

October Investor Forum: Shareholder value in ESG investing

Join us for the October 2022 Investor Forum, jointly hosted by the London Stock Exchange and Hardman & Co, on Tuesday 4 October, at 3:00pm.

Hardman has been holding investor forums for over seven years, giving all types of serious investors the opportunity to hear company managements' stories and pose questions.

Selected from the London Stock Exchange's Green Economy Mark Report 2022, the presenters are amongst the cohort of recognised London-listed companies and funds driving the global green economy and supporting the shift towards a low-carbon economy. The Green Economy Mark Report 2022 identifies listed companies and funds that generate over 50% of their total annual revenues from products and services across all industries that contribute to the global green economy. For the first time, investors can see beyond the 'pure play' green companies, to those that have growing business activity in this area.

In this pack you will find profiles of the company speakers and brief notes on each of the companies

presenting. We would encourage you to read these before the forum to get the most out of the event.

During the forum we will conduct a number of polls; we will also be collecting feedback in other ways. These are excellent ways to influence management. You are also invited to submit questions to management during the presentations, using the Q&A function in the webinar.

For professional investors, the forum has been authorised to count towards your Continuing Professional Development time. [Click here to request certification after the event.](#)

I hope you enjoy the event.

Keith Hiscock
CEO, Hardman & Co

Chair of the Forum



Keith Hiscock
CEO, Hardman & Co

Keith is personally responsible for the firm's relationships with its corporate clients and also for corporate finance. In addition, he is the author of several articles tackling the issues facing companies in today's climate. Keith has more than 35 years' stockbroking experience and has developed long-standing relationships with many major institutional investors, including Private Client Brokers and Wealth Managers. He started his career at James Capel, at the time the top-ranked research house in London. He was a founding member of Schroder Securities and of Agency Partners, a leading research boutique house, and was a member of the five-man securities board at Evolution. Keith was part of the group of investors that acquired Hardman & Co in late 2012. He holds an MA in Philosophy, Politics & Economics from the University of Oxford.

Q&A and Panel Debate Host



Richard Angus
*Head of Business Development,
Hardman & Co*

Richard has more than 30 years of City experience. His primary focus has been US equity capital markets, and he has been involved predominantly in the development of growth companies. He has experience on both the buy and sell sides. Having worked for M&G as a fund manager, Richard then worked for US investment banks Alex Brown & Sons and Furman Selz. Latterly, he was Managing Director and Head of Institutional Sales for Europe at FBR & Co. Besides being involved in many public flotations, Richard's experience includes pre-IPO capital raises. He joined Hardman & Co in September 2014. He holds a BA (Hons) in Economics from the University of Liverpool and is a Chartered Accountant.

Company Speakers



Ian McDonough
CEO, Blackbird

Ian brings considerable knowledge and experience of delivering growth and value in the global media sector. His core expertise is in building high-value and commercially innovative partnerships. During his five years at BBC Worldwide, he rose to become Executive Vice President and General Manager for one of seven global regions. More recently, Ian covered the UK, Ireland, Nordic and Baltic countries as Senior Vice President and Managing Director for Turner (formerly Turner Broadcasting). He previously held senior commercial posts at A&E Europe and Viacom Asia.



Alex O'Connell
*CEO, Gore Street Energy
Storage Fund*

Alex is CEO and Chair of the Investment Committee of Gore Street Capital, a business he founded in 2015. Prior to this he was Managing Director and Head of Europe for Paladin Capital, a Senior Advisor to Kleinwort Benson Bank, and served on the Investment Committee of IndoChina Capital; and from 2006 to 2013 was Head of Investments for Masdar, Abu Dhabi's US\$15bn sovereign wealth fund. Alongside those commercial activities he is a trustee of the London Irish Centre, a UNICEF Advisor, an Associate Researcher to the Energy Policy Group in Cambridge University, a Fellow of the Royal Geographical Society and an Honorary Research Fellow of Imperial College London. He holds a MA from Trinity College Dublin, a MSc from the London School of Economics, a MSc from the London Business School and a PhD from Trinity College Dublin on Energy Policy.



John Cronin
Executive Chairman, CyanConnode

John is a highly successful Chairman, CEO and MD in Technology, Media and Telecommunications, including Smart Metering, IOT, Software companies, Infrastructure, Hardware, Telecommunications, Utilities and Managed Services. He is a seasoned and successful professional with experience in raising equity, debt facility and vendor finance funding, as well as setting up operations in international markets. John has created significant value for shareholders with five company exits in Picochip, Azure Solutions, Antenova, i2 and Netsource Europe totalling \$600m. He has been instrumental in mergers and acquisitions worldwide, including Cyan's acquisition of Connode. John's contribution to high-tech industries includes being Chairman, CEO, NED, or adviser to Antenova, GCI Com, Aria networks, Picochip, Arqiva, i2, Cambridge Networks, Kast, Azure, Next2Friends, Bailey Fisher, Netsource, Mercury (C&W) and BT, and providing independent consultancy to private equity and VC firms.



Heather Peacock
Group CFO, CyanConnode

Heather joined CyanConnode in November 2008. With more than 20 years' global financial experience at a senior level, Heather has worked across diverse industry verticals in both the UK and South Africa. Her key areas of expertise are treasury, mergers and acquisitions, financial and cash planning and analysis, legal and compliance and subsidiaries governance and management. She is also an Associate Member of the Governance Institute, and is the Group's Head of HR. In 2013 Heather was appointed as Company Secretary for CyanConnode and was responsible for the setup of the Company's subsidiary and operations in India, and the acquisition and integration of Connode in 2016. She was appointed as CFO and board director in July 2018.

Company research from Hardman & Co analysts

Click on the title to jump to each note.

CYANCONNODE

Smart meter breadth and depth

By Milan Radia

PAGE 4

BLACKBIRD

Powering ahead

By Jason Streets

PAGE 9

GORE STREET ENERGY STORAGE

Riding the BESS boom

By Nigel Hawkins

PAGE 13



Technology



Source: Refinitiv

Market data

EPIC/TKR	CYAN.L
Price (p)	11.3
12m high (p)	29.9
12m low (p)	1.55
Shares (m)	236.3
Mkt. cap (£m)	26.7
EV (£m)	24.3
Free float*	100%
Country/CCY of listing	UK/GBP
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 2.7m endpoints have been delivered globally. At the end of March 2022, total headcount stood at 60 employees, of which 11, or 18%, were women.

Company information

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CFO Heather Peacock

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CYANCONNODE

Smart meter breadth and depth

CyanConnode has steadily been making progress in India, where the national smart meter programme has been gathering pace. In July 2022, the company crossed the one million mark for meters connected to its RF network across nine Indian states. This is the aggregate RF device number in India connected since 2014 and represents market share of 22%. The latest update from the company states an order book of 2.6m RF nodes for India. Performance of smart meters is a critical aspect of the Indian programme and CyanConnode's uptime rates of over 99% are industry-leading metrics. There remain around 41m meter deployments to be awarded in India this financial year.

- ▶ **Maintaining strong contract win momentum:** An important aspect of the revenue growth going forward is the healthy regional balance, with a significant proportion of FY'23 revenue expected to come from the Middle East region, where the company is establishing a strong presence with the major utilities.
- ▶ **FY'22 was another strong year for shipments:** 612,000 modules were shipped during FY'22, up 27% YoY, versus ca.481,000 shipped in FY'21. We anticipate a further substantial uplift in shipments in FY'23, to ca.900,000, comprising gateways and end-point modules across India, Asia and the Middle East.
- ▶ **New contracting frameworks in India are in place:** Acceleration of tender awards is now expected, following the adoption of opex-based pricing models. The distribution companies will pay on a recurring basis, creating improved revenue visibility for vendors and reducing unpredictability of the timing of cash receipts.
- ▶ **Financial estimates anticipate strong growth:** Our forecasts anticipate 26% revenue growth in FY'23, having incorporated the greater element of revenue recognition in the Indian contracts post the implementation phase. We also assume pricing discounts, as large contracts are becoming the norm.
- ▶ **Investment summary:** The flow of contracts from India is accelerating, as reflected in the backlog of 1.6m units. There is scope for significant news flow on this front over the coming months. These are complex contracts, and require the company to scale rapidly, which it is doing seamlessly against a challenging supply chain backdrop. Our DCF-implied fair equity value for CyanConnode is £63.7m (£0.27 per share), vs. the current market capitalisation of £26.7m.

Financial summary and valuation

Year-end Mar (£m)	Mar'20*	2021	2022	2023E
Revenue	2.45	6.44	9.56	12.51
Reported EBITDA	-5.46	-2.18	-0.04	-0.17
EBITDA margin	-223%	-34%	0%	-1%
Adjusted EBIT	-5.69	-2.81	-0.29	-0.42
Adjusted pre-tax profit	-5.70	-2.73	-0.45	-0.60
Net income	-5.13	-2.06	-0.87	-0.32
EPS (p)	-2.96	-1.18	-0.42	-0.13
EV/revenue (x)	9.9	3.8	2.5	1.9
EV/EBITDA (x)	-4.5	-11.1	-639.6	-143.2

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

Investment highlights

After a successful FY'22, during which the company delivered organic revenue growth of 49% and a gross profit increase of 61%, our attention now turns to FY'23 and beyond. The contract awards are continuing at a steady pace, not only from the Indian programme, but increasingly from the Middle East and Asia, which is creating a healthy balance in our expected geographical revenue split for FY'23. Unsurprisingly given the sheer scale of the Indian smart meter rollout, much investor focus remains on CyanConnode's share of new tenders in that country – as it happens, the company is maintaining strong market share and navigating its way through the multitude of concurrent tenders, the legal complexities of each contract and the pressure on corporate resources. It would be easy to take the consistent quality of execution for granted.

One of the major changes that has taken place in India is the wholesale shift towards the Build, Own, Operate, Transfer (BOOT) model, whereby the power distribution companies (Discoms) are not required to fund capex upfront, but rather pay for the smart meters that are installed on a recurring periodic basis. The intention is, of course, to accelerate the process, recognising that many of the Discoms are in a poor financial state, due to high levels of inefficiency – an issue that the smart meter rollouts are intended to help to reduce. The Discoms will now pay based on time periods and specific dates, which will assist with predictability of cashflows, whereas, previously, the milestone-based payment triggers had created some uncertainty of payment timing for CyanConnode. The new contractual framework results in a shift in the profile of Indian revenue recognition for the company, which is reflected in our estimates for FY'23 and beyond.

Global recognition reflected in order flow and partnerships

The first order in the Middle East and North Africa (MENA) region was announced in April 2022, for the company's new generation of cellular products, which are being deployed for smart communications for smart electricity and water meters. Under the contract, CyanConnode is supplying cellular hubs, with a capacity to handle up to 1 million meters.

In August 2022, CyanConnode announced a new order for cellular gateways for smart communications for an Advanced Metering Infrastructure (AMI) project in the MENA region. The project involves retrofitting CyanConnode's new generation of cellular products into existing smart meters. The contract was quantified at \$2.5m, with the installation scheduled to be completed within 18 months.

While the opportunity in India remains immense, it is worth remembering that the company is successfully cultivating significant partnerships and footprint in the Middle East. The MENA contracts signed to date are with some of the largest utilities in the region. Doing business in this region is relatively straightforward, particularly as the company's contracts tend to be via longstanding partners, which are procuring the hardware from CyanConnode, and handling the implementation and ongoing service requirements.

As a consequence of these wins, we expect the MENA region to have the potential to contribute over £4.0m of revenue in FY'23. The cashflow profile of these contracts is attractive, as 100% of the cash is received by the time shipment of modules takes place. In addition to the MENA deals, CyanConnode continues to expand its presence in Thailand, where further orders are expected in FY'23.

MENA contracts provide validation of new cellular products

The new MENA deal is compelling from a technology perspective. The announcement notes that the data transmission technology being deployed is cellular. Traditional

cellular options, such as 4G and LTE networks, consume too much power. They are also less suited to applications where only a small amount of data is transmitted infrequently; for example, meters for reading gas, electricity or water consumption. CyanConnode is an acknowledged leader in narrowband RF Mesh technologies, and this contract is strong validation of the company's capabilities in narrowband cellular technologies. As we discussed in our previous research reports on CyanConnode, the long-term opportunity in Machine to Machine (M2M) communications and IoT is immense, as these technologies enable utilities, enterprises and entire cities to manage their assets, operations and environment more optimally.

Indian smart meter programme is accelerating

Some 40m meters are out for tender currently, with further tenders pending. Among the cast list of suppliers, CyanConnode stands out as a vendor of intelligent connectivity modules that has a number of large-scale, successful installations under its belt with a range of meter manufacturer partners. The partner roster continues to grow, as the EPCs join the fray as prime contractors.

Contract awards for the majority of the ca.40m meters out for tender in India are expected within the next 12 months. As a vendor of end-to-end AMI solutions with proven efficacy and resilience, we continue to expect CyanConnode to fare well, despite the inevitable twists and turns associated with these types of immense procurement exercises. The largest constituent of the current tenders is Uttar Pradesh, the largest state in India, which we understand represents ca.27m of the ca.40m meters currently out for tender.

BOOT model is central to new tenders

The contractual structure of the Indian smart meter programme has undergone substantial changes, which are inherently designed to accelerate progress. After some evolution in its approach, the programme is now being implemented under a BOOT model. This means that the Discoms are not required to fund substantial capex upfront, but rather pay for the smart meters that are installed on a recurring periodic basis.

External funding is a key element

The scale of the Indian programme is immense, and it is well understood that a significant portion of the funding will come from external pools of capital – the infrastructure funds, in particular. This funding is starting to come through.

Revenue flows are less upfront-weighted

Alongside the growing involvement of infrastructure funds and other external sources of funding, the mandated contractual structure is now far more weighted towards payments over time, rather than upfront payments. At the same time, the emphasis has shifted away from the relative unpredictability of payments triggered by implementation milestones being achieved by partners to regular periodic payments made on a contractual basis.

These newer contract terms do result in a shift in the profile of Indian revenue recognition for CyanConnode, which is reflected in our estimates for FY'23 and beyond. The previous revenue forecast had a larger upfront recognition component, whereas the new Equal Monthly Instalments model spreads more revenue over the life of the contract; total contract values remain essentially intact. The benefit of the new arrangements is greater predictability of payments and a higher proportion of recurring revenue associated with each contract.

CyanConnode is winning its fair share of Indian contracts

CyanConnode's successful deployments are becoming a reference for other Discoms – the state of Indore, in particular, has seen a quick payback of less than three years on its smart meter investment. Indore initially contracted for 75,000 smart meters, and has subsequently added a further 55,000 from CyanConnode. Further tranches of meter procurement are anticipated.

As a consequence of the successful Indore case study, many other states are adopting the same platform. The importance of platform resilience and delivering on stringent service level agreements (SLAs) should not be underestimated in a country such as India. The terrain in semi-urban and rural areas can be difficult for connectivity, due to mountainous and dense terrain. The Omnimesh RF technology is highly resilient, due to its use of mesh networks. If a single endpoint goes down, the remainder of the network can continue to function as normal.

The overall programme in India remains in its relative infancy, with less than 10% of the overall target number of meters so far deployed. In that context, CyanConnode has fared well – we estimate that the company has installed around 25% of the total number of meters awarded, with ca.1m deployed and a backlog of a further 1.6m meters. In late August 2022, CyanConnode management disclosed that it was pursuing current tenders for the deployment of over 40m smart meters, while also indicating that this figure would grow.

Partner list continues to grow

The company continues to work with a range of partners in India, including some of the new EPC entrants into the market. In the case of larger tenders for multi-million numbers of units, CyanConnode is finding itself working with two to three partners. With the Discoms looking to contract with providers in blocks of say, 1m units, CyanConnode management is anticipating that it may supply more than one partner in a particular region as future tenders are awarded.

The company is currently integrating with nine new meter types, a process that is required as new suppliers enter the Indian market. This will further help to expand the company's coverage of the market.

Bihar contract is largest to date in India

In August 2022, CyanConnode announced its largest-ever order, which was for a broad platform deployment, comprising 1m Omnimesh smart meter modules, AMI, hardware, Omnimesh head-end software licences, and support and maintenance contracts. The order is for the Bihar region in India, and is from Genus Power Infrastructures, one of CyanConnode's longstanding partners in India. Prior to this order, Genus had worked with CyanConnode on four projects, summing to a total of over 600,000 meters.

Under the terms of the contract, supply of the modules will commence in September 2022, and installation is expected to take up to two years. The support and maintenance contracts will commence upon completion of the smart meter installation, and will last for eight years.

Profit and loss

CyanConnode: Hardman & Co profit and loss

Year-end March (£000)	12M Dec 2017	12M Dec 2018	15M Mar 2020	2021	2022	2023E
Revenue	1,171	4,465	2,451	6,437	9,562	12,514
Cost of sales	-674	-1,724	-1,081	-3,334	-4,554	-7,133
Gross profit	497	2,741	1,370	3,103	5,008	5,381
<i>Gross margin</i>	42%	61%	56%	49%	45%	43%
Operating expenses	-11,161	-8,589	-6,827	-5,284	-5,046	-5,551
EBITDA	-10,664	-5,848	-5,457	-2,181	-38	-170
Share-based payments	-689	-445	-267	-80	-363	-320
Stock impairment	-55	-578	-4	-108	0	0
Foreign exchange losses	-52	-16	-267	15	0	0
Adj. EBITDA	-9,868	-4,809	-4,919	-2,008	325	150
<i>EBITDA margin (%)</i>	-911%	-131%	-223%	-34%	0%	-1%
Depreciation & amortisation	-489	-472	-772	-627	-616	-570
Adj. EBIT	-10,357	-5,281	-5,691	-2,808	-291	-420
EBIT	-11,153	-6,320	-6,229	-2,685	-1,017	-1,060
<i>Adj. EBIT margin (%)</i>	-884%	-118%	-232%	-42%	-3%	-3%
Investment income	16	13	17	1	0	2
Net finance income	-6	-2	-30	-50	-161	-177
PBT	-10,347	-5,270	-5,704	-2,734	-452	-595
Taxation / tax credit	1,402	927	576	677	307	280
<i>Effective tax rate (%)</i>	-14%	-18%	-10%	-25%	-68%	-47%
Net income	-8,945	-4,343	-5,128	-2,058	-871	-315
EPS (basic, p)	-10.18	-3.71	-2.96	-1.18	-0.42	-0.13
EPS (diluted, p)	-10.18	-3.71	-2.96	-1.18	-0.42	-0.13
Average shares in issue basic (m)	95.740	116.976	173.048	174.755	205.173	236.309
Average shares in issue dil. (m)	95.740	116.976	173.048	174.755	205.173	236.309

Source: Company data, Hardman & Co Research estimates



Technology



Source: Refinitiv

Market data

EPIC/TKR	BIRD
Price (p)	19
12m high (p)	39
12m low (p)	15
Shares (m)	368
Mkt cap (£m)	70
EV (£m)	58
Free float*	41.7%
Country/CCY of listing	UK/GBP
Market	AIM

*As defined by AIM Rule 26

Description

Blackbird operates in the fast-growing SaaS cloud video production market, and has created the world's most advanced suite of cloud computing applications for video – all underpinned by its lightning-fast codec.

Company information

CEO	Ian McDonough
CFO	Stephen White
Chairman	Andrew Bentley

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www.blackbird.video

Key shareholders

Directors	25.2%
Premier Miton	16.5%
Canaccord Genuity	4.9%

Diary

Mar'23	FY'22 results
Sep'23	1H'23 results

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BLACKBIRD

Powering ahead

Blackbird produces patented technology for editing and publishing video content in the cloud. It is used especially by sports and news providers. Since it is “cloud-native”, it removes the need for expensive, dedicated workstations, and can be used in a normal browser from virtually anywhere, on any device. It does not even need fast broadband, and consequently is very energy-efficient, as well as intensely practical for operators working from home or from live events. Revenue growth has accelerated in the past two years, and its first licensing deal bodes well for the future.

- **Strategy:** Having started selling its product directly to end-users, Blackbird then moved to selling to OEMs. It has recently signed its first licensing deal with an unnamed major broadcast company – “powered by Blackbird” – and the next step is to launch its technology in the public cloud. The energy efficiency of its product is a major plus in an industry increasingly concerned about CO2 emissions.
- **Progress:** Blackbird has been around for more than 20 years, but it is only in the last couple of years that revenue has begun to grow significantly. The new licensing deal and the prospects for the public cloud broaden the potential of what its technology can achieve, and it is increasingly gaining industry recognition.
- **Valuation:** Blackbird is not a client of Hardman and Co, and so we do not provide either forecasts or a valuation.
- **Risks:** The key specific risks facing Blackbird are technology and competition. In any hi-tech business, there is the risk of being left behind by new developments. The company continues to spend on R&D to ensure that it is always at the cutting edge. It has many competitors, including some substantially bigger rivals.
- **Investment summary:** Blackbird is on the cusp of substantial growth. The £8m it raised at the end of last year puts it in a strong position to capitalise on the momentum generated by its first licensing deal and the even bigger opportunities that are available in the public cloud market. It has been a long journey so far, but the boost it received from COVID-19-induced working from home just might give it the escape velocity it has been seeking.

Financial summary and valuation

Year-end Dec (£000)	2018	2019	2020	2021	1H'22	2022E
Revenue	870	1,078	1,567	2,066	1,547	n/a
Gross margin	85.6%	85.0%	89.6%	92.5%	95.4%	n/a
Contracted revenue	566	1,881	1,931	3,732	3,331	n/a
Reported EBITDA	-1,993	-1,772	-1,416	-1,554	-637	n/a
Pre-tax loss	-2,599	-2,161	-1,906	-2,167	-604	n/a
Net loss	-2,575	-2,129	-1,881	-2,135	-604	n/a
Fully diluted EPS (p)	-1.07	-0.71	-0.56	-0.63	-0.16	n/a
Net assets	5,570	8,721	7,139	12,942	12,438	n/a
Net cash	5,032	7,965	6,546	12,839	11,586	n/a
Shares in issue (m)	296	335	337	368	368	n/a
EV/EBITDA (x)	n/m	n/m	n/m	n/m	n/a	n/a
EV/sales (x)	21.7	45.5	38.0	47.6	n/a	n/a

Source: Hardman & Co Research

Executive summary

The business

Blackbird plc operates in the fast-growing SaaS and cloud video market. It has created Blackbird®, the world's most advanced suite of cloud-native¹ computing applications for video, all underpinned by its lightning-fast codec. The codec was originally developed by Stephen Streater (former CEO and now Director of R&D, and the company's largest shareholder) in the 1990s for Eidos.

Blackbird plc's patented technology allows for frame accurate navigation, playback, viewing and editing in the cloud. Since it is cloud-native, Blackbird® removes the need for costly, high-end workstations, and can be used from almost anywhere, on almost any device. The source video remains untouched, and only the instructions on how to manipulate it are sent back up to the cloud; this is how it is able to operate at bandwidths of just 2 Mb/s. Not interfering with the source video is also critical and, *inter alia*, enables the editors to work on a video stream, even while it is still being created, e.g. during a live sports event.

It also allows full visibility on multi-location digital content, improves time to market for live content, such as video clips and highlights for digital distribution, and ultimately results in much more effective monetisation.

The company is keen to promote its energy efficiency credentials. Its sustainability report demonstrated that, on a typical two-week sports event, travelling to the event and generating the video there on dedicated terminals emitted 11x as much CO₂ as using the cloud-native Blackbird technology remotely. Other cloud-based systems generated 6x as much.

Not only was Blackbird less polluting, but it was also more efficient. The total cost of ownership (TOC) was typically up to 35% less expensive than other, non-linear editing (NLE) systems. From a shareholder perspective, these data are more interesting, as Blackbird captures a much larger share of the wallet, because it avoids many ancillary costs, such as media transport software, high-end workstations and their necessary IT support and bandwidth.

Blackbird® underpins multiple applications, which are used by rights holders, broadcasters, sports and news video specialists, esports, live events and content owners, post-production houses, other mass-market digital video channels and corporations.

The business started by selling its technology to users as part of their infrastructure. It then moved on to selling it to Original Equipment Manufacturers (OEMs) to incorporate into their systems, allowing Blackbird to piggyback on their sales networks. Now it has moved to the next stage: licensing its software to end-users with its "Powered by Blackbird" initiative – a clear echo (to our ears) of the "Intel inside" campaign.

The first technology licensing deal came in 2021 via a global broadcast company of high repute targeting a global product rollout in 2022. The deal was made up of several parts, including a development fee and an annual minimum guarantee underpinning a revenue share of sales. It was double the size of any of the company's previous contracts, at €2m over its five-year term, and one expected to grow well beyond the minimum guaranteed fees. The first revenues were booked in

¹ The term "cloud-native" refers to the concept of building and running applications to take advantage of the distributed computing offered by the cloud delivery model. Cloud-native apps are designed and built to exploit the scale, elasticity, resiliency and flexibility that the cloud provides.

the first half of 2022. At the interim results in September, the company commented: “We have made good progress towards delivery and it is currently being tested by the licensor together with their first customer, a major US broadcaster, ahead of a full launch and promotion later in the year. The product will be co-branded *Powered by Blackbird*”.

In December 2021, the company raised £8.0m gross to help grow the business outside of its core professional media and entertainment video-editing market. Partly to facilitate this, it hired three new, key people: Sumit Rai as Chief Product Officer, Mo Volans as Senior Vice President Product Marketing and Morgan Henry as Vice President Engineering.

The big next step for Blackbird is launching Blackbird in a public cloud, which will open up the addressable market substantially. It estimates that the total serviceable market for video-editing in 2025 will be around \$6bn. The achievement of Amazon Web Services (AWS) Technology Partner status is a major stepping stone on the route to success in this huge, new market.

Financial metrics

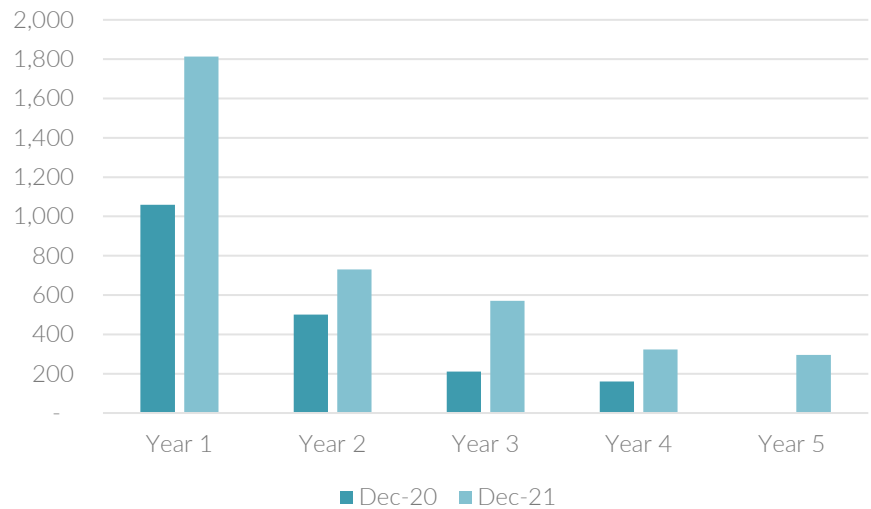
As noted, Blackbird has been trading for more than 20 years, but it is only in the last couple of years that revenues have begun to grow significantly. In 2020, they grew by 45% and, in 2021, they grew a further 32%. In the first half of 2022, revenues grew 78% on the previous first half.



Source: Blackbird plc

Pre-tax losses, on the other hand, have been relatively stable, and were substantially reduced in the first half of this year, although that was driven largely by a credit in the long-term incentive plan (LTIP) expense, caused by the share price selloff, in line with most technology stocks.

As the company has moved away from direct sales to OEM deals, and now licensing deals, so the importance of contracted, but not yet recognised, revenue has grown. This growth was 69% 1H'22 on 1H'21, reaching £3,331k as at the end of June 2022, rising to over £4m at the end of August. The timing profile of this revenue and the comparison with the previous year are shown in the chart below.

Blackbird forward contracted revenues, FY'20 and FY'21 (£000)


Source: Blackbird plc

The company has a strong balance sheet, with cash and equivalents of £11.6m as at the end of June 2022. In 2021, its cash burn was £1.5m – a small reduction on the year before. This moved to £1.3m in the half year just reported, due to the higher operating expenses incurred, as the company has sought to widen its revenue base.

Risks

In addition to the usual business risks (bad debtors, customer concentration, key staff retention, etc.), the two company-specific risks we would highlight are technology changes and competitors. Blackbird is operating in a fast-changing market and needs to be constantly updating its products to stay relevant and competitive with its current and future clients. New product development is always fraught with risks of cost and time overruns.

Video-editing and production is a highly competitive area, and Blackbird's prospects can be derailed if new or existing competitors manage to produce superior products or outperform its marketing efforts. Blackbird is well-capitalised, but it is a very small player in a market full of giants.

Useful links

Blackbird provides some interesting case studies that help the understanding of precisely what it does and where it fits into the process of producing video content:

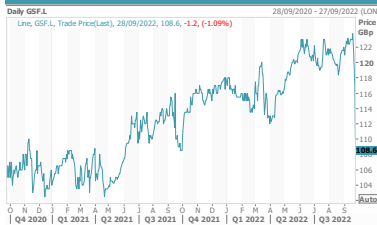
<https://www.blackbird.video/case-studies/>

A comparative study of the speed of Blackbird's browser-based professional editing platform and traditional on-premise NLEs demonstrates that Blackbird enables the creation and delivery of content up to four times faster:

<https://www.blackbird.video/speed/>

It also has a study looking at the technologies TV and Video producers are using to reduce their CO2 emissions globally:

<https://www.blackbird.video/carbonefficient/>

Renewable Energy Infrastructure


Source: Refinitiv

Market data

EPIC/TKR	GSF
Price (p)	104p
12m high (p)	123p
12m low (p)	104p
Shares (m)	481m
Mkt cap (£m)	500m
EV (£m)	302m
Country/CCY of listing	UK/GBP
Market	Main

Description

Gore Street Energy Storage owns 668MW (291MW of which are now operational) of utility-scale Battery Energy Storage Systems, providing back-up services to grid operators in the UK and in the RoI.

Company information

Chair and NED	Patrick Cox
Non-Ex. Director	Caroline Banzsky
Non-Ex. Director	Malcolm King
Non-Ex. Director	Thomas Murley
	+44 (0)20 3826 0290

www.gstenergystoragefund.com
Key shareholders

Rathbone	14.8%
Hargreaves Lansdown	
Nominees	6.4%
EFG Harris Allday	5.5%
Investa Services	4.8%

Diary

ca.21 Oct Quarterly dividend paid

Analyst

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GORE STREET ENERGY STORAGE

Riding the BESS boom

Despite a sharp share price fall of late, investor interest in Battery Energy Storage Systems (BESS) technology continues to grow, as it addresses many of the intermittency problems caused by rising renewable energy generation. The UK's two leading BESS players, which supply power grid-related technical services, are Gresham House Energy Storage (GRID) and Gore Street Energy Storage (GSF); they are capitalised at £869m and £500m, respectively. Other Renewable Energy Infrastructure Funds (REIF), 22 of which are now quoted, are moving into the BESS space. Most recently, the turmoil in the UK gas market provides further opportunities for funds with BESS operations.

- ▶ **Strategy:** Since its launch in May 2018, GSF has been assembling a portfolio of BESS plants, mainly in Great Britain (GB) but also in Northern Ireland (NI), and in the Republic of Ireland (RoI), where a pan-European grid – I-SEM – operates. As part of its overseas growth strategy, GSF has recently acquired a 22MW BESS plant in Cremzow, Germany, and three smaller plants in Texas, US.
- ▶ **Capacity:** GSF's latest figures show that it has 668MW of capacity, although just 291MW of this figure is currently operational. The remaining 377MW is due to come on stream in the next 18 months. Looking forward, further capacity additions in the GB and RoI core markets are expected, along with tuck-in acquisitions in the US and Germany – building on its Cremzow acquisition.
- ▶ **Valuation:** Based on NAV of 108.7p per share, GSF is currently trading at a 4.3% discount to its NAV – calculated according to a weighted 8.3% discount rate. Its prospective dividend yield, based on a projected – depending on NAV movements – 8p per share dividend for 2022/23, is 6.3%.
- ▶ **Risks:** GSF is exposed to various risks, which are somewhat different from those applying to renewable generation funds. They include planning, construction and grid delays, supply interruptions, a lack of contracts, cyber-attacks and heavy dependence upon lithium-ion technology. Major reforms to the GB electricity market could also create challenging issues.
- ▶ **Investment summary:** Unlike most other REIF funds, GSF is very focused on growing its BESS business, as its recent acquisitions demonstrate; its aggressive fund-raising of late underlines this strategy. Over the next 18 months, even without further acquisitions, GSF will commission ca.400MW of new BESS capacity. A sea-change in revenues should be expected, which will push up GSF's 2021/22 EBITDA return – from its operational plants – of £23.3m.

Financial summary and valuation

Year-end Mar (£m)	2021	2022
Net gain on investments at F/V per P/L	16.2	43.5
Investment income	1.2	5.5
Admin./other expenses	-2.8	-6.5
Profit before tax	14.6	42.5
Profit after tax	14.6	42.5
Profit per share (p)	16.06	14.15

Source: GSF, Hardman & Co Research

Background

In recent years, the UK has switched away from generating coal-fired output, and is replacing it with output from renewable resources, most notably from wind. The transformation has been quite dramatic over the past decade – and it has left UK consumers very exposed, as wholesale gas prices, over the past year, have – quite literally – soared.

While renewable generation offers pronounced environmental benefits, both wind and solar plant are exposed to intermittency. Quite simply, the wind may not blow consistently, and there may be inadequate irradiation for solar power during periods of high electricity demand. Consequently, and especially with enduringly low plant margins, it has become increasingly difficult to manage the national grid network – and, more specifically, to ensure that grid stability is safely maintained.

Funds, such as GSF and GRID, have prospered, since, due to their BESS assets, they can provide technical back-up services that are much-needed by grid operators. Indeed, among the 22 REIFs, the share price of GRID, the leading BESS player, has – over the past year – outperformed all those funds relying on renewable generation for their revenues, despite much higher energy prices. However, GSF's share price has fallen sharply, following the recent controversial mini-Budget.

Capacity

GSF's latest – as at July 2022 – capacity figure shows a total of 668MW, of which 291MW are currently operational. The remaining 377MW of capacity, under various stages of construction, is due to be commissioned within the next 18 months, although some delays are possible. Indeed, completion of GSF's 30MW Kilmannock plant in the RoI has been delayed by supply-related issues.

In projecting future revenues and returns, it is clearly the larger plants that will be the key drivers. The table below lists the leading plants in GSF's portfolio, as at March 2022, based on capacity levels. Subsequently, the 30MW Porterstown plant has come on stream.

Key operating plants at March 2022

Location	MW
Drumkee, Co. Tyrone, NI	50
Mullavilly, Co. Armagh, NI	50
Cremzow, Germany	22
Hulley, Cheshire	20
Lascar, Lancashire	20

Source: GSF

In addition to these assets, GSF has committed ca.£30m each to plants located in England at Stony, Buckinghamshire, and at Enderby, Leicestershire; the planned energisation dates are 2Q'23 and 4Q'23, respectively. In the RoI, planning approval has now been granted for substantial extensions to the Kilmannock and Porterstown plants.

In the US, GSF has now completed the acquisition of the 30MW ERCOT portfolio in Texas, which comprises three plants, at Snyder, Westover and Sweetwater.

Revenues

Unlike a conventional renewable energy generator, GSF's revenues are more varied – and less predictable.

Aside from normal trading activities, GSF benefits from the following material revenue streams in GB:

- ▶ Firm Frequency Response (FFR) – as specified in National Grid's contracts – to ensure that grid frequency remains at ca.50Hz;
- ▶ Capacity Market (CM) – to procure future energy capacity that is needed for the GB grid;
- ▶ Dynamic Containment (DC) – as covering post-fault services to contain frequency levels outside normal acceptable limits; and
- ▶ And in NI and the RoI, revenues arise from the pan-Ireland DS3 model, which seeks to “deliver a secure, sustainable electricity system”. There are also revenues from DC.

In 2021/22, GSF reported revenues of £29.3m – no US revenues from Response Reserve Systems (RRS) are included in this figure. Of this £29.3m of revenues, £16.4m arose from GB plants, while £12.2m was earned by the two 50MW plants in NI. The RoI revenue segment was nil, since none of GSF's planned major plants there had been energised by the March 2022 year-end.

More specifically, in terms of the GB earnings stream, DC provided £9.8m of revenues, while FFR accounted for £4.8m of revenues. The NI revenues accrued from DS3, which operates in the pan-Ireland electricity market – I-SEM; the latter's principles are very similar to those applying currently in the GB market. It should be noted, though, that the GB and NI plant revenue breakdown was £163,000 per MWh and £287,000 per MWh, respectively; clearly, the NI plants are key to future revenue growth. Furthermore, the RoI plants, due to be commissioned within the next 18 months, also stand to benefit from this I-SEM-related disparity.

Looking forward, revenues are expected to grow noticeably, as more GSF plants, in both GB and in the RoI, are energised. The surge in gas prices over the past year also worsens the intermittency issue – to the probable benefit of BESS players, such as GSF. Additionally, overseas revenues are set to rise as the three ERCOT plants in Texas and the 22MW Cremzow plant in Germany make full-year contributions.

Risks

The risks facing GSF – and its shareholders – are quite different from those confronting conventional wind and solar generators. Indeed, a shortfall in output from the latter two sectors arguably benefits those funds involved in the BESS market, including both GSF itself and GRID. While there are many risks that GSF faces – potential or otherwise – we believe the following are the most important:

- ▶ **Adverse macroeconomic developments**, especially those relating to high inflation and rising interest rates – as demonstrated so clearly in recent days. The latter factor is especially important, not only at the operating level, but also in terms of valuation, since it will probably give rise to a higher discount rate, and therefore a depressed NAV.

- ▶ **Planning/energising delays**, from which GSF has already suffered. Planning delays, especially in the Rol, have been experienced; and, on occasions, grid connection bottlenecks have also meant a deferred commissioning date.
- ▶ **Construction overruns**, some of which may result from the widely publicised pressure on supply lines. GSF's Kilmannock project in the Rol has recently been a victim of this trend.
- ▶ **A lack of profitable contracts to provide BESS services**, especially with respect to both National Grid and EirGrid; this duo lies at the heart of the BESS market.
- ▶ **Cyber-attacks**, which could seriously impair GSF's operating systems.
- ▶ **Changes to the electricity market structure**, especially in GB. Fundamental reforms, if implemented, to the existing GB market structure, notably the price-setting role played by the marginal price of output from gas-fired plant, could have a major impact upon GSF's future returns.
- ▶ **Over-dependence on lithium-ion batteries** could prove ill-advised if major technical advances are made with other battery technologies that may – in time – be able to supersede lithium-ion technology.

Finances

Since launching in May 2018, GSF has undertaken several further fund-raises. Indeed, over the past 18 months alone, it has secured additional equity funding of more than £430m – and at a relatively modest discount to its then prevailing share price. Hence, GSF can currently boast of a strong net cash position.

This scenario contrasts with its experiences shortly after its launch in 2018, when fund-raising presented various challenges, especially since GSF had virtually no capacity in operation. Undoubtedly, the widening investor interest in BESS has been key.

Furthermore, at its latest results, GSF was able to report an impressive performance in terms of Total Shareholder Return (TSR) – up by a commendable 37% since its launch in 2018; this figure will reduce if the current depressed share price endures.

At its launch, GSF committed to pay “a sustainable and attractive dividend over the long term by investing in a diversified portfolio of utility-scale energy storage projects”. GSF also aims to provide “an element of capital growth”.

In fact, the dividend scenario remains positive, with a 7p per share dividend being paid in the 2021/22 financial year; dividend cover was a modest 1.09x. For the current year, this dividend figure may be raised – perhaps to 8p. However, GSF has been clear that any increase – nominal or otherwise – depends on movements in its NAV. Earnings should be boosted by new plants coming on stream, especially in the Rol.

Moreover, this winter – for various gas-related reasons – may provide real opportunities to deliver good earnings growth. In 2021/22, GSF confirmed that EBITDA from its operating plants was £23.3m, which provides an excellent base for substantial EBITDA growth over the next few years.

GSF's share price performance over the past year compares poorly with that of the larger GRID, whose shares have risen by 23%. In GSF's case, its smaller operating portfolio – there was no significant contribution from its Rol assets in 2021/22 –

and its aggressive fund-raising were clearly negative factors. In GRID's case, its sharp NAV rise during May 2022 clearly drove up its share price rating.

Following the adverse response to this month's mini-Budget, GSF is now trading at a discount of 4.3% to its NAV; the GRID equivalent – enhanced by the recent NAV rise – shows a premium of almost 7%.

In terms of valuation, it should be noted that, in compiling their NAVs, GSF and GRID differ quite markedly in their applied discount rates. In GSF's case, its weighted average discount rate was 8.3%, based on applying a discount rate that reflects the risk associated with each asset's ability to generate cashflows; the equivalent figure for GRID is now 10.7%. It should be added that, compared with the other 20 REIFs, it is the GRID discount rate that is very much the outlier – and it may well be the driver of its strong share price performance. GSF's figure is far closer to the REIF average. Moreover, this valuation disparity between GSF and GRID would be markedly less pronounced if a NAV figure per MW were applied.

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