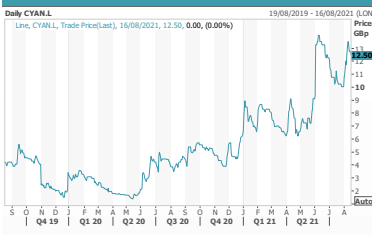




17 August 2021

## Technology



Source: Refinitiv

## Market data

EPIC/TKR	CYAN.L
Price (p)	12.85
12m High (p)	14.50
12m Low (p)	1.25
Shares (m)	219.98
Mkt Cap (£m)	28.3
EV (£m)	26.2
Free Float*	70%
Country of listing	UK
Market	AIM

\*As defined by AIM Rule 26

## Description

CyanConnode is a leading global vendor of intelligent communications solutions, bringing together narrowband RF mesh and cellular technologies, and the Internet of Things (IoT), to create a highly scalable platform for transmission, collection and analysis of data. The company is headquartered in Cambridge, UK, with offices in India and Sweden. To date, it has spent in excess of \$50m on developing its technology platform, on which more than 2.1m endpoints have been delivered globally. At the end of March 2021, total headcount stood at 54 employees, of which 11, or 20%, were women.

## Company information

Executive Chairman John Cronin  
CFO Heather Peacock

+44 1223 225 060

[www.cyanconnode.com](http://www.cyanconnode.com)

## Analyst

Milan Radia 020 3693 7075  
[mr@hardmanandco.com](mailto:mr@hardmanandco.com)

## CYANCONNODE

## FY'21 results; revisiting addressable markets

CyanConnode's FY'21 results were ahead of market expectations, with all financial metrics showing a sharp improvement. YoY revenue growth was 163%, while the EBITDA loss reduced sharply, by 62%. During the year, contracts were signed for in excess of 350,000 modules, while a flurry of new contracts have been signed since end-March. Activity levels relating to the immense planned rollout in India are growing, while other regions (South East Asia, Africa) are starting to exhibit material contract momentum. In this note, we also briefly explore the water meter opportunity. Our updated DCF-implied fair equity value for CyanConnode is £90m.

- **Positive news flow:** Amid a raft of recent positive news flow, CyanConnode released solid FY'21 results, demonstrating no discernible impact from COVID-19. No government support was received, and net growth was seen in headcount. In our view, this all reflects strong end-market demand drivers.
- **Strong growth in module shipments:** 481,000 modules were shipped during the year relating to current contracts, including for the order for 350,000 modules announced in September 2020. Contracts for over 280,000 modules have been signed since the year-end. Revenue recognition across these contracts will vary.
- **FY'21 represented strongest financial outturn in company's history:** In our view, together with new contracts, this supports our financial projections for FY'22 and FY'23: we expect revenue to triple over this period, accompanied by a strong move into profitability in FY'23.
- **Substantial market opportunity:** The long-term financial trajectory of the business will be a function of the overall market opportunity, which is substantial. In this note, we revisit some of the components of this (IoT, Smart Cities) and the expanded geographical opportunity, including Africa.
- **Investment summary:** Our updated revenue estimate for FY'22 (to end-March) of £9.3m is based largely on existing contracts, including these latest major wins. CyanConnode remains in discussions for new contracts in several existing and new markets, while its supply chain remains uninterrupted, despite wider silicon shortages. Our DCF-implied equity fair value is £90m (£0.41 per share), compared with the current market capitalisation of £28.3m.

## Financial summary and valuation

Year-end Mar (£m)	Mar'20*	2021	2022E	2023E	2024E
Revenue	2.45	6.44	9.28	18.83	24.46
Reported EBITDA	-5.46	-2.18	-1.00	2.71	4.67
EBITDA margin	-223%	-34%	-11%	14%	19%
Adjusted EBIT	-5.69	-2.69	-1.28	2.46	4.50
Adjusted pre-tax profit	-5.70	-2.73	-1.26	2.48	4.53
Net income	-5.13	-2.06	-0.56	2.29	3.99
EPS (p)	-2.96	-1.18	-0.25	1.04	1.81
EV/revenue (x)	10.7	4.1	2.8	1.4	1.1
EV/EBITDA (x)	-4.8	-12.0	-26.1	9.7	5.6
P/E (x)	-4.3	-10.9	-50.7	12.4	7.1

\*15 months to Mar'20 (due to year-end change); Source: Hardman &amp; Co Research

## Investment highlights

### Small vendor, yet a global technology leader

CyanConnode is a relatively small technology company, yet it is established as a global leader in narrowband RF smart mesh networks and technologies. Although the company is presently well-known for its intelligent modules for smart meters, its core Omnimesh platform can be applied to a range of smart city applications, including electricity, gas, water, street lighting and EV chargers. The core theme running through all of these applications is that they involve machine-to-machine communications that require highly resilient connectivity. In scenarios where there are a myriad of connected devices all generating data, the proven scalability and network resilience of CyanConnode's Omnimesh platform are ideal. These attributes and a track record of large-scale successful implementations are persuading some of the largest players in the Indian rollout to form partnerships with CyanConnode. However, the strong revenue growth that the company is experiencing has not yet been driven by these initiatives; the upside from these is yet to come.

### Smart meter focus for now

Much of the company's current focus is on smart meters, a market segment where activity levels around the world are high. Governments around the world understand the need to maintain a healthy energy supply chain, given not only the growing power requirements of traditional industries but also the increasing role of digital adoption in economic development and the associated power requirements. In many emerging economies, the power industry is characterised by regular blackouts, theft, billing inefficiency and fraud. It is clear that reducing losses is a priority for the power distribution companies (Discoms), and smart meters are the primary means of achieving this. It is unsurprising, therefore, that governments have continued to prioritise rollouts of smart meters.

#### *India*

India remains the largest country of activity in the smart metering market globally. The Indian programme to roll out 250 million smart meters has been gaining momentum. The Indian Discoms have seen a 15%-20% improvement in monthly revenue per customer moved on to smart meters, which represents a huge saving, given the scale of these distribution businesses. These types of compelling return on investment metrics can only help to accelerate the pace of smart meter deployments.

CyanConnode's position with respect to the Indian opportunity has been strengthening over time. In May 2021, the company announced a non-binding MOU with IntelliSmart, a partially state-owned entity that is at the centre of the smart meter rollout programme in India. Under the terms of the MOU, CyanConnode will utilise its hybrid RF/cellular technologies for existing and new IntelliSmart smart meter contracts, amounting to millions of units. Intellisart is one of the two most important players in the Indian smart meter market, the other being Energy Efficiency Services Limited (EESL).

EESL was established in 2009 as a JV comprising four of the largest power companies in India. A subsequent JV, named IntelliSmart Infrastructure, was formed in 2019 by EESL and the National Investment and Infrastructure Fund (NIIF) to support the distribution utilities with the financing, procurement, deployment and operation of smart metering infrastructure. IntelliSmart is essentially under the ownership of the largest power companies in India, making it an obvious recipient, over time, of the lion's share of smart meter contracts under the Indian programme.

The value of orders currently being deployed by CyanConnode in India is ca. INR 1.8bn (ca. £19m). The majority of the revenue for these orders is expected to be recognised over two years. The company's largest Indian order to date has been for 430,000 Omnimesh modules, which was secured in 2018, in conjunction with Genus (both with the same utility company). The total number of meters covered by the two contracts is 430,000, representing a contract value of ca. \$10m. The second-largest order was for 350,000 modules with Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Ltd (MPWZ). MPWZ has a total of 3m customers, and its latest order takes the tally to 470,000 modules, together with Head End Server (HES) software for connectivity to both RF modules and cellular modules. We would expect CyanConnode to receive orders for the majority of the remaining 2.5m customer endpoints for MPWZ in phases over the next two to three years.

More recently, in August 2021, CyanConnode announced a major new order in India, for 152,000 smart meter modules, plus associated gateways, software licences and maintenance for a full Advanced Metering Infrastructure (AMI) deployment. The customer utility is in Northern India, marking a new region for CyanConnode for the Indian rollout.

While there are no official metrics on the completion rate for the Indian Smart Meter National Programme, based on contract awards and deliveries to date, we estimate that in excess of 80% of these have yet to be placed under contract. This suggests i) that an acceleration in contracts is likely, given the significant emphasis placed on this initiative by the Indian Government, and ii) that CyanConnode's MOU with Intellismart could prove to be an important stepping stone to significant participation in the next tranches of contract awards, especially with the benefit of a strong partnership with Schneider Electric, following the latter's acquisition of Larsen & Toubro's infrastructure business.

### *Africa*

We attach considerable significance to the company's announcement in early August of its first contract in Africa for 100,000 modules. The country and details of this contract remain undisclosed for reasons of commercial confidentiality. CyanConnode has formed a number of partnerships to address the Africa and Middle East regions, and this contract suggests that the opportunity is starting to come to life. This is perhaps unsurprising, given that the power distribution utilities in many of the largest African countries are in some difficulty.

In South Africa, for example, the state-owned power utility, Eskom, is suffering from a combination of a very large debt burden, a substantial shortfall in generation capacity and regular load shedding (rolling power cuts to manage situations where demand for electricity exceeds supply).

Data recently published by the South Africa Council for Scientific and Industrial Research (CSIR) confirmed the extent of the impact of these electricity issues on the country. The report indicates that South Africa experienced 650 hours of load shedding in the first half of the year – the equivalent of 27 full days. This is on track to comfortably exceed the metrics posted for 2020, which is currently the worst year of load shedding on record, with 859 hours lost over a 12-month period. It is perhaps obvious that this can only have a highly adverse impact on the economy, even if the situation has become the norm.

The situation in Nigeria, the largest economy in Africa, is similarly dire, with regular blackouts and power cuts. World Bank data show that, during 2019, Nigeria suffered power outages on more than half the days of the year.

Just to be clear, smart meters cannot address the fundamental generation infrastructure issues in these countries – long-term infrastructure projects are the solution. However, smart meters can ensure that the existing supply is utilised far

more efficiently, reducing leakage from the system through theft and fraud, and financial losses from inadequate billing for the electricity that is used.

To put matters in context, the total population of Africa is around 1.38bn, similar to the total population of India. There are, of course, structural differences, starting with the fact that the African population is across 54 different countries. However, the addressable market in Africa should, in principle, be similar to India, at 250m smart meters, if not more. Funding mechanisms will be a key consideration in Africa, and the opex models that we describe below will be a critical element, given the funding constraints and debt burdens of the major utilities in Africa.

## Evolution towards opex models

A potential accelerant of smart meter deployments around the world is the growing emphasis on opex models, versus the traditional capex approach. Under the latter, the utility is required to fund the cost of the smart meters, intelligent modules (supplied by CyanConnode) and related infrastructure and software at the outset. As we have discussed, utilities in many parts of the world are heavily indebted and financially constrained, impeding the investment in smart meters that is essential to alleviating the financial leakages that are partly responsible for these issues.

This somewhat circular situation is attracting the interest of infrastructure funds which are well placed to break the negative cycle through the introduction of opex-based models. Opex financing involves the capex for the smart meter deployment being funded by an infrastructure fund, and the utility pays a sum per meter per month over a period sufficient for the fund to recover its investment, plus an adequate financial return.

Opex models are already being implemented on a hybrid basis. The latest order from MPWZ was addressed as a combination of capex for the majority of the modules, with a portion of the total contract value payable on an opex basis as "Equated Monthly Instalments (EMI)" over a five-year period. CyanConnode's payment terms will vary by contract, but, to date, there has been recognition that, as a small vendor, it would be reasonable for the company to receive payment for modules largely upfront, with maintenance and support revenue deferred over the contract period. It is likely that this approach will persist, given the strategic role that CyanConnode plays in these programmes, and, given an upfront payment profile for the hardware modules, the company should be able to strike an attractive balance between upfront revenue and ongoing recurring revenue streams.

## Water meters

While the current focus is on electricity meters, one of the additional major opportunities emerging for CyanConnode is water meters. In May 2021, the company announced a global strategic alliance with Smart Energy Water (SEW), which is a global energy and water cloud platform provider, with over 300 utility customers around the world. SEW is headquartered in California, and is focused on next-generation solutions to improve operational efficiency and customer experience, using proprietary and third-party technologies. At the time of the announcement, the CEO of SEW provided the following comment:

*"SEW is delighted to partner with CyanConnode and offer its customers CyanConnode's intelligent communication solutions, in the knowledge that this technology has been proven by worldwide commercial scale deployments."*

The proven technology is evidently a key driver here, as it has been with the major partnerships in India.

There appears to be substantial activity with respect to smart meter upgrades in the UK market, where utilities are actively seeking to implement Advanced Meter Infrastructure (AMI), which is an integrated system of smart meters, communications networks and data management systems that enables two-way communication between utilities and customers. With AMI, not only can meters be read automatically, but instructions can be sent to the meter from a central point – which might be to disconnect (for example, if a bill has not been paid) or to update time-based pricing data to manage consumption. The information collected from smart meters can be processed in real time, and signals can be sent to manage demand. These systems are widely acknowledged to offer substantial potential benefits, many of which are central to the highly positive returns on investment associated with smart meter implementations.

At present, albeit surprisingly, most of the “smart” meters installed by the water utilities require visits by human meter readers. Existing suppliers are seeking to offer upgrades, but seemingly require entire meters to be replaced. CyanConnode’s technology can be retrofitted into existing meters (something that is central to the company’s discussions in the Middle East) to offer AMI, which would represent substantial savings for the water utilities. Leak detection analysis is an integral feature of the CyanConnode platform – an important factor for the utilities.

The company’s discussions with the water utilities are in the early stages, but the partnership with SEW and the latter’s strong reputation in the area of digital transformation of utilities may be helpful in establishing initial traction in this incremental segment.

## Addressable markets

There are multiple layers to the growth opportunity for CyanConnode. While the company is today benefiting from strong growth for its smart metering communications technologies, which span a number of different capabilities, the longer-term opportunity encompasses a far broader scope. From the perspective of addressable markets, CyanConnode is successfully expanding its reach from a geographical and segmental point of view. Within smart meters, entire continents have been added, while the company’s retrofit capabilities are bringing opportunities in the water metering segment.

We consider market growth estimates and the addressable market for CyanConnode in three layers:

- ▶ the Internet of Things (IoT);
- ▶ smart cities; and
- ▶ smart metering.

These are all inter-related and overlapping areas, but they all represent substantial end-markets in their own right. The chart below provides our take, together with a selection of third-party market forecasts produced by leading commentators on these segments. The overall message is that CyanConnode’s end-markets remain in their relative infancy when it comes to adoption today.

CyanConnode: relative addressable market sizing

**Internet of Things**

Fortune Business Insights: global IoT market expected to reach \$1.46tr by 2027 from \$251bn in 2019, driven by smart sensors and cities  
 Mordor Intelligence: global IoT market expected to reach a value of \$1.39tr by 2026 from \$761bn in 2020



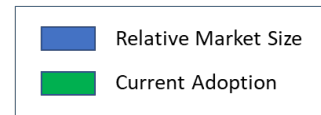
**Smart Cities**

Markets & Markets Research: global smart cities' market size expected to grow from \$411bn in 2020 to \$821bn by 2025  
 Frost & Sullivan: smart cities could generate significant business opportunities with a market value of \$2.46tr by 2025



**Smart Meters**

Research & Markets: global smart meter market expected to reach \$38bn by 2026  
 Allied Market Research: global smart meter market projected to be \$39bn by 2027



Source: Hardman & Co Research

## Valuation

Our approach to understanding the potential valuation of CyanConnode centres on a DCF analysis. Our assumptions are set out in their entirety in the table below, and are relatively conservative, particularly the WACC of 10.9% and the medium-term revenue profile, given the international pipeline of opportunities.

The analysis produces an implied fair enterprise value of £87.9m and an implied fair equity value of £90.0m (equating to £0.41 per share). These valuation outcomes are materially higher than the current enterprise value of £26.2m and market capitalisation of £28.3m.

### CyanConnode – Hardman & Co DCF analysis

Terminal FCF growth rate	3.0%
Long-term sustainable EBIT margin	28.0%
Long-term tax rate on EBIT	20.0%
<b>WACC</b>	<b>10.9%</b>

Y/end March, £m	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	Terminal value	
<b>Revenue</b>	<b>9.3</b>	<b>18.8</b>	<b>24.5</b>	<b>31.1</b>	<b>38.9</b>	<b>46.6</b>	<b>52.2</b>	<b>54.8</b>		
<i>yoy growth</i>	44.2%	102.8%	30.0%	27.0%	25.0%	20.0%	12.0%	5.0%		
EBIT margin	-13.8%	13.1%	22.0%	23.5%	25.0%	26.0%	27.0%	28.0%		
<b>EBIT</b>	<b>-1.3</b>	<b>2.5</b>	<b>4.5</b>	<b>7.3</b>	<b>9.7</b>	<b>12.1</b>	<b>14.1</b>	<b>15.4</b>		
Depreciation & amortisation	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7		
<b>Adj. EBITDA</b>	<b>-0.7</b>	<b>3.0</b>	<b>5.1</b>	<b>7.9</b>	<b>10.3</b>	<b>12.7</b>	<b>14.7</b>	<b>16.0</b>		
Tax rate	0.0%	8.0%	12.0%	20.0%	20.0%	20.0%	20.0%	20.0%		
Tax on EBIT	0.0	-0.2	-0.5	-1.5	-1.9	-2.4	-2.8	-3.1		
Change in net working capital	-0.5	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7		
<b>Cashflow from operations</b>	<b>-1.2</b>	<b>2.1</b>	<b>3.8</b>	<b>5.7</b>	<b>7.7</b>	<b>9.6</b>	<b>11.2</b>	<b>12.2</b>		
Capex	-0.2	-0.2	-0.3	-0.3	-0.4	-0.5	-0.6	-0.7		
<b>Unlevered free cashflow</b>	<b>-1.4</b>	<b>1.9</b>	<b>3.5</b>	<b>5.4</b>	<b>7.3</b>	<b>9.1</b>	<b>10.6</b>	<b>11.5</b>	<b>145.9</b>	
Year	1	2	3	4	5	6	7	8	9	10
Discount factor	1.11	1.23	1.36	1.51	1.68	1.86	2.06	2.29	2.54	2.54
<b>Present value</b>	<b>-1.3</b>	<b>1.5</b>	<b>2.6</b>	<b>3.6</b>	<b>4.3</b>	<b>4.9</b>	<b>5.1</b>	<b>5.0</b>	<b>4.5</b>	<b>57.5</b>

Note: based on medium-term assumptions from 2024E

<b>Implied valuation metrics</b>	<b>£m</b>
Sum of nine-year cashflow	30.4
Terminal value	57.5
Value of the firm	87.9
Net funds	2.1
<b>Total equity value</b>	<b>90.0</b>
No. of shares in issue (m)	220.0
<b>Fair value share price (£)</b>	<b>0.41</b>

Source: Hardman & Co Research estimates

## Profit and loss

CyanConnode P&L							
Year-end Mar (£000)	12M Dec 2017	12M Dec 2018	15M Mar 2020	2021	2022E	2023E	2024E
<b>Revenue</b>	<b>1,171</b>	<b>4,465</b>	<b>2,451</b>	<b>6,437</b>	<b>9,282</b>	<b>18,827</b>	<b>24,461</b>
Cost of sales	-674	-1,724	-1,081	-3,334	-5,105	-10,731	-14,187
<b>Gross profit</b>	<b>497</b>	<b>2,741</b>	<b>1,370</b>	<b>3,103</b>	<b>4,177</b>	<b>8,096</b>	<b>10,274</b>
<b>Gross margin</b>	<b>42%</b>	<b>61%</b>	<b>56%</b>	<b>49%</b>	<b>45%</b>	<b>43%</b>	<b>42%</b>
Operating expenses	-11,161	-8,589	-6,827	-5,284	-5,178	-5,385	-5,601
<b>EBITDA</b>	<b>-10,664</b>	<b>-5,848</b>	<b>-5,457</b>	<b>-2,181</b>	<b>-1,001</b>	<b>2,710</b>	<b>4,673</b>
Share-based payments	-689	-445	-267	-80	-300	-320	-400
Stock impairment	-55	-578	-4	-108	0	0	0
Foreign exchange losses	-52	-16	-267	15	0	0	0
<b>Adjusted EBITDA</b>	<b>-9,868</b>	<b>-4,809</b>	<b>-4,919</b>	<b>-2,008</b>	<b>-701</b>	<b>3,030</b>	<b>5,073</b>
EBITDA margin	-911%	-131%	-223%	-34%	-11%	14%	19%
Depreciation & amortisation	-489	-472	-772	-627	-576	-570	-570
EBIT	-11,153	-6,320	-6,229	-2,808	-1,577	2,140	4,103
<b>Adjusted EBIT</b>	<b>-10,357</b>	<b>-5,281</b>	<b>-5,691</b>	<b>-2,685</b>	<b>-1,277</b>	<b>2,460</b>	<b>4,503</b>
Adjusted EBIT margin	-884%	-118%	-232%	-42%	-14%	13%	18%
Investment income	16	13	17	1	2	2	3
Net finance income	-6	-2	-30	-50	20	22	26
<b>Adjusted PBT</b>	<b>-10,347</b>	<b>-5,270</b>	<b>-5,704</b>	<b>-2,734</b>	<b>-1,255</b>	<b>2,484</b>	<b>4,532</b>
Taxation/tax credit	1,402	927	576	677	697	-199	-544
Effective tax rate	-14%	-18%	-10%	-25%	-56%	8%	12%
<b>Net income</b>	<b>-8,945</b>	<b>-4,343</b>	<b>-5,128</b>	<b>-2,057</b>	<b>-558</b>	<b>2,285</b>	<b>3,988</b>
EPS (basic, p)	-10.18	-3.71	-2.96	-1.18	-0.25	1.04	1.81
EPS (diluted, p)	-10.18	-3.71	-2.96	-1.18	-0.25	1.04	1.81
Average shares in issue (basic, m)	95.740	116.976	173.048	174.755	219.984	219.984	219.984
Average shares in issue (dil., m)	95.740	116.976	173.048	174.755	219.984	219.984	219.984

Source: Hardman & Co Research



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## Status of Hardman & Co's research under MiFID II

Some professional investors, who are subject to the new MiFID II rules from 3rd January 2018, may be unclear about the status of Hardman & Co research and, specifically, whether it can be accepted without a commercial arrangement. Hardman & Co's research is paid for by the companies, legal entities and issuers about which we write and, as such, falls within the scope of 'minor non-monetary benefits', as defined in the Markets in Financial Instruments Directive II.

In particular, Article 12(3) of the Directive states: 'The following benefits shall qualify as acceptable minor non-monetary benefits only if they are: (b) 'written material from a third party that is commissioned and paid for by a corporate issuer or potential issuer to promote a new issuance by the company, or where the third party firm is contractually engaged and paid by the issuer to produce such material on an ongoing basis, provided that the relationship is clearly disclosed in the material and that the material is made available at the same time to any investment firms wishing to receive it or to the general public...'

The fact that Hardman & Co is commissioned to write the research is disclosed in the disclaimer, and the research is widely available.

The full detail is on page 26 of the full directive, which can be accessed here: <https://ec.europa.eu/transparency/regdoc/rep/3/2016/EN/3-2016-2031-EN-F1-1.PDF>.

In addition, it should be noted that MiFID II's main aim is to ensure transparency in the relationship between fund managers and brokers/suppliers, and eliminate what is termed 'inducement', whereby free research is provided to fund managers to encourage them to deal with the broker. Hardman & Co is not inducing the reader of our research to trade through us, since we do not deal in any security or legal entity.

