



## **UK INVESTOR MAGAZINE WEBINAR**

Presented by John Cronin, Executive Chairman  
30 June 2020

**A WORLD LEADER IN NARROWBAND RADIO FREQUENCY (RF) SMART MESH  
NETWORKS**

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## An intelligent, multi-application IoT communications platform

- **Unique proposition** – an intelligent, multi-application IoT communications platform focussed on large scale utility infrastructure projects
- **Multi-application** – with substantial traction and deep expertise in smart electricity metering and street lighting, well progressed opportunities in smart gas metering and the proven ability to connect multiple other applications
- **Proven on landmark global projects** – deployed in the field on high profile projects in developed economies - including UK SMIP - and emerging markets such as India where CyanConnode is the clear market leader. >1 million units deployed to date in 5 countries
- **Deep relationships** – with international prime contractors, OEMs and influencers including Tech Mahindra, Schneider, Larsen & Toubro, Genus, Landis + Gyr and ARM, which enhances reach and scalability
- **Differentiated solution** – a high performance, resilient, scalable and secure solution, built on narrowband RF mesh technology, but with the unique ability to connect multiple devices over multiple narrowband communications networks on a single platform
- **Industry-leading team** – 70-strong global team includes industry leaders, 7+ years' experience at the leading edge of the IoT industry and deep expertise across hardware, software, systems integration and communications
- **Positioned for massive growth** – executing a > \$400m global opportunity pipeline which could drive revenue significantly by 2022, with a highly attractive economic model driving long-term recurring revenues and huge upside potential



A unique, proven IoT communications platform,  
positioned for massive growth  
with a > \$400m global opportunity pipeline

# About CyanConnode



## Year 2002

Founded in 2002 and listed on AIM in 2005. Headquartered in Cambridge, UK  
Centre of excellence in Cambridge, UK with international operational centres

## Year 2009-2013

**Expanded India operations in 2009**  
Introduced Blue-chip client base and partner eco-system validates technology offering  
Established CyanConnode Private Limited  
UK Smart Metering Program (SMETS 2)

### A Leader in Narrowband RF Mesh network for IoT Application

- Vendor agnostic model allows multiple routes to market
- In-country partner eco-system encompassing multiple meter vendors, system integrators and DISCOMs
- Highly Secure, Complied to IEC, IEEE Standards, Unified HES handles Multiple Meter vendors

## 2014-2016

Bagged pilot projects in India  
CESC, Mysore awarded for Best Smart Grid pilot project, India

## Year 2017-2020 AMI Roll Outs

Deployed > 1 Million Devices, > 200K Smart Meters are in circuit (India)  
Acquisition of Connode, Sweden  
Set up manufacturing facilities in India – reinforcing the 'Make in India' programme

📍 Country Head Office

Cambridge, UK

Sweden, Europe

Gurgaon, India

- Unprecedented event affecting the global economy
- Health and wellbeing of employees first priority to the Company
- CyanConnode adapted quickly to a remote working environment across the entire business, in line with Government guidelines
- Due to business process and careful advance planning employees have all necessary tools to effectively perform all tasks remotely, however full risk assessment has now been done on the Cambridge office in line with govt guidelines and office set up to allow for return to work in a safe and socially distanced environment
- Projects during main part of lockdown were in development and integration phase – main deliveries on projects only now commencing and we do not expect any major significant delays
- China back on-line for any manufacturing requirements
- Managing cash and resources carefully and expect to be able to meet obligations

A smart grid is a greener grid.....Smart meters and intelligent grid can significantly benefit the environment by reducing consumption of fossil fuel resources, thereby reducing emission of greenhouse gases (GHG) and other air pollutants. Environmental benefits can be achieved in three ways:

### **1. Reducing electricity consumption and increasing transmission and distribution efficiency**

Studies suggest that given the ability to monitor their energy use more frequently in greater detail, many consumers may begin turning off unneeded appliances, change to more efficient lighting, adjust thermostats and make other energy-saving changes.

### **2. Reducing utility's vehicular needs**

Smart meters will also reduce the consumption of resources and associated emission of greenhouse gases and other pollutants associated with performing basic utility services such as connections, disconnections, and meter readings, which can be conducted remotely for consumers with smart meters without sending out a truck.

### **3. Promoting distributed and renewable energy production and plug-in hybrid electric vehicles**

Finally, smart grid will create a platform that will promote the development and deployment of technologies for increasing distributed generation (DG) and energy storage capacity, such as wind and solar generation, and plug-in hybrid electric vehicles (PHEVs).

# Omnimesh Solution

## *Why mesh?*

- A shared cost effective, city wide IPv6 open standard-based, communication network
- Start from vertical business model but open for future applications and devices
- Easy deployment of new devices and applications using self-configuration
- Seamless - no protocol conversions
- Self-healing, resilient mesh network
- Highly secure multi-level encryption
- Low total cost of ownership



# Omnimesh Solution

## *Why mesh?*



**Reference: UK SMIP (GCHQ)**

- Full review, audit and validation completed by Telefonica and Toshiba.
- PKI keys are protected in dedicated hardware elements, in the data centre

# Narrowband RF Mesh

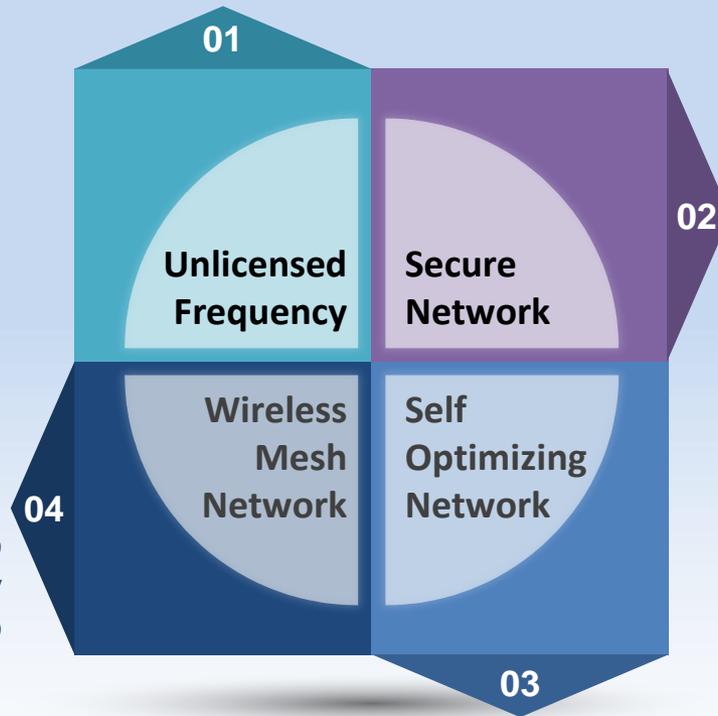
## Last Mile Communication

### Cost effective

- Operates on licensed free Sub - GHz spectrum 400,800,900
- 6LoWPAN, IPv6 over LoWPAN (IEEE 802.15.4)
- IETF Specifications (RFC 4944, RFC 6282 etc.)
- DLMS compliant IS 15959

### Point to Multipoint

- Auto-configuration with neighbor discovery
- RF Nodes will constantly try to optimize the network topology by evaluating the radio conditions to neighboring RF nodes
- Multiple Hops



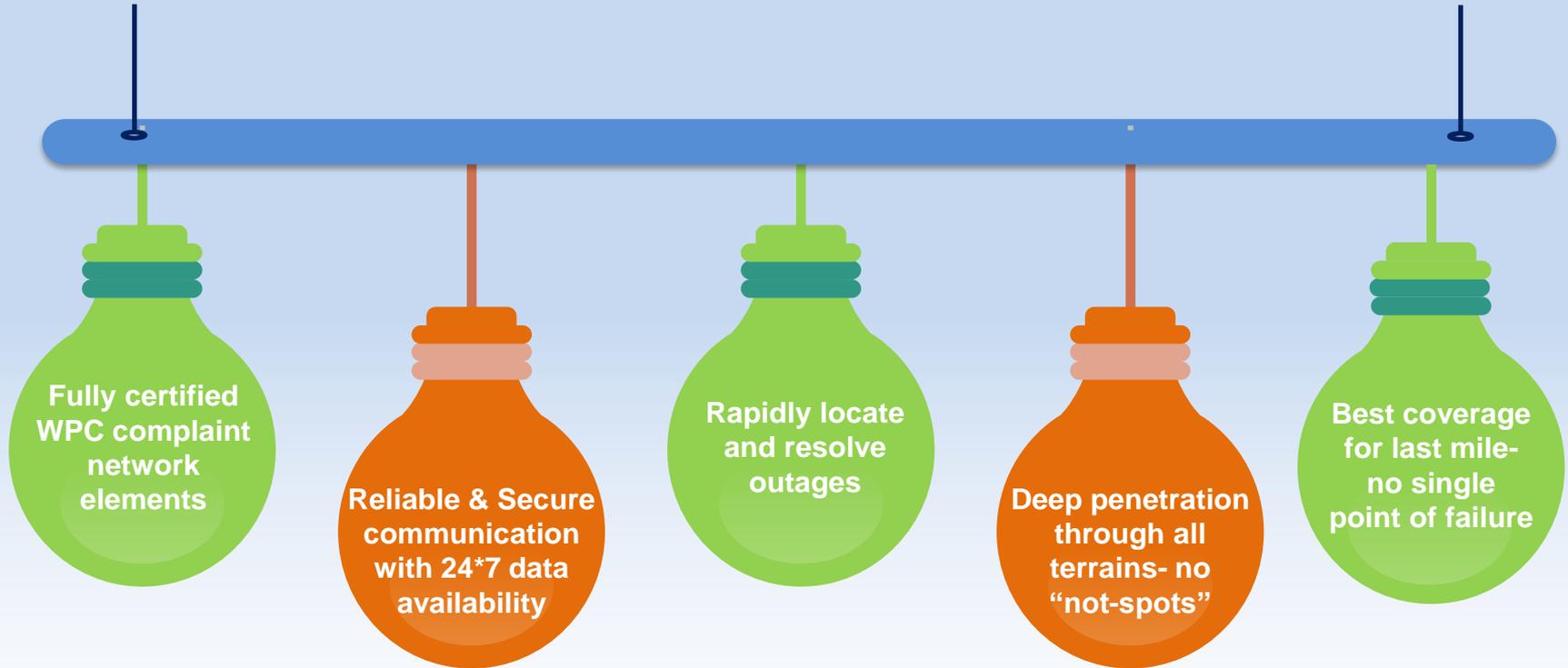
### IPv6 Network – last mile

- Secure IPv6 Network
- 802.15.4 provides AES128 encryption which is enabled beneath IPv6
- UDP, ICMPv6, (DTLS Security)
- Interoperability between different make of meters

### Self Healing, Self Forming

- The nodes determines the best route to the Gateway, either directly or routed through another node
- If a RF node becomes unavailable or a Gateway loses backhaul connection, the RF mesh network will rearrange automatically

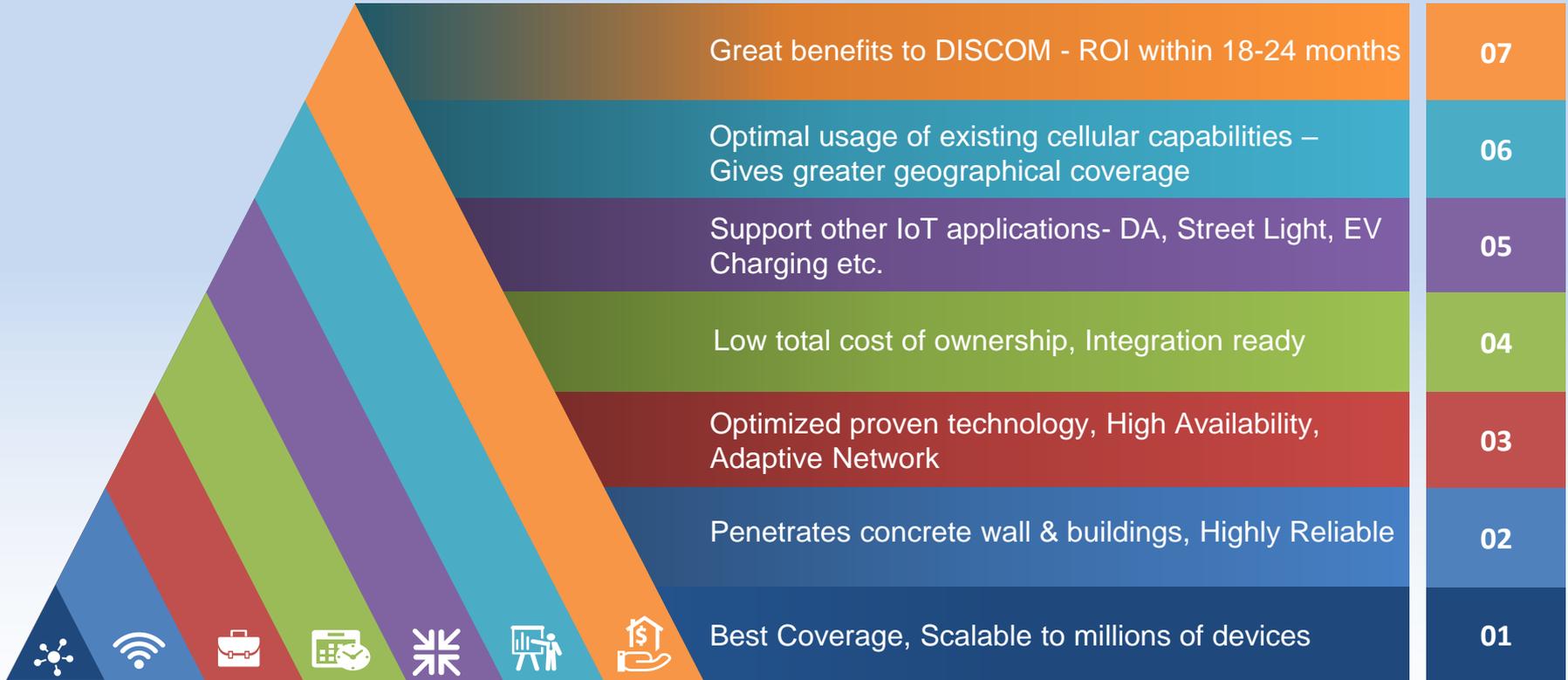
## Omnimesh solution meets the technical requirements for AMI (IS 16444)



**Cost effective, Simple to deploy, build as you go network.**

**A true winning solution for Utilities, Consumers and Government**

# Benefits of Omnimesh RF Network



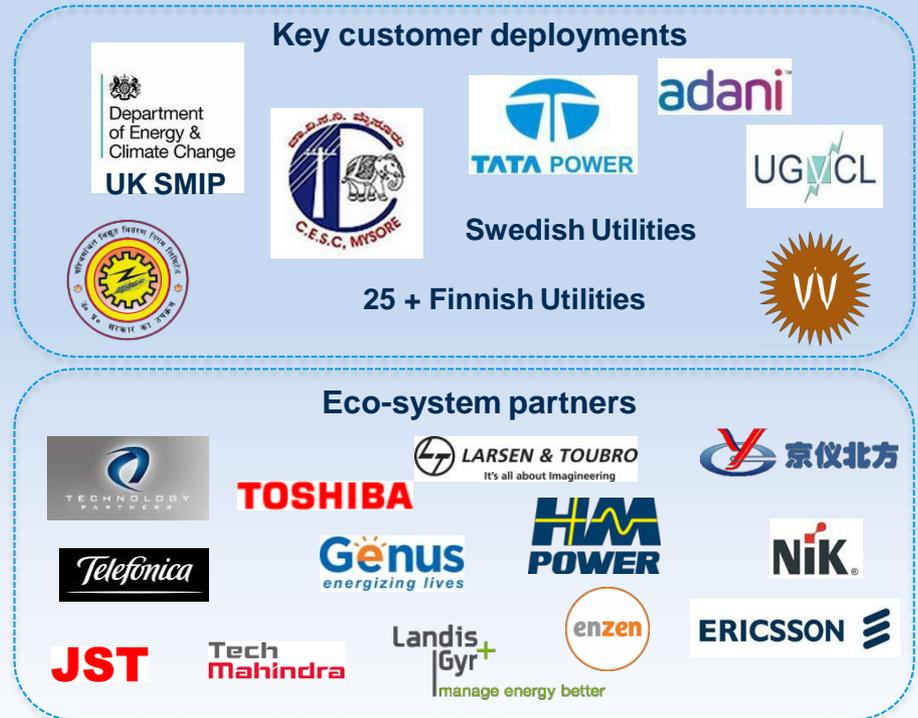
## Blue-chip client base and partner eco-system validates technology offering

### Customers

- Deployed 1.04m electricity meters and streets lights to date across approximately 20 customers globally
- End customer typically an electricity utility with the direct customer (often a major prime contractor partner or meter OEM)

### Partners

- Formed deep relationships with major local partners in target geographies which hugely enhances ability to win and deliver landmark projects
- Have integrated technology into a number of major global meter manufacturers' devices meaning it can rapidly deploy its technology with these OEMs on new projects



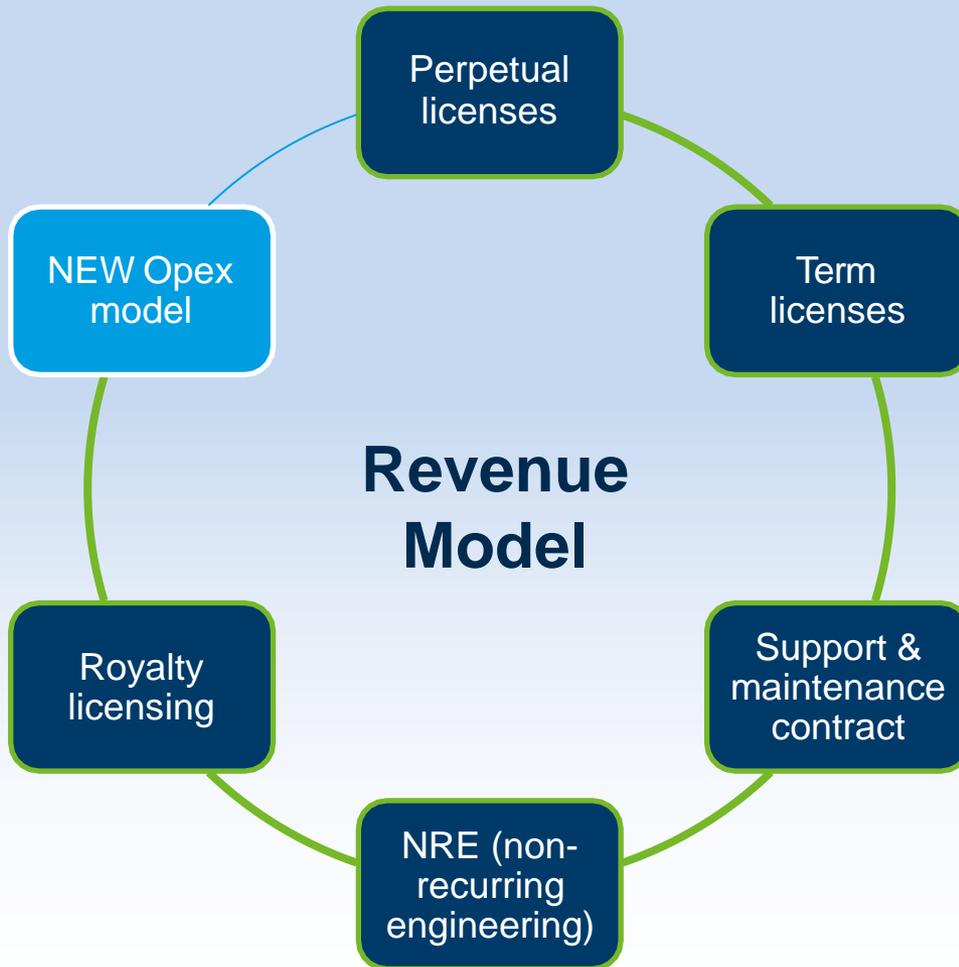
**Key customer deployments**

- Department of Energy & Climate Change UK SMIP
- C.E.S.C. MYSORE
- TATA POWER
- adani
- Swedish Utilities
- UGVCL
- 25 + Finnish Utilities

**Eco-system partners**

- TECHNOLOGY PARTNER
- TOSHIBA
- LARSEN & TOUBRO It's all about Imagineering
- 京仪北方
- Telefonica
- Genus energizing lives
- HIM POWER
- NIK
- JST
- Tech Mahindra
- Landis Gyr+ manage energy better
- enzen
- ERICSSON

Deployed with major end customers, partners and hardware providers



- **Perpetual licences** for: Modules, Gateways and Software – one off payment plus 22% annual SMC
- **Term licenses** for: Module, Gateway, Software over X years, plus 22% annual SMC
- **Support & maintenance contract:** per device once installed, recurring revenue
- **NRE (non-recurring engineering):** rate card, per engineering day
- **Royalty licensing:** manufacture of hardware via reference design
- **Opex Model:** per meter per month

# New Opex Model – realising the vision of a new world



- No upfront investment needed
  - Per meter per month over a period of years ( 7 to 10 years)
- Barriers of high initial cost and comparative end use are subsequently overcome
- Skills and knowledge transfer to local in-country teams
- Local creation of jobs
- Incentives for all stakeholders
- Aggregation of demand to leverage economies to scale and deliver at affordable prices
- Encouraging all sections of the value chain including social, economic and environmental

# Target Countries – strong position in key growth markets



- Considerable opportunity pipeline and strong local partner relationships in markets where large numbers of smart electricity meters due to be installed. Opportunity pipeline extract below:

Potential no. of meters to be installed	Comments	Opportunity pipeline
India 250	<ul style="list-style-type: none"> <li>• Leading player</li> <li>• Total value of orders for Omnimesh to date &gt;\$25 million</li> <li>• Strong pipeline and relationships with major local partners</li> </ul>	\$280m
Indonesia 65	<ul style="list-style-type: none"> <li>• Strong relationship with government-owned meter assembly business</li> <li>• Multiple opportunities</li> </ul>	\$23m
Bangladesh 58	<ul style="list-style-type: none"> <li>• Working with ecosystem of partners on various opportunities, strong relationships in territory</li> </ul>	\$20m
MENA 55	<ul style="list-style-type: none"> <li>• Bidding on a major project in UAE under OPEX model</li> </ul>	\$110m
UK 53	<ul style="list-style-type: none"> <li>• Delivery of UKSMIP project with Toshiba and Telefonica</li> <li>• Software only delivering high margins 90% +</li> </ul>	\$35m
Thailand 24	<ul style="list-style-type: none"> <li>• Strong relationship with major local eco-system partner</li> <li>• Well positioned on new local projects</li> </ul>	\$2m to \$40m
Philippines 21	<ul style="list-style-type: none"> <li>• Pursuing three opportunities with a major local partner</li> <li>• Successful testing and field trials give support confidence</li> </ul>	\$6m
		\$476m

Source: Management; UK 53m includes gas and electricity meters; Gardner (MENA)

## SYSTEMS ACHIEVING OVER 99% SUCCESS RATE FOR SMART METER DATA COLLECTION

CyanConnode has installed its technology in several customer deployments in India

03

Uttar Gujarat Vij Company Ltd (UGVCL)  
2017

04

Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Ltd (MPWZ)  
2018

02

Chamundeshwari Electricity Supply Corporation Limited (CESC, Mysore)  
2015

01

Tata Power, Mumbai  
2014

05

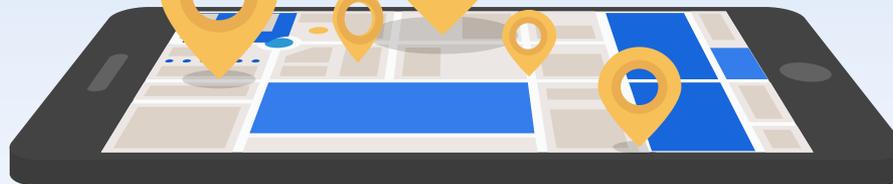
Andhra Pradesh Southern Power Distribution Company Limited (APSPDCL)  
2019

07

Tamil Nadu Generation & Distribution Company (TANGEDCO, Chennai)  
2020

06

Jaipur Vidyut Vitran Nigam Ltd.(JVVNL, Jaipur)  
2018



CyanConnode has been working in India since 2009

50

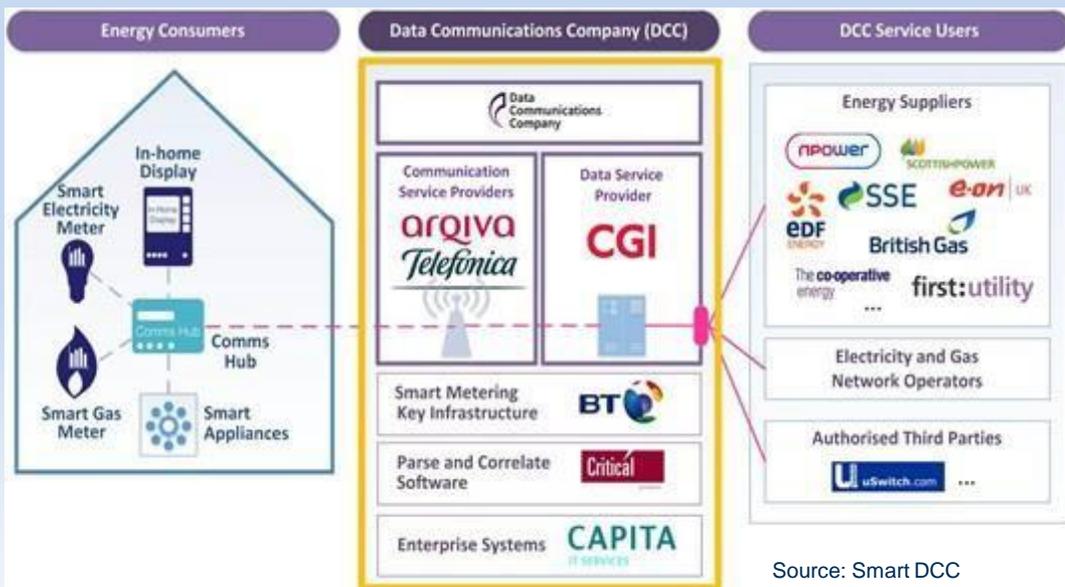
Technology **Fast 50**  
2019 UK **WINNER**  
Deloitte.



# UK Smart Meter Implementation Programme

CyanConnode's solution connects meters in 'not-spots'

## UK SMIP Ecosystem

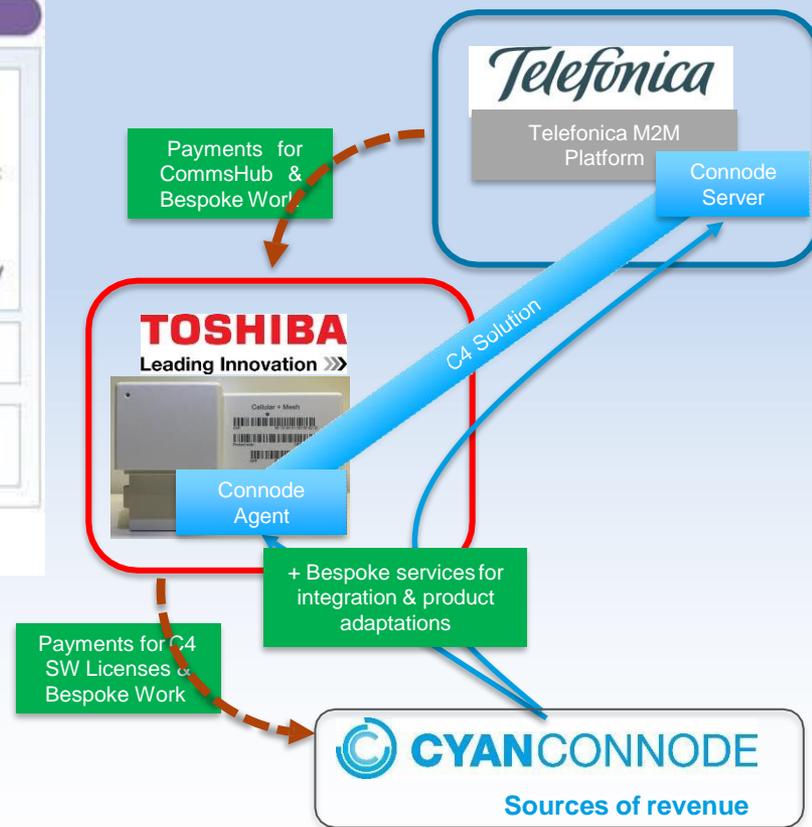


## Revenue Streams

One off License fees

Support fees per meter per month

## Contract and delivery model



- **New products being released into the market**
  - Omnimesh Dual SIM Cellular Network Interface Card
  - Omnimesh Integrated Gateway with Cellular and RF Mesh Capability
  - Omnimesh Long-Range RF Network Interface Card
  - Omnimesh Metering of District Heating
- **New revenue models expected to be taken up**
  - Building an AssetCo model – which has been very actively pursued by the government, electricity authority, utilities, banks, EESL/NIIF who have now built a energy devices funding vehicle
  - World Bank (and IFC), DEG/KFW, FMO, and private entities such as Macquarie, Eversource, and infra funds are keen to co-invest
  - GOI Propose to integrate all of this together and have a Smart Meter as a Service (SMaaS) model, with 7-10 year opex leasing models with no upfront capex by the utility so the country can roll out quicker – GOI target 250m meters in 4 years
  - Co-ordinate the same with IFC

- **Other markets (Sweden / UK)**

Sweden

- Follow on orders from HMP (hardware)
- Further legacy orders received

UK

- Follow-on order for change requests from Toshiba
- Govt announces an extension to the deadline of the rollout from 2020 to 2025.  
CyanConnode expects installation of RF hubs to gain momentum in latter stages of the rollout.

- **Business Development**

- Bangladesh
- Indonesia
- UAE

- **Further opportunity in Thailand**
  - Further opportunities within MEA including street lighting
  - Opportunities with PEA including SMaaS
- **Rollout of existing orders including UK SMIP2, including recently announced orders**
  - Tangedco
  - MEA
- **India – market opportunity**
  - The Indian Government has stated a target of replacing 250 million conventional electricity meters with pre-paid smart meters within three years. Finance Minister Nirmala Sitharaman has allocated Rs 22,000 crore (c. US\$3 billion) for the power and renewable sector in the Union Budget 2020 and has urged state governments to implement smart meters in three years.
  - MPWZ / Indore now intends to add a further 350,000 units across 5 RAPDRP towns to this project due to the benefits being provided by Omnimesh. It is expected these units will be RF Mesh, and the tender is currently underway. Several state-owned utilities and government agencies have visited the project and intend to follow the same model for their respective projects.

- **Next twelve months**
  - Sufficient cash for the next 12 months
- **Further opportunities and focus for growth**
  - 1 million units India FY21
  - Further opportunity in Thailand
  - New revenue models – SMaaS – per meter per month over 7-10 years
  - Huge 250 million unit market in India – assuming only 20 million of this in our plans shows significant growth over the next 5 years
  - New Business territories
    - UAE
    - Indonesia
    - Bangladesh

- **Why invest.....**

- Orders of £45 million in hand of which £38 million still to roll out
- Heavy lifting on R&D has been done. Reliable, secure and scalable product
- Large global market opportunity (250 million meters in India alone) – market recognizes benefits of smart metering particularly during Covid19 and keen to ramp up rollouts. Government of India has allocated \$3 billion in 2020 budget for the power and renewable sector out of \$20 Billion
- Proven technology – Improved billing efficiencies of >25% achieved in India
- Follow-on orders being received in India, Thailand and Sweden
- Operating costs reduced from >£900k per month in H2 2017 to c. £375k per month in 2020
- Vendor agnostic, blue chip partners
- Moving to Metering as a Service giving recurring revenues over multiple years
- Market cap only £7.9 million (as of close 29<sup>th</sup> June) – large growth opportunity