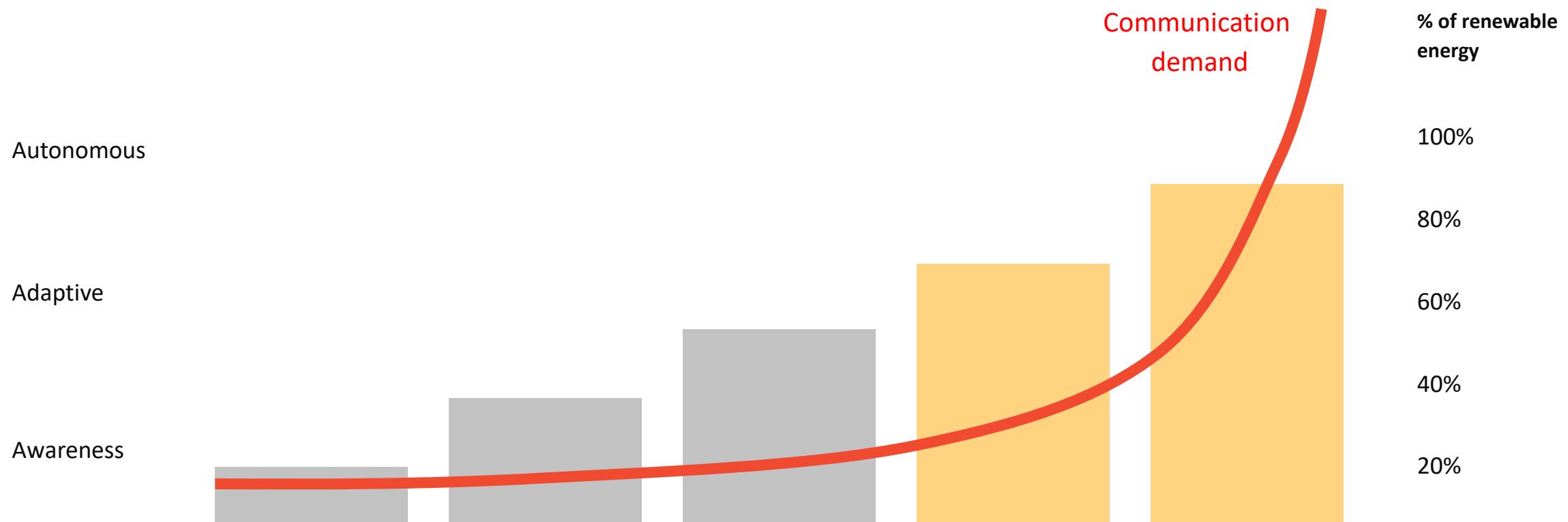
In Finland, we are already moving to 3rd generation. 5min reading interval.  
Consumer see it with <10 min delay.

HAN offers real time consumption option locally.

Prices are set with 15min interval.



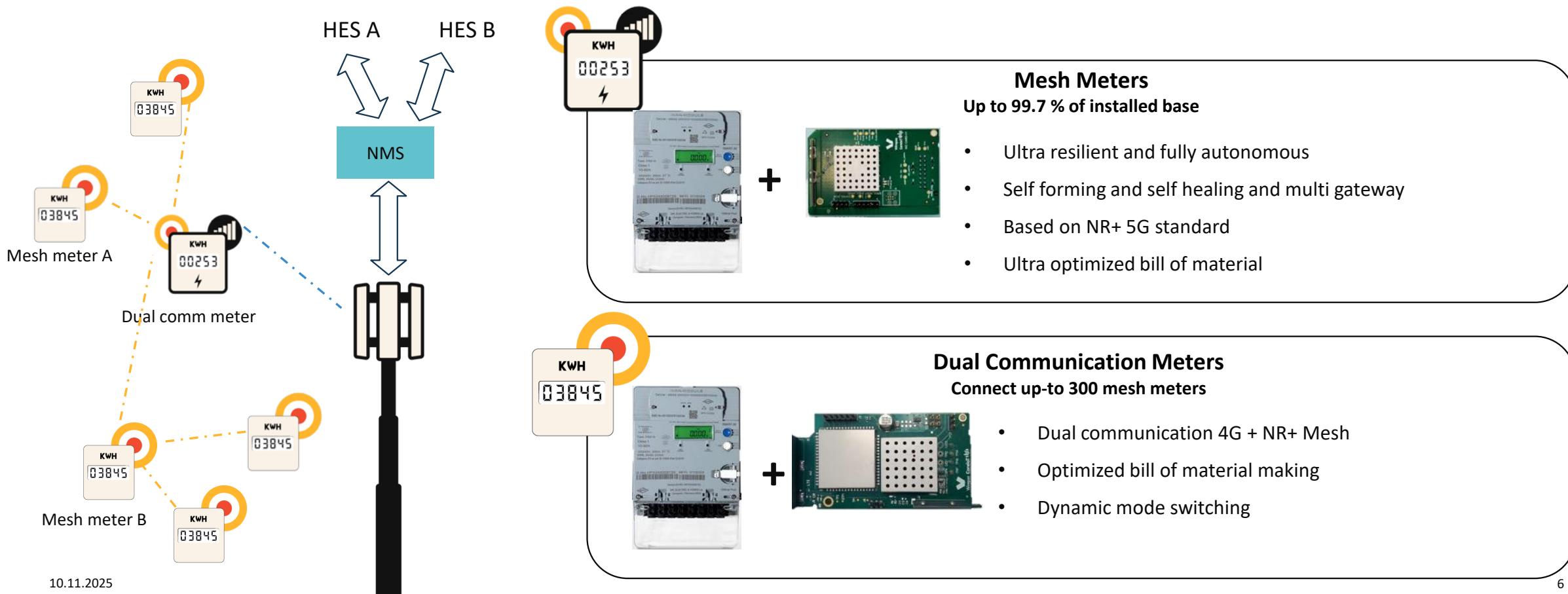
- Renewables drives for autonomous connectivity



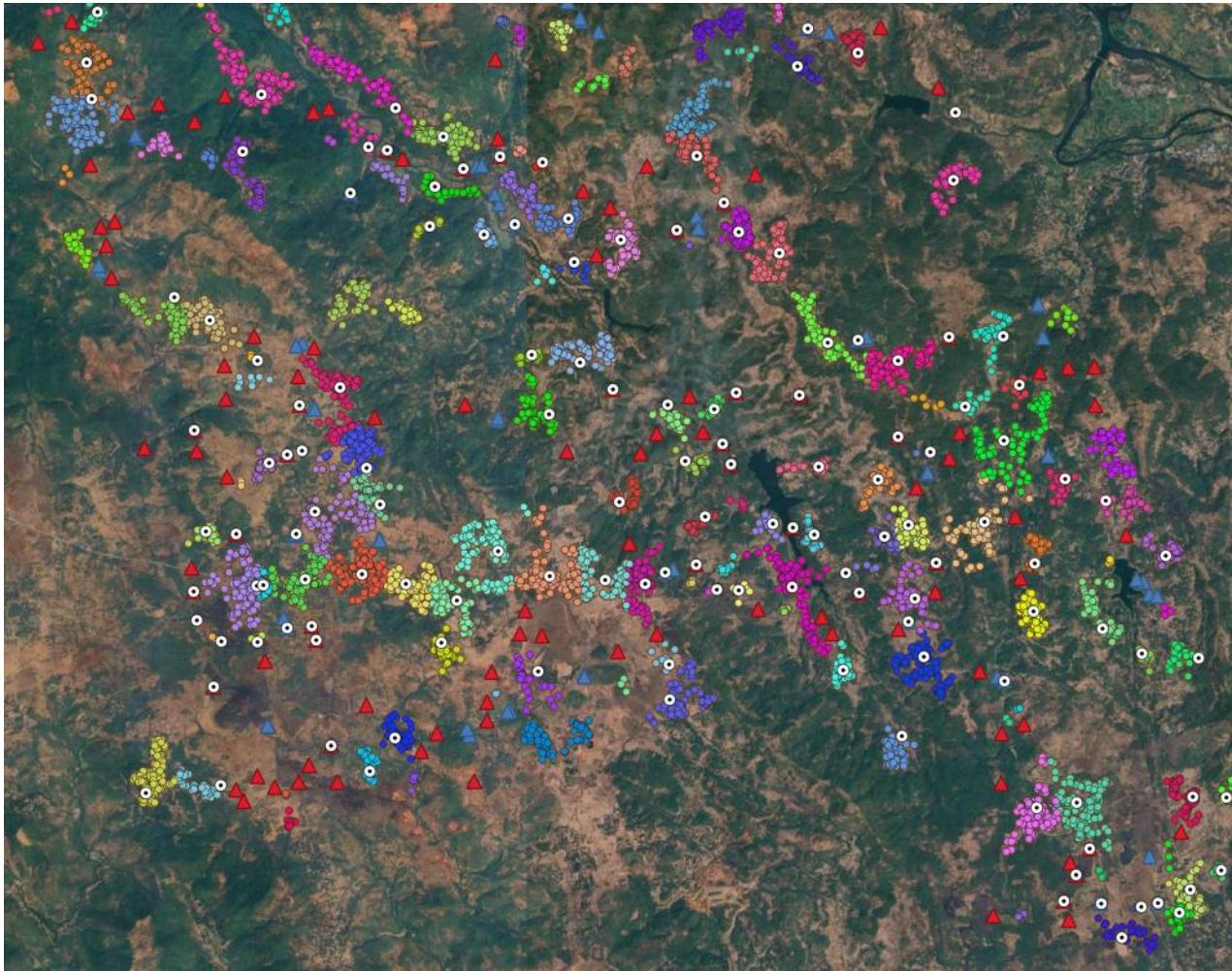
## Key requirements in India

- **Scaling** to hundreds of millions, without tuning. Very high local **densities**.
- Work everywhere with **~100% coverage** – urban, rural, basements
- **Cost-predictability** – Meet SLA (incl. DC/RC), pay only for results, low maintenance, transparency and clarity on IPR patent fees.
- High **Cybersecurity**.
- **Interoperability enabler** to serve 100+ utilities, tens of AMI SPs, tens of HES and Smart Meter manufacturers.
- **Dependable and upgradable** for 10+ years

## Only meters & NO dedicated infrastructure



## Planning example: Cellular vs Mesh in a challenging area, 25k meters



Cellular

OK RSRP  
36.8%

RSRP<-110  
63.2%

Wirepas, NR+

Mesh  
formation OK  
98.6%

Isolated 1.4%

- Based on global NR+ standard, defined by ETSI. Applicable for IS18010
- Performance-based commercial model: Utilities pay only for connected, SLA-compliant meters.
- End-to-end assurance: From meter to HES data delivery. No excuses.
- Open ecosystem: Anyone can join – no lock-in. All can bring their strengths. Support for all meter manufacturers and HES providers.
- EU CSA leading security. ETSI and BIS collaboration.
- 1# RF Mesh in Europe and India, 1 Crore connected in India
- 99% Coverage and SLA.

### Connectivity Approach for RDSS/SBD.

- Best Effort? – No. Leads to big problems and cost later.
- Guaranteed Performance? – Yes. Responsible option.
- Future Proven? – Defines the long term success!

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# THANK YOU

For discussions/suggestions/queries email: [dum@indiasmartgrid.org](mailto:dum@indiasmartgrid.org)

[www.dumindia.in](http://www.dumindia.in)

Links/References (If any)

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## ***BACKUP SLIDES***