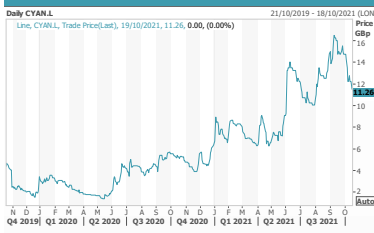




20 October 2021

## Technology



Source: Refinitiv

## Market data

EPIC/TKR	CYAN.L
Price (p)	11.90
12m High (p)	14.50
12m Low (p)	1.55
Shares (m)	219.98
Mkt Cap (£m)	26.2
EV (£m)	24.5
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

## 1H'22 update: strong shipments and cash inflows

Alongside the multiple new contracts signed in fiscal 1H, CyanConnode's smart meter intelligent module shipments continued to accelerate during the period. 315,000 modules were shipped, versus 92,000 in the same period last year and 481,000 for the entirety of FY'21. 1H'22 revenue came in at £4.1m, almost three times the comparative 1H'21 figure of £1.5m. The potentially immense market opportunity is starting to translate into large orders, accelerating shipment volumes, exceptionally strong revenue growth and cash inflows – £3.8m was received from customers during the period, resulting in £1.7m net cash at end-September 2021. Our updated DCF-implied fair equity value for CyanConnode is £89.6m.

- ▶ **On track to meet FY'22 estimates:** Together with new contracts, the 1H'22 outturn supports our financial projections for FY'22 and beyond. We expect revenue to triple over 2021-23, accompanied by a strong move into profitability in FY'23. Larger contracts and opex-centric deals will create growing visibility.
- ▶ **Acceleration in module shipments:** 315,000 Omnimesh modules were shipped during the period, across gateways and relating to current contracts, a marked uplift of over 200% versus 1H'21. Contracts for almost 300,000 modules have been signed since the year-end. Revenue recognition across these contracts will vary.
- ▶ **Indian opportunity remains front and centre:** Acknowledging the sluggish pace of smart meter installations, the Indian government is implementing multiple measures to compel faster progress. These include financial incentives and proposed legislation that will allow private distribution companies to enter the market.
- ▶ **CyanConnode is well-positioned in India:** Major factors include the depth and scalability of the technology platform, the neutrality of the Omnimesh platform with respect to meter manufacturers, the reference deployments in India, partnerships with key entities, and the quality and experience of management.
- ▶ **Investment summary:** Our revenue estimate for FY'22 (to end-March) of £9.3m continues to be based largely on existing contracts. CyanConnode remains in discussions for new contracts in several existing and new markets. The company has continued to manage its supply chain deftly, and replenishments have been uninterrupted. Our DCF-implied equity fair value is £89.6m (£0.41 per share), versus the current market capitalisation of £26.2m.

## 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)	10.0	3.8	2.6	1.3	1.0
EV/EBITDA (x)	-4.5	-11.2	-24.4	9.0	5.2
P/E (x)	-4.0	-10.1	-46.9	11.5	6.6

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

## Investment highlights

CyanConnode's positioning with respect to the Indian opportunity, in our view, has continued to improve, and the company is now partnering with the entities at the heart of the programme. Technical performance, high levels of availability and uptime, engineering resilience and relatively low deployment costs are all factors in CyanConnode's favour and bringing it to the fore. The new management team in India is well-entrenched in the domestic power industry, which is undoubtedly helping. It needs to be remembered that the focus is increasingly on "opex" contracting arrangements (a concept we revisit briefly in this report), which are an important step towards accelerating the pace of the national rollout by easing the upfront cash burden on the power distribution companies (Discoms). However, these are complex arrangements, particularly given the scale of the deployments, with many moving parts – and hence take time to negotiate and complete.

We are mindful of this, as we contemplate the phasing of the growth outlook – our FY'22 estimates remain based largely on existing contracts, for which deliveries are progressing on time, despite component shortages and other supply chain interruptions. At the same time, as reflected in the various new contract announcements made in 1H'22, there are growing activity levels in several other countries and continents around the world. Thailand, Africa and the Middle East are commencing large-scale rollouts. In fact, EESL of India is partnering with CyanConnode in some of these territories. Given the scale of the losses being incurred in electricity distribution chains across these markets, we believe the company has a long growth runway ahead.

## Update on Indian programme

### *Smart meter programme in India is seen as crucial*

There are currently 73 electricity distribution companies (Discoms) in India, serving more than 200m consumers across over 3 million sq m. At the present time, India has one of the most ambitious smart meter rollout programmes in the world. It is not difficult to see why. The Indian distribution utilities have been struggling for many years, weighed down by inefficiencies across their operations. The Indian government understands that this loss represents a drain on the economic development of the country, at a time when the strategic value of power is becoming significant. The Indian Minister of Power and of New and Renewable Energy, Mr R.K. Singh, stated the following in an introduction to the latest Discom ratings published in July 2021:

*"Power is a crucial component of infrastructure development, affecting economic growth, national competitiveness and the welfare of the country."*

### *New initiatives to transform Discoms*

At the same time, the Indian government acknowledges that previous efforts to turn around the power distribution sector have not delivered sufficient impact. Accordingly, new initiatives have been launched, focusing on delivered results. Rs3.03 trillion has been allocated to help the Discoms to "reform, perform and transform into modern Discoms". Financial assistance is predicated on targets being met with respect to a range of factors, particularly focused on AT&C, which is a blended loss metric that comprises a combination of Energy Loss (Technical Loss + Theft + Billing Errors & Inefficiency) and Commercial Loss (Payment Defaults + Collections Ineffectiveness).

The table below is an extract from a document published by the Indian Ministry of Power, entitled *Ranking and Ninth Annual Integrated Rating: State Distribution Utilities, July 2021*. 28% of the total score is accounted for by AT&C losses.

### Parameters of Discom ratings in India

S. No.	Parameters	Weightage / Maximum Score
<b>1</b>	<b>OPERATIONAL &amp; REFORM Parameters</b>	<b>43</b>
I)	<b>Operational related</b>	
i)	AT&C Losses	28,-4
ii)	Power purchase	3
iii)	Cost Efficiency	6
II)	<b>Reform related</b>	
iv)	RPO Compliance	2
v)	Corporate Governance	4
<b>2</b>	<b>EXTERNAL Parameters</b>	<b>15</b>
I)	Regulatory	11,-19
II)	Govt. Support	4
<b>3</b>	<b>FINANCIAL Parameters</b>	<b>42</b>
I)	<b>Ratios</b>	
a	Cost Coverage Ratio	15
b	Interest Coverage Ratio	4
c	Total Debt to Net Worth	3, -2
II)	<b>Sustainability</b>	<b>6</b>
III)	Receivables	5
IV)	Payables	4
V)	Audited Accounts	5,-12
VI)	Audit Qualifications	0,-1
VII)	Default to Banks / FIs	0,-2
	<b>Total</b>	<b>100</b>

Source: Indian Ministry of Power

### *Proposed new legislation in India*

The Indian government's determination to shake up the Discoms is perhaps evident in the proposed Electricity Amendment Bill 2021, which is due to be introduced in Parliament. This bill is an amendment to the Electricity Act 2003, and contains provisions to "de-license" power distribution, which would allow privately owned distribution companies to enter the market and compete with the state-owned Discoms across the country. There are currently private companies operating distribution companies, but this is restricted to a smaller number of major cities, including New Delhi, Mumbai and Ahmedabad. Concerns have been raised that the new operators will seek out the most lucrative customers – for example, industrial companies. We anticipate an operational framework to address these types of issues. However, the message from the government is clear – the Discoms need to improve their financial and operational performance. An important, additional part of the new framework for Discoms is Renewable Purchase Obligations (RPOs), which dovetail with national targets for renewables.

### *Digitalisation is central to Discom progress*

The International Energy Agency (IEA) has noted four primary mechanisms through which digital data and analytics may reduce entire power system costs:

- a) reducing operations and maintenance costs;
- b) improving power plant and network efficiency;
- c) reducing unplanned outages and downtime; and
- d) extending the operational lifetime of assets.

An insightful article published in October 2021 by the MD and CEO of Intellismart, Anil Rawal, noted that, for Discoms, digital technologies that may be implemented include smart grid, Advanced Metering Infrastructure (AMI), substation automation, Internet of Things (IOT)-based interventions, and advanced data analytics through Artificial Intelligence/Machine Learning.

Mr Rawal goes on to state the following:

*“The smart combination of IT and operational technology is pertinent to implementing digital technologies in the Discoms. This can be achieved through smart meters as they combine benefits of real time two-way data communication for better optics for informed decision making with remote operations through connect/disconnect capabilities. Realising the plethora of advanced capabilities that smart meters provide, the Power Ministry targeted to install 250 million smart meters across the country. However, the present pace of implementation of AMI in the country needs push since only 2.6 million installations have been achieved so far.”*

Only 1% of the target number of smart meter installations have been delivered, which undoubtedly provides useful context for the decision by Intellismart to partner with CyanConnode.

An interesting article by Rajesh Bansal, CEO of BSES Rajdhani Power, a Discom, was published in September 2021, and highlighted the series of issues that have been experienced with certain vendors' platforms. He concluded that validation of newer vendor offerings was insufficient and that a greater degree of testing was required on an integrated basis. This is a challenging endeavour, and CyanConnode's status as a vendor of a platform that has not only been validated, but successfully deployed at scale, should represent a substantial advantage.

### *CyanConnode is well-positioned*

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. 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 AMI deployment. The customer utility is in Northern India, marking a new region for CyanConnode for the Indian rollout.

In the table below, we set out some of the key factors that we believe are relevant when considering CyanConnode's prospects of capturing significant share of the Indian smart meter opportunity. These include the depth and scalability of the technology platform, the fact that the technology is compatible with all meter manufacturers in India, the reference deployments, the strength of the company's partnerships and the quality of the management team.

## CyanConnode: strong positioning for the Indian opportunity

### RF Mesh technology advantages relevant to India

Alongside the company's reputation for technical excellence, the starting point for the strong interest is the highly resilient RF-based mesh solution that Omnimesh offers, reducing outages and costly maintenance visits in rural areas, where cellular coverage is thin and unreliable.

### Compatible with all smart meter manufacturers

CyanConnode's smart meter modules are compatible with all Indian meter manufacturers. This is helpful given the depth of concerns on the part of the Indian government with respect to sourcing of critical infrastructure in a way that leaves the country open to attack from hacking.

### Memorandum of Understanding (MOU) with Intellismart

The MOU with Intellismart, set up to support the Indian utilities with the financing, procurement and deployment of smart metering infrastructure, in our view, seeks to leverage CyanConnode's track record of successful implementations when the pressure to accelerate progress is intensifying.

### Service level agreements (SLAs) of 99% and above

Unproven vendors are starting to flounder in India – we believe this is one of the reasons for the growing focus from the state-sponsored entities on CyanConnode, which is demonstrating its ability to deliver exceptionally high availability (SLAs of over 99%) and substantial improvements in billing efficiency in the projects being deployed currently.

### Highly respected management team in India

CyanConnode has made several high-profile hires in India. The Vice Chair, Ajoy Rajani, previously held senior positions at Reliance and Adani Energy, while the MD and CEO of the Indian business was previously COO at Intellismart, which he joined from EESL after working at Schneider Electric.

Source: Hardman & Co Research

## Revisiting some key themes

For readers who are less familiar with the smart metering market and the market opportunity, we recap here some of the key themes:

### *Opex versus capex models*

We have discussed the plan to roll out some 250m smart meters, which will involve expenditure of many billions of dollars on meters and related infrastructure. Given that one of the objectives is to improve the financial efficiency of the Discoms and gradually alleviate their sizeable debt burden, it is difficult to see how they would afford the upfront capex associated with the smart meter rollouts.

Enter Opex financing, which 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 a financial return for the investors in the fund. Intellismart, which has signed an MOU with CyanConnode, is in fact the entity tasked with supporting the Discoms with the financing, procurement, deployment and operation of smart metering infrastructure. This includes driving adoption of opex models, which are widely acknowledged to be a critical component going forward.

These are complex contracting arrangements with an enormous number of operational and financial considerations that must be taken into account. Although our sense is that the initial tranche of these contracts may require extended periods

to complete due to these complexities, thereafter, the path to contract awards should accelerate.

It is noteworthy that what we describe as “hybrid” opex contracts have already been awarded. One example is CyanConnode’s order from MPWZ for 350,000 units, which was announced in September 2020. This is structured 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 is a small but important vendor, and our understanding is that the prime contractors and customers are typically willing to allow upfront payments for the Omnimesh modules. Maintenance and support revenue streams are likely to be deferred, as in the MPWZ example, which is a standard approach, and will, over time, create a substantial proportion of visible recurring revenue for the company.

MPWZ has a total of 3m customers, and, so far, it has ordered 470,000 modules from CyanConnode, together with Head End Server (HES) software for connectivity to both RF modules and cellular modules. We expect CyanConnode to receive orders for the majority of the remaining 2.5m customer endpoints for MPWZ in phases over the next few years.

### *Smart meter opportunities outside of India*

Understandably, the market focus is on India, which has a population and smart meter programme that dwarfs most other markets in the world. That said, some of the new regions could ultimately offer deployment opportunities on a scale similar to that of India. In our view, **Africa** is at the top of this list, given the size of the population, the high growth rate in the population and the economic transformation that is under way in some of the larger countries.

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). The country is on track to deliver its worst-ever year in 2021 for load shedding. 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.

The first African contract for 100,000 modules was announced in 1H’22; 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. Discussions are ongoing in the UAE for various retrofit and new projects. In Asia, we continue to expect further orders in Thailand from the existing major utility customer.

Within the metering segment, **water meters** are an opportunity we have highlighted in the past. CyanConnode’s technology can be retrofitted into existing meters, 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 Smart Energy Water (SEW), a global energy and water cloud platform provider, should be helpful.

### *Long-term growth opportunities beyond smart meters*

Digitalisation is a secular trend that is already permeating almost every aspect of how the world communicates, lives and works. One of the major sub-themes within this global digital transformation is the **Internet of Things (IoT)**. Much has been

written about the tens of billions of intelligent, data-gathering and transmitting devices that already exist. This will become hundreds of billions of devices, and growth will remain exponential. Machine-to-machine (M2M) communications is at the heart of these new data-centric infrastructures, and they are dependent on highly resilient communications platforms built to scale to these levels of devices and usage. CyanConnode's Omnimesh platform can be used for many different IoT applications. Smart meters are one example to have unlocked a potentially immense revenue opportunity for the company, but other use-cases are already emerging – for example, entire smart city projects in new regions for the company.

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, as well as 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.

## 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 £89.6m (equating to £0.41 per share). These valuation outcomes are materially higher than the current enterprise value of £24.5m and market capitalisation of £26.2m.

### CyanConnode – Hardman & Co DCF analysis

#### Key inputs

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>		
yoy growth	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	1.7
<b>Total equity value</b>	<b>89.6</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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