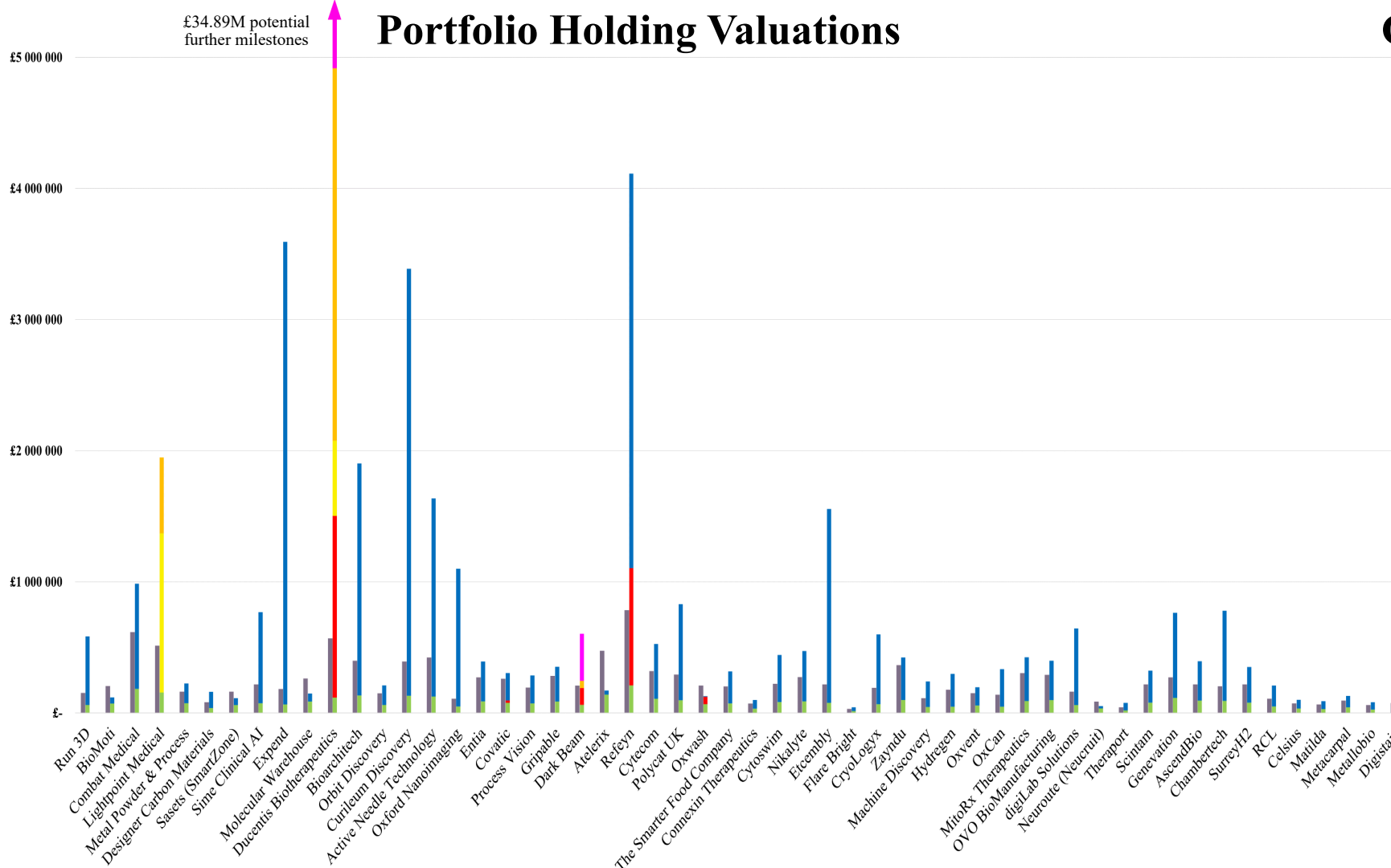


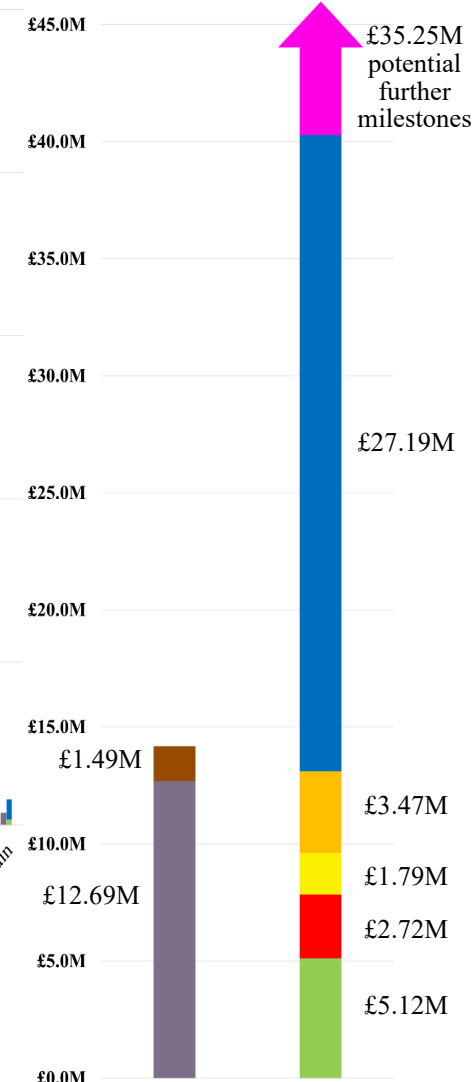
Investment Objective

1. OT(S)EIS invests in life, physical, and data science start-ups based in and around Oxford and London, at the pre-seed and seed stage. Our investment horizon is patient and long-term.
2. We are active investors, using our expertise to help portfolio companies develop scalable business models, robust pricing strategies, and effective R&D programmes.
3. We use the SEIS and EIS tax relief schemes to de-risk investments whilst offering our investors significant (and tax-free) capital growth potential.

Managers	Lucius Cary and Andrea Mica
Fund Value	£40.29m*
Portfolio	54 Active Companies
Contact	otseis@oxfordtechnology.com



Overall Fund Value



Key:	Invested Capital*	OT and WCS Fees	Cash from Tax Relief	Cash Received from Exits	Cash Due	Fair Value of Milestones	Potential Further Milestones	Equity Value
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*On the Portfolio Holding Valuations graph, OTM & WCS fees are included in the Invested Capital bars.

*Excluding potential further milestones

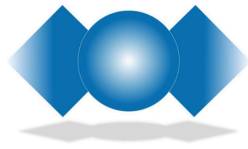
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Oxford Technology Q2 2024 Portfolio Report

Summary

This report summarises the progress made by portfolio companies in the latest quarter. By the 1st July 2024, OT(S)EIS had completed 240 investments in 64 companies. It also details useful information about the fund, including how we invest, opportunities for co-investment at presentations, and the intricacies of SEIS/EIS tax reliefs.

The investment figures for the fund as a whole are as follows:

Invested Capital: £12.69m

Total OTM and WCS fees: £1.49m

Cash from Tax Reliefs: £5.12m

Cash from Exits: £2.72m

Cash due from Exits: £1.79m

Fair Value of Post-Exit Milestone Payments: £3.47m

Remaining Equity Value: £27.19m

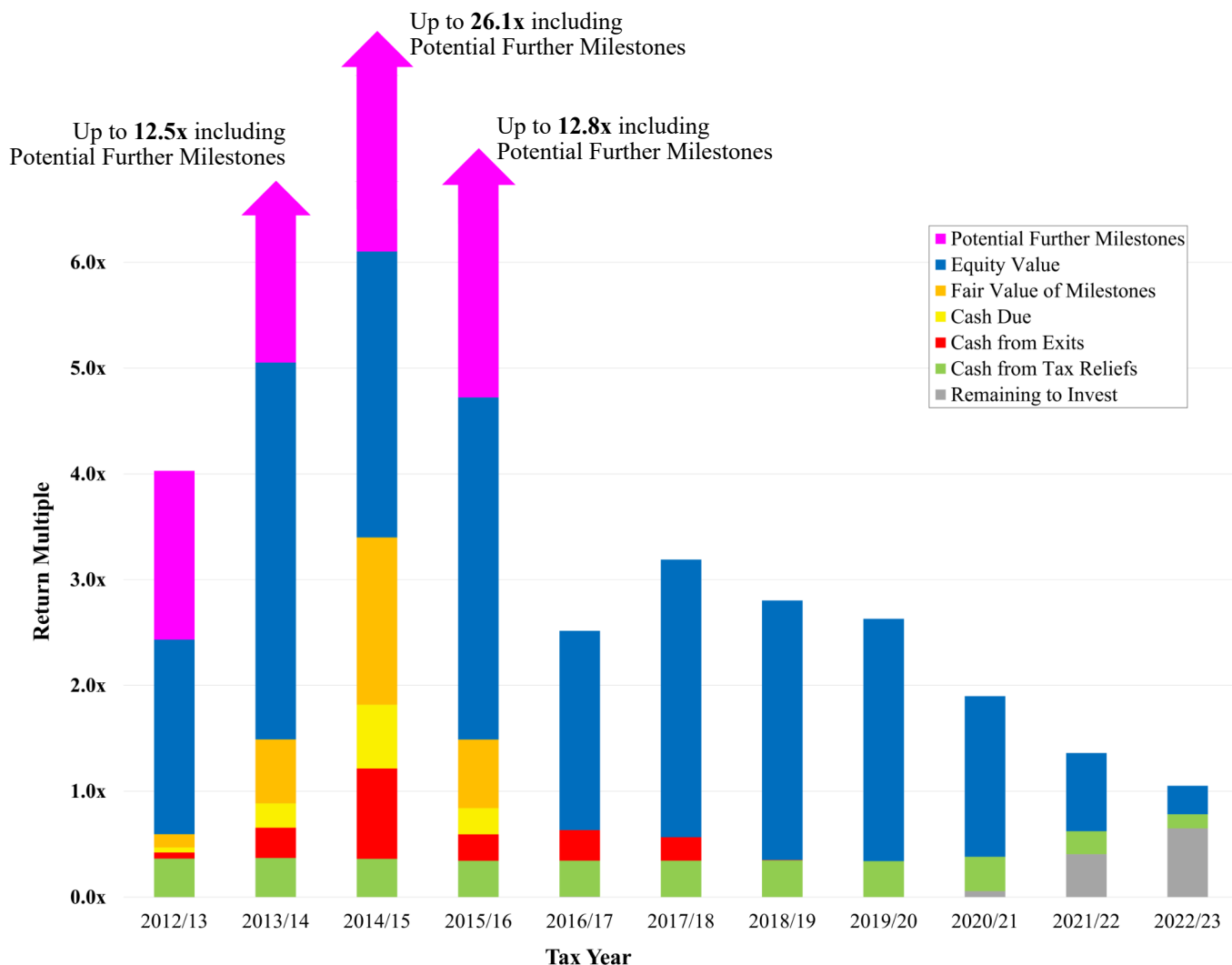
In addition, there is a potential for further £35.25m in milestones from the Ducentis and Dark Beam exits.

Valuations are all made according to the most recent price paid by investors in a company. If, following an investment, things have gone wrong, then the valuation is reduced. But if things have gone well, the valuation is not increased unless there is another funding round. To this extent the valuations are conservative, but obviously nothing really counts until the gains are realised through exits.

The figures assume that the investor in question has claimed the full amount of income tax relief available from the SEIS and EIS investments (investors who also get relief against capital gain tax have an additional benefit). The cash back from tax reliefs can take some time to arrive, but it comes in the end. Firstly, the investee company has to meet certain HMRC requirements (e.g. trade for 4 months). Then they inform HMRC, who must authorise the issuance of certificates which will enable investors to claim their tax relief.

Exits are typically expected on a 10 year timescale: investments in OT(S)EIS are illiquid and long term. Nevertheless, the return multiples when exits occur can be considerable. For instance, the Ducentis exit could have a return multiple of up to 127x.

Returns to investors in OT(S)EIS over the last ten years



The above figure refers to the past and the past performance is not a reliable indicator of future results.
The above data represents the portfolio performance as in Q2 2023

The graph above shows the returns which have been made so far by those who invested in OT(S)EIS in each of the tax years over the last ten years. So, for example, those who invested £100,000 (to make the sums simple, although some investors did invest this amount) in the 2014/15 tax year have so far been able to claim about £36,000 in income tax reliefs and received back about £85,500 in cash from exits (all tax-free). In addition they had about another £60,500 of escrow cash (also tax-free) paid out in Jan 2024. In addition, they have another £158,000 which is what we regard as the ‘fair value’ of the exit milestones from one investment. The fair value of the remaining investments, which have not yet exited is a further £270,500. So the total return, adding all these together is £610,500, a multiple of just over 6x of the initial amount invested. And in addition to this, there is the potential to receive up to a further £2m if all the milestones from one of the exits are met. All these returns will be tax free.

We believe that an investment in OT(S)EIS has been one of the best investments that it has been possible to make in the UK over the last ten years. We believe the reasons are clear. It is not luck. We are all scientists. We focus on the science. We receive a large deal flow and pick carefully (about 5/1,000 each year) and we get actively involved with the founders, especially in the early years to help establish the business model and pricing. We thought that it would work and so far it has. So please consider making an investment in OT(S)EIS. Min £15k.

New Investments

We made four new investments in Q1, but none in Q2.

News in Brief

WOTAN (the Wider Oxford Technology Angel Network) held presentations at 10am on the first Thursday of each month, and will continue to do this. All but one of the companies which presented raised at least some of the capital they sought and others were oversubscribed and turned away some investors, not wishing to raise more capital at what they hope will come to be seen as a low valuation.

WOTAN now has more than registered 200 members. Sign up to become a member on the website www.oxfordtechnology.com/wotan-application, and we will get back to you with the instructions on how to attend our next pitching event.

Our Funds

Oxford Technology manages two funds:

1. **OT(S)EIS** - The Start-up Fund: Investors' money is invested over 3 years - Approx. 1/3 (less fees) in SEIS investments in year 1, 1/3 in EIS investments in year 2 in those of the earlier SEIS investees which are doing well, and the same again in year 3. SEIS investments are very high risk and some failures are to be expected, although there have been relatively few so far which is why the track record is so good. So it takes 3-4 years before all the tax reliefs are obtained, which does not suit everybody.

2. **OTEIS** - The Development Fund: Investors have all their money invested within one year in EIS investments, mainly in earlier OT(S)EIS investments which are developing well. So this fund has a lower risk profile than OT(S)EIS and investors can claim their tax reliefs more quickly.

It is possible to invest in both funds. Information Memorandums and Application forms can be downloaded from www.oxfordtechnology.com/invest.

OT(S)EIS Fees

Type	Details
Initial Fee	1%
Management Fee	2% (Years 1-3) 1.5% (Years 4-7) – deferred and to be paid only from proceeds of exits 0% (Year 8 and onwards)
Custodian Fee	0.15% + VAT annually (NB – reduced from 0.35% in 2017). There is also a receiving agent fee of up to £25 + VAT for each subscription, and a £15 fee will apply for any transfers of holdings. Distributions may also incur a small administrative charge. These fees will be paid from the investor's cash pool.
Performance Incentive	Once a typical investor, defined as a 40% taxpayer with no capital gains tax to shelter, has received a return of £1.20 (including tax benefits) for each £1.00 invested then 20% of all further payments to all investors who invested at the same time will be paid to OTM as a performance incentive.

SEIS and EIS Tax Reliefs - Overview

Please consult HMRC or your financial advisor for full details and conditions.

Type of Tax	SEIS	EIS
Income Tax	Reduced by 50% of investment Reduced further by up to 22.5% if the business fails Income tax relief can be applied to tax bill year prior to investment	Reduced by 30% of investment Reduced further by up to 31.5% if the business fails Income tax relief can be applied to tax bill year prior to investment
Capital Gains	Relief against capital gains equal to 50% of investment (max £100k of the relief per tax year), which is not merely deferred but cancelled. No capital gains tax to pay on exits	Deferral relief on capital gains arising 3 years before, or 1 year after investment No capital gains tax to pay on exits
Inheritance Tax	No inheritance tax (after 2 years)	No inheritance tax (after 2 years)

Example SEIS investment

An individual investor with income tax of £25,000 to pay, and capital gains of £100,000 in the 2020/2021 tax year on which tax of £20,000 at the 20% rate is due to be paid, invests £10,000 in an SEIS qualifying company in 2020/2021:

Initial Investment	£10,000
Income Tax Bill Relief (50%)	-£5,000
Capital Gains Tax Relief	-£1,000
<hr/>	
Net Cost of Investment	£4,000

If the above investor had had the same tax status in 2019/2020, they could also choose to treat their 2020/2021 investment as if having been made in 2019/2020, and claim relief for that year instead.

If the investee company fails, the remaining part of the investment on which income tax relief has not been claimed (£5,000 in this example), may be set against the investor's income tax liability. For a 45% taxpayer, for example, this relief is worth £2,250. If they also have capital gains tax to pay, then the total loss on the investment of £10,000 would be reduced to £2,750 if the investment was made in 2020/2021 and not carried back to the previous year - in other words, a downside of 27.5%. There is also the further possibility of capital gains tax loss offsets.

If the investment succeeds, and the shares are sold for, say, £20,000 (twice the purchase price), the £20,000 would be tax free, a multiple of 5 times the net cost, or an upside of 400%.

California Office - bijan@oxfordtechnology.com

Oxford Technology also has an office in Menlo Park, just outside San Francisco in California. This office is run by Bijan Kiani. Oxford Technology invested in his first start-up business, INCA, in the 1980s. The business did very well and 3i later invested. INCA was ultimately acquired by a company in California, for whom Bijan then went to work. After a few years, Bijan was headhunted by Synopsys to head up their sales and business development strategy. Synopsys employed 300 people at that time. Bijan played a major part in its growth to 13,000 people and the No 1 position in its field (Electronic Design Automation).

In 2019, Bijan contacted OTM, saying that while he had enjoyed working with Synopsys and building a large and successful business, what he had really enjoyed most was the early days of his first business, working with OTM to get it all going and getting the first sales contracts in the US etc. What he would now like to do would be to help our investees in the UK get going in the US. He has been as good as his word, and all the CEOs of our investees who have worked with Bijan have said how helpful and useful he has been. In January 2021 Bijan became the CEO of Machine Discovery, an OT(S)EIS investee, in which he is also a shareholder.

Presentations

At 10am on the first Thursday of every month Oxford Technology hosts a Zoom meeting of WOTAN - the Wider Oxford Technology Angel Network, at which existing investee companies who are raising additional capital make presentations to investors. The meetings are open for anyone to attend. Please visit www.oxfordtechnology.com/wotan to join WOTAN. After the presentations and before questions, there is a live performance by pianist Anita D'Attellis.

The next meetings are at

10am on Thursday 1 August

10am on Thursday 5 September

10am on Thursday 3 October

In order to invest, you have to have been a member of WOTAN or another such network for 6 months, or to self-certify that you are a sophisticated investor or a HNW individual and understand the risks associated with investing in start-ups. If you would like to attend and don't already receive the link, please email otseis@oxfordtechnology.com

Invest in OT(S)EIS

While it is very good to make direct investments into presenting companies, please do also consider making an additional investment into OT(S)EIS as well. The reasons are:

1. OT(S)EIS can get you access to significantly better valuations. Presenting companies are those in which we have already made SEIS/EIS investments, typically at lower share prices. For example, in Q1 2020 we made an SEIS investment into Etcembly at 40p per share (so 20p after SEIS tax relief). In Q4 2020, Etcembly gave a presentation and raised £1.6m of EIS investment at £1.58 per share (so £1.10 after EIS tax relief — more than 5x the after tax share price of the earlier SEIS investment).
2. With OT(S)EIS, you make a single investment and we do all the work. We handpick about 5-6 SEIS investments, diversifying risk, and then invest in a similar number of follow-on EIS investments. We send you all the forms necessary to claim your tax reliefs, a report with a valuation each quarter, and we actively help the investees.
3. Unless we raise capital for OT(S)EIS, we're not able to make the initial SEIS investments in start-ups, so there won't be any companies to present down the line!

OT Growth Fund

We continue to believe that there is a good opportunity to create a larger fund, maybe £50m which would invest in those of the earlier investments in the portfolio which are doing well, and which might also provide an exit for some of the SEIS and EIS investors. The concept is very simple. Since we invest in companies at the very earliest stage, typically when there are one or two people in a lab with an idea, and because we get actively involved (almost all investments are within an hour's drive) we get to know the founders very well. And we know the things which the founders might prefer that we didn't know - problems with personnel and patents, for example. This puts us in a very good position to be able to judge which investee companies are worth backing with significantly larger investments of several £m. A particular aim would be to use Bijan (who helped build Synopsys in California from 300 to 13,000 people) to help these companies develop in the US. The valuations of technology companies are generally significantly higher in the US than in the UK, so this should benefit the initial UK investors.



Run3D.co.uk

Company Valuation	Valuation Share Price	Fund Holding
£2.04m	£0.60	25.6%

Date	Amount	Share Price	Type
Dec 2012	£100,000	£0.15	SEIS
Oct 2013	£15,000	£0.15	SEIS
Oct 2013	£10,000	£0.15	N/A
Nov 2017	£3,000	£0.30	EIS
Mar 2019	£10,206	£0.45	EIS
Apr 2024	£2,316	£0.60	EIS

Description of Business

Run3D is the brainchild of Dr Jessica Leitch, who is an International runner herself (representing Wales) and who has a D.Phil from Oxford in the biomechanics of running. Runners have reflective balls attached to their various joints (hips, knees, ankles) and then run on a treadmill. Special cameras capture the image of the balls at 200 frames/sec. This data is then fed into a computer programme which outputs a complete gait analysis, giving every detail; the angle of heel-strike, the rotation and rate of rotation of each joint, etc. The analysis can be used to modify the gait for two purposes; to reduce the likelihood of injury and to increase speed.

Progress since Investment

Initial progress was quite good. But after a few years, it became clear that improvements in the software were needed, so Run3D then spent the next two years, in collaboration with a company in Amsterdam, rewriting the software. The new software was used for the first time in summer 2016, and was a big step forward - easier to use and with many new features. In Q1 21 Run3D's AI went live to interpret the results. The AI add-on software automatically interprets a gait report, and makes suggestions as to what the issues might be, making Run3D more appealing to a wider market of less-experienced clinicians.

Date	UK & Ireland	US	Europe	Rest of World	Mobile	Total
Dec 2019	10	1	1	2	1	15
Dec 2020	13	0	4	2	1	20
Dec 2021	19	1	4	3	1	28
Dec 2022	27	1	2	3	1	34
Dec 2023	29	0	2	3	1	35
Jun 2024	27	0	2	3	1	33

Recent Developments

This has been a very good quarter for Run3D and there have been a number of key developments which bode well for the future.

1. The software has been given a major overhaul. The code, which had been in need of an upgrade, has been taken in hand and its structure greatly simplified. This puts the future of the business on a sounder footing.

2. Walk3D will be installed in all the existing clinics at no extra cost. Users will be able to toggle between the Walk3D and the Run3D software seamlessly. A Zoom meeting was held on 19 June, attended by almost all the 32 existing clinics to introduce Walk3D and answer questions. Walk3D should be live with all the clinics by the start of Q3. The two most successful clinics already offer the service to walkers, but under the Run3D brand. Now they will be able to carry on but using the Walk3D brand. The new Walk3D software includes some features which are specific to walking so it will enable the clinics who already offer the service to walkers to do so even more effectively. It is hoped that all the other clinics will become as busy and profitable as these two. The elderly with walking difficulties are richer than young runners and are happy to spend money on alleviating the pain that they experience in walking.

In summary, Run3D is buzzing and there is much optimism about the future.



Biomoti.com

Company Valuation	Share Price	Fund Holding
£0	£0.02*	15.2%

*Share price assumed represents avg loss relief per share.

Biomoti Investment History

Date	Amount	Share Price	Type
Jan 2013	£74,998	£0.05	SEIS
May 2014	£40,000	£0.05	EIS
Mar 2021	£74,661	£0.12	EIS

Description of Business

BioMoti is based on technology from Queen Mary University of London. Its founders are Dr. Davidson Ateh and Prof. Jo Martin who was appointed as Head of Pathology for the NHS in 2013.

Tumour cells including those from ovarian, breast, pancreatic, colon, prostate, and bladder cancer overexpress a particular ligand, CD95L on their surfaces. CD95L helps tumours to avoid the immune system by killing off certain classes of immune cells and is also associated with triggering cancer metastasis. The scientists have discovered that if a small particle is coated with CD95R (which binds to CD95L), the cancer cell will engulf the particle and draw it inside. By loading a chemotherapeutic drug into a biodegradable particle coated with the receptor molecule, it is possible to deliver high concentrations of chemotherapy drug into the cancer cells.

Preclinical tests have shown remarkably good results, with 65-fold reductions in tumour burden, doubling of median survival and significant decreases in toxicity seen in an ovarian cancer model when the technology is applied and compared with the current clinical standard-of-care.

Progress since Investment

BioMoti has carried out many successful preclinical experiments. They have experimented with different production techniques, in part due to the fact that the original technique they had used became unavailable. The experiments show that their technology, Oncojans, deliver on the promise of higher activity and lower toxicity than the standard of care delivery for paclitaxel. The Oncojan formulation enables the drug to give performance similar to cisplatin, a much more powerful drug which has limitations which the Oncojans would not have. Although only observed (as there was quite a lot of variation and relatively few samples) the Oncojans also seem to encourage the penetration of Cytotoxic T cells into the tumour environment.

The original manufacturing technique is now available again in two different versions and BioMoti has also tested new technologies which give very high loading of drug in the particles.

Recent Developments and Summary

Unfortunately BioMoti ran out of potential investor and have progressed to closing down the company. By that point Davidson had interacted with over 100 VC's while trying to raise the \$20m necessary for the next step.

It is a pity that such a promising treatment for some of the most deadly cancers was not able to make progress, but the market does go through fashions and BioMoti didn't fit those fashions.



CombatCancer.com

Company Valuation	Valuation Share Price	Fund Holding
£30.19m	£11.28	2.7%

Date	Amount	Share Price	Type
Apr 2013	£74,999	£4.31	SEIS
Dec 2013	£74,998	£4.74	EIS
Oct 2014	£10,002	£4.98	EIS
Dec 2014	£34,271	£4.98	EIS
Mar 2016	£74,998	£14.10	EIS
Oct 2016	£64,995	£11.28	EIS
Mar 2017	£129,212	£14.10	EIS
Mar 2018	£27,058	£14.10	EIS
Mar 2021	£54,223	£11.28	EIS
Apr 2022	£21,218	£11.28	EIS

Description of Business

Combat Medical develops and manufactures devices for the treatment of bladder and peritoneal cancers. The bladder cancer device consists of a control unit and a disposable heat exchanger and catheter. These are used to deliver a treatment consisting of heating a chemotherapy liquid and circulating this through the bladder. The standard treatment for bladder cancer involves cutting out the tumours in the bladder and results in up to 78% recurrence of tumours which then require increasingly drastic surgery. Combat's treatment, called HIVEC (hyperthermic intra-vesical chemotherapy), reduces recurrence rates by up to 4 times. The peritoneal cancer device works according to a similar principle, with the addition of CO2 agitation.

Sales are growing well, and the core business is profitable. The devices are CE marked and in use with doctors. Thus far they have been used in combination with surgery, but they are also being investigated as standalone treatments. This would reduce costs for medical providers, as repeated surgeries are extremely expensive. Combat is undertaking further clinical trials in order to make the treatment a standard of care. Success here should further accelerate sales of the device and dramatically increase the value of the company.

The clinical trial HIVEC HEAT that will provide the data for FDA approval has been launched at Leicester University hospital. It is a phase 3 trial run to FDA specification to see the impact of HIVEC treatment on patients who have failed BCG treatment. It has been over two and a half years in preparation. It will recruit 238 patients across 25 trusts and will follow patients for 2 years after the treatment to see long term effects. In the meantime sales continue to rise and accelerate.

The first four months of 2024 were good for Combat with good growth.

Recent Developments

Combat is seeking to raise £2m at a valuation of £30m, and gave a WOTAN presentation in June but was unsuccessful in attracting capital via this route, but had raised £300k by the end of the quarter, mainly from existing investors, with other corporate and medical authorities scheduled to provide the balance. Recently CG Oncology, a bladder-only drug company floated in the US at a valuation of \$1.8bn, raising \$380m. This was off the back of interim results from 66 patients. Combat believes it will achieve better results with its system.

Interim results from 75 patients are expected in 2026, at which point Combat will raise a further £30m+ to support FDA approval for use in the US.

Summary

Good progress of Combat continues.

The company previously named
Lightpoint.

LightpointMedical.com

Exit Value	Exit Share Price	Multiple
Up to \$46m	Up to £0.62	1.3x - 5.7x*

*Depending on the investment round, assuming full options conversion and that all milestones are met. The multiple is calculated based on the share price of £0.62 and in respect to the net cost of investment, i.e. includes tax reliefs.

The Company's Investment History

Date	Amount	Share Price	Type
Jun 2013	£74,999	£0.047	SEIS
Mar 2014	£75,000	£0.19	EIS
Nov 2014	£9,991	£0.238	EIS
Dec 2014	£124,895	£0.238	EIS
Mar 2016	£100,000	£0.509	EIS
Mar 2016	£20,000	£0.509	EIS
Mar 2019	£26,941	£0.65	EIS
Mar 2020	£38,825	£0.65	EIS

Description of Business

In cancer surgery, a surgeon cannot see whether the entirety of a tumour has been removed. In prostate cancer surgery, for example, roughly one quarter of surgeries will leave some cancerous tissue behind. The company has developed an imaging technology based on existing imaging PET and SPECT radiopharmaceuticals, to provide surgeons with a real time image of the cancer. The company is very actively engaged with surgeons to ensure that the products are best suited to their needs.

Sale of the company

OT(S)EIS was the initial investor in the company when we invested £75k in 2013 to get it started. In June 2023, the company announced that it had been acquired by Telix, a radiopharmaceutical company which is quoted on the Australian Stock market. The acquisition was completed on the 1st of November 2023. The deal came with an initial allocation of \$20m of Telix shares to be held in escrow with a further \$15m to follow against milestones over the next two years. The milestones are in line with the company's development plans and, unforeseen circumstances aside, should be achieved. At the time of the deal, the Telix share price was A\$9.57. At the end of the Q2 2024 it was A\$18.09.

Those investors who invested in OT(S)EIS at the start, participating in the first SEIS investment and the follow-on EIS investments do very well with a return of about 5.5x the net cost of their overall investments in the company if all milestones are met. Those who invested directly more recently do much less well.

The company was in a difficult position since the semiconductor chip shortages that started during Covid meant that the chips used in its product suddenly became unavailable. This meant that the company could make no more sales despite having orders. It could have redesigned the product using different chips, but this would have meant applying for a CE mark all over again, an expensive process which might take several years to achieve with uncertainty about availability of slots with the notified bodies. Under these circumstances the company made the decision to seek for acquisition and it is much to its credit that the deal with Telix has been concluded. We hope that with Telix backing, the technology will be able to go on to fulfil its potential, to save lives and reduce morbidity associated with cancer surgery.

The company is now a holding company that will distribute the returns through a liquidation. The amount that is distributed will depend to some degree on how Telix performs. If the exit goes according to what is transparent at the moment, investors should expect approx. 42p per share, not including potential milestones and the value of Active Needle shares held by the company. However, the share price of Telix shares on the 1st of July was A\$18.09, and at the time of the deal (Nov 2023) it was A\$9.57. It is a meaningful increase in value and it is not guaranteed the share price will continue to rise and can fall before the exit can be materialised. You can follow Telix and the company's product progress here: <https://telixpharma.com/investor-centre/>

The company was able to sell the first quarter of its Telix shares. It will use that money to buy back some shares from non-EIS investors, however the earliest that we expect to distribute funds from the exit is Nov 2025 (possibly possibly early 2026), as we are seeking to obtain the full EIS benefits and also the maximum value from the exit.

METAL POWDER AND PROCESS

MetalPowderProcess.co.uk

Company Valuation	Valuation Share Price	Fund Holding
£1.25m	£1.25	12.0%

MPP Investment History

Date	Amount	Share Price	Type
Aug 2013	£150,000	£1.25	SEIS

Description of Business

Metal Powder & Process (MPP) was established to produce high quality metal powders by gas atomisation for the aerospace, medical, and other industries. Metal is melted at the top of the atomiser, a machine the size of a small house, poured through a nozzle and blasted by jets of supersonic argon gas, and so turned into dust. The use of powdered metals has been growing steadily over the last 50 years. It is less expensive to produce certain components, e.g. gear wheels used in cars, by metal injection moulding powdered steel, than it is to start with solid steel and then cut each tooth on a machine. Metal injection moulding also produces parts which can be stronger and more accurate. Now demand is increasing even more quickly due to the rapid growth of 3D printing of metal parts.

Due to the incorporation of some novel technology, it was hoped that the atomiser (known as Bertha) operated by MPP will produce powder of higher purity than the powders produced by existing atomisers. This, in turn, should make the powder suitable for use in the aerospace industry. In the past, the aerospace industry has been reluctant to use powdered metal since the impurities which are present in powders produced by existing designs of atomisers are potential crack-initiation sites.

Progress Since Investment

Work on completing and commissioning Bertha has been continuing since the investment. The first sales were achieved in Q1 2015 for trial quantities. In Q4 2016, and after a development programme lasting about a year aimed at producing powder of a novel alloy for diamond attachment for an overseas customer, MPP received its first significant order. This order was worth >£1m, to be delivered at steadily increasing monthly quantities. This was a great achievement and an important milestone in the development of the company, but it brought new challenges. Unfortunately, in 2020, the customer sold the product line which used the MPP powder and MPP lost its largest customer. In Q2 2017, Bertha produced her first titanium powder. During Q1 2021 the new fluidised bed, owned by MPP's sister company PSI, became operational. This will be used, initially experimentally, to coat particles used in battery anodes in electric vehicles in a way which, it is hoped, will result in longer life batteries, capable of a significantly increased number of charge/discharge cycles. If this works, the potential is large. The rig will also be used to heat treat post-production metal powders to make them more suitable for repairing military aircraft in remote locations. The other use for the rig will be to recondition waste powder from AM operations. Several of these developments are grant-funded and with several parties involved.

Recent Developments

Production of the large PSI atomiser to be delivered in the summer is in full swing. The export licence for this expires on a particular date, and cannot be extended. And while the election is going on, there is no minister to whom an appeal might be made. This is creating problems for PSI who are now working overtime and at weekends to meet the deadline. While this is going on, MPP's programme to develop a continuous production system for titanium powder is somewhat disrupted.



DESIGNER
CARBON
MATERIALS

DCM Investment History

Date	Amount	Share Price	Type
Apr 2014	£75,000	£0.75	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£0.9m	£1.25	13.9%

Description of Business

Professor Kyriakos Porfyrakis developed a method of producing small quantities of endohedral fullerenes, while working in the Materials Department of Oxford University. Carbon exists in many forms, including graphite and diamond. But carbon can also exist as fullerenes, hollow spheres of carbon atoms, the simplest of which is made up of 60 carbon atoms.

Progress since Investment

Production of the materials and research continued in the lab. An important milestone was achieved in Q3 2014, when DCM received its first order, £22,000 for 0.2mg of a nitrogen-containing fullerene, with a purity of 1 in 1,000, so 200 micrograms of the N@C60. This is a price of more than £100m per gram, so we think this might be the most expensive material on the planet. The material is being used in a research project whose aim is to produce an extremely accurate atomic clock on a chip so that it could be used in a mobile phone. In Q1 2018, a contract was signed with LocatorX, a US company, which is seeking to commercialise the atomic-clock-on-a-chip application. DCM agrees to supply LocatorX N@C60 exclusively for this application and they agree to buy only from DCM. DCM received 100,000 founder shares in LocatorX.

In 2020, Professor Porfyrakis became Head of Research for the school of Engineering at the University of Greenwich. Work of the atomic clock continues and DCM continues to manufacture the N@C60 for this work. In Q4 21, a team, including Professor Porfyrakis, was able to align N@C60 and N@C70 derivatives in a liquid crystal matrix. These molecules give rise to endohedral fullerene qubits: multi-level computational units which could be an alternative to the conventional 2-level qubits used in quantum computing. Qubits offer a larger state space for encoding information and thus can offer enhancement of quantum algorithm efficiency. The paper, published by Professor Porfyrakis and his collaborators in one of the most prestigious chemistry journals, *Angewandte Chemie*, has now received 11 citations. In 2022 Professor Porfyrakis was chosen to lead the newly-formed Centre for Advanced Manufacturing and Materials (CAMM) at the University of Greenwich, leading a team of approximately 30 academics.

DCM has recently secured orders for N@C60 from 3 new customers, the University of Nottingham, University College London and the University of Leeds. Researchers at University of Nottingham will be using N@C60 as a probe for the spin activity of other spin bearing molecules. The narrow ESR lines of N@C60 make it an excellent probe for this application. Researchers at UCL will be using N@C60 as a calibrating standard for their ESR spectrometers for accurate calculations of linewidths and spin concentrations. Researchers at the University of Leeds will also be using N@C60 as a spin probe for other molecules. In addition, DCM has established a new, three way-collaboration between with the CAESR (Centre for Advanced Spin Resonance) facility of the University of Oxford and the University of Cambridge. During this collaboration, the photo physics and spin properties of dyad systems made from endohedral fullerenes and chromophores is being studied. Such molecules can find applications in organic light emitting diodes (OLEDs) and the Cambridge group are world leaders in this field.

Recent Developments

The grant application to EPSRC is delayed again, but the plan is to submit it during summer 2024. DCM has also developed a new collaboration with the University of California, Santa Barbara (UCSB) to develop methods to sense single spins in solid state systems via coupling with N@C60. During Q2 Prof. Porfyrakis spoke at a conference in San Francisco. DCM is becoming recognised as a leader in the field.



Date	Amount	Share Price	Type
Jul 2014	£75,000	£0.12	SEIS
Jan 2016	£75,000	£0.28	EIS

Company Valuation	Valuation Share Price	Fund Holding
£0.7m	£0.06	7.6%

Description of Business

Sasets provides software for construction companies which enables them to replace paper forms with forms on mobile devices. The forms may have information such as the weather entered automatically. The net result is a jump in efficiency and a big time saving. The forms are transmitted instantly to the department where they are needed, a huge improvement on the old methods of sending forms in triplicate by post to departments which then had to re-enter the data. Time stamped, geotagged photographs may be added to the forms, a great advantage in many situations.

Progress Since Investment

As so often, things went more slowly than hoped, and new issues emerged when the product began to be used in the field. But technical development continued, and the number of users started to increase. Users pay a monthly subscription to use the software. Sasets grew to a peak of 493 users. Then two bad things happened. First, Keir acquired A1, which had about 150 Sasets users. Despite the protests of the users who liked the Sasets platform a lot, the contract with Sasets was cancelled. Then Covid struck, many construction sites were closed, and some construction companies went out of business.

Date	Paying users
Dec 2015	102
Dec 2016	200
Dec 2017	310
Dec 2018	422
Dec 2019	493
Dec 2020	437
Dec 2021	409
Dec 2022	453
Dec 2023	518
Jun 2024	484

Recent Developments

It has been a disappointing quarter in that the number of users has fallen. Not a single client has been lost but the number of users has declined because many of the clients have had to lay off workers as their construction projects (e.g. HS2) have been cut back. It may be that things change after the election.

The software works really well and all the existing users are full of compliments. So if anyone knows a potential user who would like to adopt a tried and tested system for monitoring and efficiently controlling construction projects, please get in touch.



Date	Amount	Share Price	Type
Sep 2014	£75,000	£2.11	SEIS
Apr 2016	£100,000	£2.35	EIS
Nov 2018	£25,040	£5.00	EIS

Company Valuation	Valuation Share Price	Fund Holding
£16.27m	£8.36	4.3%

Description of Business

Sime Diagnostics makes use of mathematical techniques to extract information from spectrometric readings of medical samples. The first application is in determining whether premature babies (and possibly babies born by Caesarean) need an application of lung surfactant to protect their lungs. Respiratory Distress Syndrome (RDS), a breathing disorder caused by surfactant deficiency, affects 1 in 4 premature babies.

Babies with RDS require mechanical ventilation, oxygen therapy and longer hospitalisation - all at significant cost. RDS can be prevented with surfactant treatment at birth. Prophylactic surfactant treatment harms healthy babies so neonatologists have to wait for RDS symptoms to develop before starting treatment. Sime's new test should give results within 10 minutes of birth. Sime's technology was used successfully for the first time on a premature baby in China in Q4 2018.

Sime's work has now been published and shows the Lung Maturity test has a very high sensitivity of 91% (accurately identifies 91% of babies that have a deficiency) and a specificity of 79% (accurately identifies 79% of those who don't).

Progress Since Investment

Using the data generated from Sime's Lung Maturity Test to predict RDS at birth, Sime's propriety AI was able to successfully predict another lung disease at birth, BPD (Bronchopulmonary Dysplasia, more commonly known as chronic lung disease), a life-threatening disease that can have serious complications and large economic costs.

In parallel Sime's unique data and positioning in the respiratory diagnostic space has enabled Sime to rapidly develop a respiratory test for adults in intensive care with Acute Respiratory Distress Syndrome (ARDS), including Covid-19 patients. Insufficient surfactant in the lungs is a major contributor to ARDS, and treatment requires high-cost invasive ventilation. Early scientific validation of the test achieved positive results and IP has been filed.

In Q4 2022, Sime achieved its CE mark that enabled its device to be sold for clinical use.

Recent Developments

SIME's US office in Rochester has started processing samples from a hospital group for their FDA registration trial. It is a large group and samples are predicted to come through quickly as the hospital has excellent systems in place to support clinical trials.

There is interest from multiple large hospitals in the US, eager to improve the performance of their neonatal units by using the best technology available.



[Expend.com](https://www.expend.com)

Company Valuation	Valuation Share Price	Fund Holding
£31.03m	£0.22	11.4%

Expend Investment History

Date	Amount	Share Price	Type
Dec 2014	£75,000	£0.005	SEIS
Feb 2017	£17,338	£0.06	EIS
Dec 2017	£3,000	£0.16	EIS
Aug 2018	£13,000	£0.10	EIS
Mar 2019	£30,719	£0.10	EIS
Mar 2020	£29,300	£0.10	EIS

Description of Business

Expend is a payment and accounting software platform specialising in expense management for small and medium-sized businesses. Its mission is encapsulated in the tagline "Easy expenses. Simple spending. Better business."

Expend's platform integrates with all popular accounting platforms.

Through its Card Connect® feature, Expend supports all transaction types, regardless of their source. Expend is also forging partnerships with financial institutions, including banks, to develop turnkey solutions catering to their customers' unique needs.

Progress Since Investment

Expend has grown significantly since Oxford Technology's initial investment. It generates recurring revenue from subscriptions and payment product usage and through partnerships with financial institutions. Customer retention is good, and the ARR (Annual Run rate) is now £1.2m.

Expend's platform caters to SMEs and larger companies, with notable customers including Amazon, Cote Restaurants, AgeUK, and Mind. The team has continued to enhance the platform in 2024, introducing new features such as Apple and Google Pay integration and a streamlined Expend Inbox for simplified expense management.

A standout feature is real-time Visa and Mastercard transaction support Card Connect® feature, allowing users to integrate their own bank cards. This innovation positions Expend as a market leader.

In 2022, Expend secured a widely publicised partnership with Virgin Money Bank, and then with Mastercard in 2023. Conversations with other such institutions are ongoing.

Recent Developments

Expend exhibited at the prestigious Pay360 industry event at Excel in March and other prominent industry events, including the Care Home Show and Accountex London in April and May. These exhibitions proved highly successful, opening up new opportunities within the banking sector that are currently being explored.

In a significant development, Expend has been selected for the 2024 cohort of Grow London Global, a government-backed program designed to support innovative companies seeking to scale, raise funds, establish commercial partnerships, and expand into new territories. As a result, the company has been engaged in a flurry of activities throughout the summer, with more exciting developments on the horizon for Q3 and Q4.

During Q1 and Q2, Expend received four unsolicited acquisition approaches, a testament to the company's growing reputation and potential. While none of these approaches were deemed suitable, their existence is encouraging, and the Expend team remains firmly focused on driving growth.



MolecularWarehouse.com

Company Valuation	Share Price	Fund Holding
£0	£0.20*	5.0%

MW Investment History

Date	Amount	Share Price	Type
Apr 2015	£75,000	£0.60	SEIS
Feb 2016	£75,000	£0.80	EIS
Mar 2016	£20,000	£0.80	EIS
Sep 2016	£52,005	£0.97	EIS
Sep 2017	£20,000	£2.00	EIS

*Share price assumed represents avg loss relief per share.

Description of Business

Molecular Warehouse (MW) has technology to rapidly develop and test new proteins for diagnostic and therapeutic uses. MW has developed a new type of sensor for diagnostics which yields new quantitative devices. The devices take a small drop of fluid and give a numeric readout in seconds without any additional operations (like a blood glucose sensor but for almost any physiological analyte).

The key technology is an enzyme with a hinge which we call a biosensor. When the hinge is open the enzyme doesn't work and no signal is produced. When the molecule of interest is present, the enzyme is pulled into shape and the enzyme can function happily and produces a signal that is easily read.

These biosensors can be used for many applications where it is useful to know how much of a molecule is present. One area is therapeutic drug monitoring. There are several drugs where it is important that a patient has neither too little nor too much drug in their system, so patients need to be monitored until the dosing is accurately determined. MW will allow patients to measure this themselves with high accuracy and communicate back to the doctors. Its first products are aimed at the transplant market and will allow accurate monitoring of drug levels outside a hospital environment.

For the development of new sensors, MW makes use of the services of the Queensland University of Technology Brisbane where a large number of proprietary and commercial tools are brought together in one location allowing very rapid development of new products or leads.

Progress Since Investment

The company has developed a sensor for calcium which may have applications in monitoring kidney disease and hyperparathyroidism. The sensor demonstrates the functionality of the whole system of biosensor, reader and software. However, it is not a sensor which is likely to be commercially successful.

MW had also been developing enzyme cascade based sensors for Theophylline (used in therapy for respiratory diseases) and Lithium (for treating bipolar disorder). MW divided into two entities in May 2020: Luas Diagnostics has licensed IP from MW and will develop the enzyme cascade based sensors. MW has a minority stake in Luas, which has now also become the distributor of a 20 minute Covid antibody test and a Covid antigen test. The lab in Guildford was closed and Andrea has taken on the role of caretaker, while Kirill Alexandrov was developing new technology for MW in the lab in Brisbane. However, the lack of further funding has meant that MW's technology is falling behind, and Kirill's new work at the university is not going to belong to MW.

Recent Developments

Molecular Warehouse is waiting to see if things fall its way, but there isn't much news to provide.

Ducentis

BioTherapeutics

DucentisBio.com

Exit Value **Exit Date** **Multiple**
 Up to \$400m 12/09/22 Up to 127x*

Date	Amount	Share Price	Type
Jul 2015	£50,000	£0.14	SEIS
Dec 2015	£30,000	£0.18	SEIS
Mar 2017	£160,275	£0.36	EIS
Mar 2018	£45,314	£0.40	EIS
Mar 2019	£53,820	£0.70	EIS

*Calculated based on the data received at the time of the deal, i.e. Sep 2022

Description of Business

CD200 is a protein that modulates the activity of mature immune cells. It protects certain tissues in the body such as muscles and nerve tissue from the immune cells. People who have low levels of the CD200 receptor on their immune cells are at higher risk of autoimmune diseases. The herpes virus is able to survive in the human body by producing a protein very similar to CD200 – a viral homologue. CD200 acts on both the innate and adaptive arms of the immune system but does not impair the function of immature immune cells so response to infections is not affected, making it an attractive target. Other groups had carried out research on naturally occurring CD200 and its homologues. They are effective but not practical, because they would require very frequent injections. By modifying CD200, Ducentis sought to turn it into a practical treatment. There are many autoimmune diseases that might benefit from such a treatment, including arthritis.

Progress Since Investment

Ducentis made excellent progress after the investment. It first designed and then made a modified CD200 protein which requires between 1/100 and 1/1000 of the wild type CD200 to produce the same binding effect. Ducentis applied for a patent on this family of molecules and it has since been granted. In 2019 Ducentis raised a round of >£1.5m to continue its development programme. The cornerstone investor was LifeArc. Eli Lilly, a major pharma company, also announced a programme in CD200, using antibodies. They completed a successful clinical trial in Atopic Dermatitis. This encouraged Arcutis, <https://www.arcutis.com/> a Nasdaq listed dermatology company, who then acquired Ducentis in Sept 2022.

The deal was quite complicated but definitely very good for OT(S)EIS shareholders and for those who invested directly as a result of a presentation. It consisted of an upfront payment of \$15m in cash and \$15m in Arcutis shares with up to \$400m of milestone payments and mid single digit royalties for sales surpassing a high (but not impossible) annual threshold. The deal is summarised below: Return to someone for whom we invested a total of £5k in Ducentis following a £25k investment in OT(S)EIS

Date	Invested	Tax Return	Capital Return
2015 14p/share	£1,250	£625	
2016 18p/share	£1,250	£625	
2017 36p/share	£2,500	£750	
2022			£21,669
2023			*£35,000
Potential Future Milestones			**£800,000
Total	£5,000	£2,000	£856,669

*In Arcutis shares + escrow cash

**In steps over the next 10 years - and NOT guaranteed

Small update: The escrow payment was received and distributed in Q1. Arcutis published a poster on ARQ-234. It can be seen here <http://bit.ly/3KVzRiD> and consists mostly of the work done at Ducentis. The Arcutis share price is volatile. At the time of the deal it was £22. It fell to a low of \$2 but has since risen. 2024 share price at the end of Q1: \$8.55 , Q2: \$8.88. We are struggling to get the shares released to our broker so we can sell them.



Bioarchitech.com

Company Valuation	Valuation Share Price	Fund Holding
£7.91m	£6.00	22.4%

Date	Amount	Share Price	Type
Aug 2015	£79,560	£0.60	SEIS
Mar 2016	£40,000	£1.00	SEIS
Jul 2017	£16,200	£1.00	EIS
Oct 2017	£29,000	£1.20	EIS
Mar 2019	£89,674	£1.80	EIS
Dec 2019	£4,637	£2.80	EIS
Mar 2020	£36,758	£2.80	EIS
Mar 2021	£69,804	£4.00	EIS

Description of Business

Bioarchitech (BA) aims to improve cancer treatment by creating a drug that attracts, activates, and redirects a patient’s immune system to destroy their tumours. Known as immunotherapy this technique has shown the potential to cure patients. The drugs which BA is developing will be able to be administered to many more types of cancer than is currently possible.

The CEO is Dr Geoff Hale who has an international reputation in therapeutic immunology. As a scientist, he has published over 300 articles on the mechanisms of action of antibodies. He was formerly head of the Therapeutic Antibody Centre at Oxford University, and was the founder and CEO of BioAnaLab Ltd, a successful spin-out from Oxford which grew from nothing to c.50 people before being sold very profitably to Merck Millipore. Kevin Maskell is the principal researcher and developed the idea together with LiLi Wang and Hannah Chen. From 2002 -2009, Kevin was a research assistant in the department of clinical pharmacology at Oxford University, then principal scientific director of DDS, a subsidiary of Merck Millipore. Before starting BA, he was a senior scientist at Oxford Cancer Biomarkers.

Progress since Investment

The core of BA’s research has been to identify immunotherapy molecules, typically antibodies or CAR-T cell receptors, which have shown efficacy in clinical studies but are limited by toxicity to normal tissues when administered systemically. BA re-engineer these molecules and package their DNA code inside a virus. This gets around the problem of systemic toxicity as the immunotherapy molecule is produced only where the virus can replicate such as in tumours. This class of therapeutic is called an oncolytic virus because of its tumour tropic properties. Using this approach BA has validated several targets in vitro using human tumour cells. However, moving up to try them in the whole body of an animal is notoriously challenging. BA is now testing its molecules one by one in mouse models of cancer. Efficacy in these challenging models would give confidence that the approach will work in cancer patients. This is a slow and complex progress but is well underway with results due to come in during Q3 2024.

Additionally BA has developed a new type of RNA molecule called self-amplifying RNA, somewhat similar to the COVID vaccines but which can copy itself once inside cells, this is to be injected directly into tumours to shrink them and activate immune cells within the tumour as a treatment for early-stage cancers. This type of treatment would be cheap, fast and have mild side effects. This project is also undergoing assessment in mouse models of cancer.

BA currently has four full-time employees, all extremely talented lab-based scientists.

Financial Update

The accounts to July 2023, show a cash balance £1.4M which included an R&D tax credit of £115k which has now been received. Current expenditure is approximately £40k per month and BA expects to have a balance of about £0.8M at the end of this financial year (Jul 24). This will be sufficient to cover the committed costs for the next 12 months. However, further and more substantial funding will be needed to scale up the manufacturing of a lead candidate and prepare for clinical trials



ORBIT DISCOVERY

OrbitDiscovery.com

Date	Amount	Share Price	Type
Nov 2015	£100,000	£0.73	SEIS
Jul 2017	£38,245	£0.81	EIS

Company Valuation	Valuation Share Price	Fund Holding
£18.99m	£0.81	0.8%

Description of Business

Peptides are an increasingly popular class of pharmaceuticals, sitting in between conventional small molecules and biologics such as antibodies and proteins. They can be made chemically like small molecules, but confer significant enhancements in specificity akin to other biologics, such as antibodies.

The founders are Prof Graham Ogg and Prof Terence Rabbitts FRS from Oxford University's Weatherall Institute of Molecular Medicine. The technology enables the rapid selection of peptides that bind onto drug targets using a process that minimises unintended or non-specific binding. The underlying technology consists of creating millions of micron-sized beads each with a unique peptide attached and mixing them with a target molecule that may be associated with a disease state. The beads that bind can then be identified and larger quantities produced for further experimentation as therapeutic candidates. If necessary, iterative steps can be made where the technology is used to further enhance properties of the therapeutic candidates. A particular strong capability in Orbit is to be able to screen against cells for function. This enables the technology to be used for screening agonist peptides, or peptides that switch on specific functions within a cell, at very high throughput. These agonists are more difficult to find than peptides that block activity (antagonists), but have high utility in preventing disease.

Progress Since Investment

Orbit completed a funding round of £5.25m in May 2018. Now at the Oxford Science Park, the team expanded to 29 employees. Due to different interests among the major shareholders Orbit split into two companies. One company will focus on T Cells, and is called T-Cypher. T-Cypher currently shows Shareholders of Orbit will have the beneficial ownership of 1/9th of a share in T-Cypher for every share they currently hold in Orbit. T-Cypher currently has 12,401,540 fully diluted shares. In 2021 Orbit raised £5.8m and Neil Butt joined Orbit as CEO.

Recent Developments

More progress in the pipeline. Orbit have announced a partnership with Secarna, a leading developer of antisense molecules. Orbit will expand Secarna's ability to target beyond antibodies and sugar molecules. There have been other signings in the quarter but the company partners have not been announced. It is clear from the pipeline that Orbit is becoming a go to name for peptide discovery.

Summary

Not much change in the summary from last quarter. Orbit is winning contracts and delivering on them.

We have heard that T-Cypher - Orbit's T Cell receptor sister company is doing well, but it continues to travel under the radar.



Curileum.com

Company Valuation	Valuation Share Price	Fund Holding
£17.78m	£4.00	18.3%

Curileum Investment History

Date	Amount	Share Price	Type
Mar 2016	£75,000	£0.63	SEIS
May 2016	£25,950	£0.63	SEIS
Jul 2016	£20,000	£0.63	SEIS
Jul 2016	£20,000	£0.63	EIS
Oct 2016	£19,997	£0.31	EIS
Nov 2016	£20,002	£0.31	EIS
May 2017	£30,000	£0.31	EIS
Mar 2019	£106,349	£0.31	EIS
Mar 2020	£13,791	£1.00	EIS
Dec 2022	£29,656	£4.00	EIS

Description of Business

Dr Jeff Moore established Curileum Discovery in labs adjacent to St Mark's Hospital in London, one of the few hospitals in the world that specialises entirely in treating serious gastrointestinal diseases.

Curileum aims to discover drugs to intervene early with treatments to reduce disease progression in colorectal cancer and inflammatory bowel disease. The company generates "mini-gut" organoids from patient and healthy gut mucosa to discover and characterise drug candidates before testing in preclinical in vivo models. These gut organoids are microscopic three-dimensional cellular structures that mimic the structural and functional properties of the mucosal layer of the gut. From these studies, two novel drug candidates that the company discovered are in preclinical development for licensing to pharmaceutical companies.

Progress Since Investment

Curileum has continued to make excellent progress with its preclinical candidates since the investment in Q4 2021:

ULI-015 (ULI means powerful in Chinese) is a molecule that Curileum has found to make bowel polyps regress (disappear) in a pig model of FAP (familial adenomatous polyposis). As the pig has the identical mutation to human FAP patients it is believed that this will translate well to humans.

Curileum has discovered an adult stem cell in the lower region of the gastrointestinal tract that can produce a wide range of cell types in the culture dish. The company has tested the regenerative capacity of these stem cells in an in vivo preclinical fistula model. In two studies, these stem cells filled the fistula tract with healthy cells, effectively healing a fistula for the first time.

Recent Developments

The de-novo chemical synthesis of CUR-15 (ULI-015, nomenclature depending on how it is made) has now been completed. Two routes have been identified. There is still some work ongoing to improve the overall yield of the process. Work is ongoing to verify the function of the final molecule and the intermediates.



ActiveNeedle.com

Company Valuation	Valuation Share Price	Fund Holding
£12.79m	£0.93	11.8%

Date	Amount	Share Price	Type
Apr 2016	£50,000	£0.12	SEIS
Aug 2016	£65,000	£0.19	EIS
Mar 2017	£19,000	£0.19	EIS
Mar 2017	£30,000	£0.19	EIS
Jan 2018	£28,000	£0.26	EIS
Mar 2019	£101,781	£0.35	EIS
Mar 2020	£32,122	£0.35	EIS
Mar 2021	£55,653	£0.42	EIS
Apr 2023	£7,728	£0.93	EIS

Description of Business

Doctors make use of long needles for taking biopsies or making deep injections, but the needles are difficult to see on ultrasound, and long thin needles often deflect and do not end up exactly where intended. Active Needle Technology provides minute longitudinal ultrasound movement to the needle. This results in the needle being very bright on the ultrasound (from all directions) and much less deflection. The ultrasound drive also has an additional benefit in that the force required to insert the needle is much reduced. In early studies, this has been shown to result in less pain upon insertion and less risk of overshoot.

Possible applications include:

- Biopsies - enabling surgeons to take biopsies (small samples of tissue) from tumours deep inside the body with much greater ease and with much greater accuracy.
- Injecting a chemotherapy drug directly into a solid tumour much more effectively. The ultrasound signal used with a needle with holes in the side enable the drug to be dispersed throughout the tumour. One Professor of oncology said he has been "looking for this needle for 25 years". Active Needle is gaining wide interest on this application and is collaborating with a UK pharma company.
- Tattooing - Active Needle has developed a prototype tattooing system (branded as Tranquill) using the same ultrasound technology. A trial in volunteers has shown greatly reduced pain and skin trauma.

Recent Developments

Good progress from Active Needle. The CrowdCube campaign was overfunded and closed at £136k.

Work on the licensed Tattoo technology is going ahead with the first payments received.

There is interest from multiple sources in the other Active Needle technologies but none of the discussions have reached a point where they can be disclosed.



[ONI.bio](http://oni.bio)

ONI Investment History

Date	Amount	Share Price	Type
Apr 2016	£100,000	£0.02*	SEIS

*Adjusted for 1000:1 share split. EIS certificates remain valid.

Company Valuation	Valuation Share Price	Fund Holding
£129.11m	£0.21	0.8%

Description of Business

Oxford Nanoimaging is a spin out from the biological physics lab of Prof Achillefs Kapanidis at Oxford University. It specialises in super resolution microscopy, which refers to being able to resolve dimensions smaller than the wavelength of light. Prof Kapanidis, Robert Crawford and Bo Jing have invented an optical assembly which allows a microscope to be shrunk from the size of a small car to the footprint of a tablet (with a PC sized box under the bench). This not only gives a big advantage in crowded and expensive laboratories, it also does away with many of the adjustments and control requirements of other super resolution microscopes, making it suitable for beginners and experts. With the microscope, it has been possible to image the processes of DNA repair in a cell. The expertise in the company is not only in the device, but also in the molecular biology techniques and the image processing. A bit like a smart phone, we expect there will be advances both in the hardware and in the applications that can run on it. The company is aiming for rapid expansion, with a distribution network being developed around the world. The company also has the backing of Oxford University Innovation and Oxford Science Innovation.

Progress Since Investment

Good initial progress was made with sales of nanoimagers exceeding expectations. In March 2017, the company raised £3m at £62.50 per share compared to the initial price of £20 per share to accelerate the rate of growth. In Q2 2018, the company raised \$25m at £173.40 per share. The money came from existing shareholders, and from new shareholders from New York, China, Singapore and London.

ONI moved its headquarters to San Diego. In Q1 22, ONI closed a fundraising of \$75m at £0.21 per share, (a price after a 1,000:1 shares split, so equivalent to £210).

In Q1 2023 Paul Scagnetti joined as CEO. He was previously Vice President of Corporate and Business Development at Illumina and worked at FEI and Intel. Bo Jing, the founder and initial CEO ceased to be an employee in March 23 and ceased to be a director in May 2023.

You can see some of the images captured by ONI's microscopes here <https://oni.bio/applications/gallery/>.

Recent Developments

We do not receive any communication or financial information from ONI, which is disappointing since we invested in the company to get it started. But we learn the following from Companies House:

Year ending	Sales (£000)	Loss (£000)	Cash in hand (£000)
Dec 2021	5,582	(9,690)	55,540
Dec 2022	5,679	(11,281)	47,102

We have also learned through ONI's social media that they released the ONI Application Kit™ in March 2024. This kit facilitates multiple capture and detection strategies, characterisation of up to 12 samples and generates real-time data on sizing, clustering, and positivity, in a one-page report. ONI participated in the ELMI in Liverpool, the ISEV in Melbourne, and the Super-Resolution Summit in Singapore. ONI's products are being used worldwide for cutting edge research. Notably, the cover of Proteomics recently showcased images of single EV, captured by Prof. Greening's team in Melbourne, using the ONI EV Profiler Kit for antibody labelling and imaging with dSTORM on the ONI Nanoimager.



entia

Entia.co

Company Valuation	Valuation Share Price	Fund Holding
£24.23m	£26.38	1.3%

Date	Amount	Share Price	Type
May 2016	£75,000	£14.78	SEIS
Oct 2016	£9,504	£14.78	EIS
Nov 2017	£48,554	£21.96	EIS
Feb 2019	£89,934	£31.79	EIS
Mar 2021	£26,017	£35.64	EIS

Description of Business

Entia was founded by Dr Toby Basey-Fisher in 2015. Entia is empowering cancer patients with greater freedom whilst also equipping healthcare professionals with the insights to make more informed and personalised clinical decisions regarding treatment toxicity. At the heart of Entia’s approach is a novel and easy-to-use blood analyser that allows patients to perform a suite of blood tests in their own home. It can monitor haematological toxicity of cancer treatment via a patient’s full blood count. Results are seamlessly shared with healthcare professionals via Entia’s cloud network and integration tools. This approach creates new insights into how individuals are responding to care and subsequently may enable more personalised decisions to mitigate life-threatening complications.

Entia has also launched a home monitoring solution for anaemia of chronic kidney disease under its Luma brand (www.lumahealth.uk). The product and service, which is similar to the upcoming Liberty solution, has been very well received with 100% patient preference over previous care pathways.

Progress Since Investment

Home monitoring has become the main focus for Entia, with multiple large pharma companies partnering with Entia to deliver the company’s virtual solutions as part of blockbuster therapies. Entia’s main focus is currently to bring its virtual oncology solution, Liberty, to market. The name reflects the freedom given to patients to be at home or at work rather than travelling to hospital for routine blood tests required to monitor the toxic side effects of cancer treatment.

The company now employs 28 people. To date, the company has raised over £35m through equity financing and £5m from government grants. This has allowed the company to develop a multi-award winning team, establish world-leading clinical and pharmaceutical partnerships and positively change patients lives with its innovative products. The company’s management systems have achieved accreditation against ISO 13485 and ISO 27001. The company also CE marked and launched Luma in 2020 for managing anaemia of chronic kidney disease, but discontinued the programme to focus on Oncology.

Recent Developments

Entia has been in the news, winning awards, but we don’t have any major developments we can share.

Summary

All looking good for Entia.



Covatic.com

Company Valuation	Valuation Share Price	Fund Holding
£9.85m	£9.19	2.1%

Date	Amount	Share Price	Type
Feb 2017	£39,776	£8.00	SEIS
Feb 2017	£60,224	£8.00	EIS
Feb 2018	£30,000	£16.00	EIS
Mar 2021	£67,997	£9.41	EIS
Apr 2022	£37,926	£18.00	EIS

Description of Business

For the past 20 years, Google and Apple and other tech companies have gathered and sold data about their users' browsing habits, via cookies, and sold this data to advertisers. This has now become unacceptable and Apple have given people the ability to opt out. 85 % have done so, and advertising revenues have slumped.

Covatic has developed a set of tools, now branded 'A-Type' which sits on a user's phone (within the client's apps) and gathers data about a user and can then categorise the user into one of 1,000 types. So a particular user might be female, aged 30-35, with two young children, a car and a weekly shopping bill of £50-£75. The app might be able to offer 105,000 of this category to an advertiser who could then advertise nappies. But the user's data never leaves her phone and is unknown to the advertiser.

'A-Type' is now being deployed by an increasing number of the world's largest broadcasting organisations.

In Q1 2023, Covatic completed a fundraising of \$3m at a disappointingly low share price of £9. But the fact that Comcast, one of the largest broadcasting companies in the world invested \$1.5m and is an active user of Covatic should be helpful in bringing other customers on board.

Nick Pinks, co-founder and CEO of Covatic sent an update in Q4 2023, saying that revenue was approximately £980k in the year to Dec 2023, up from £150k the previous year.

Recent Developments

We continue to receive no financial details from the company, not even basic facts such as sales. The most recent data we have is as at the end of Q1, and gives the number of users but with no idea what revenue results. It may be that things are fine; we simply don't know.

Date	Active Users
Q2 2023	21m
Q3 2023	47m
Q4 2023	56m
Q1 2024	68m

Covatic's customers include Sky, Bauer Media, and NewsUK's joint venture, Octave.

We did receive an email from the founder saying that he hopes to close a number of deals in the next few months and, if these happen, the company should be at breakeven in the autumn.



ProcessVision.com

Company Valuation	Valuation Share Price	Fund Holding
£11.04m	£3.00	1.9%

Process Vision Investment History

Date	Amount	Share Price	Type
Mar 2017	£99,999	£3.00	SEIS
Jun 2018	£3,000	£3.00	EIS
Mar 2021	£68,494	£2.00	EIS
Dec 2023	£6,858	£3.00	EIS

Description of Business

Process Vision Ltd has developed an inspection system for gas pipelines. Paul Stockwell, the founder, worked for many years in the field of sensors for the gas and oil industry and became acutely aware of the requirement for detecting and measuring liquids in gas pipelines. Gas pipelines should transport clean, dry gas, but PV's initial product, LineVu, reveals that there are often liquids present in the gas.

Progress Since Investment

It took a long time to get started - like other industries, the gas industry is conservative - but over the last couple of years, things have started to accelerate. There are currently 5 LineVu systems in use.

During 2023 PV had sought to raise up to £3m at £5 per share. By the end of Q4, it raised £1.2m at this price. Then higher interest rates caused a halt in fund raising so the Board decided to reduce the price to £3 per share and had successfully raised a further £1.7m by the end of 2023 which should take the company to cash flow breakeven.

Recent Developments

Everything is beginning to come together for Process Vision. The position at the end of Q2 is as follows:

LineVu systems

Installed	Survey LVs installed (\$10k per month)	Survey LV orders (\$10k per month)	LV Survey orders expected in next 2 months \$10k/m
1	3	2	6

The new sales strategy is to sell a LineVu system to do a survey. The cost is \$10k per month. Partly because this does not involve an up-front capital cost, this has proved popular, especially in the US. It enables engineers to see what is going on inside their pipes for the first time. And experience shows that they are often surprised by the findings. One company, for example, discovered that it had been overcharged by \$64k in a single day, because the gas it was receiving contained previously unidentified liquid which affects the metre readings. As the awareness of the benefits of LineVu spreads through the industry, so the level of interest has been accelerating. At the time of writing (21 Jun), there is one LV system in use (the user paid a capital sum and now pays an annual fee). There are three \$10k per month surveys up an running. There are two more survey systems due to be installed in the next few weeks, and orders expected for a further 6 survey systems in the next 2 months.

PV has now embarked on manufacturing a batch of 25 LV systems. The previous production batch size had been 5.

GRIPABLE

Gripable.co

Company Valuation	Valuation Share Price	Fund Holding
£18.92m	£4.00	1.4%

Gripable Investment History

Date	Amount	Share Price	Type
Sep 2017	£49,999	£2.27*	SEIS
Feb 2019	£106,934	£4.21*	EIS
Dec 2020	£33,219	£5.47	EIS
Mar 2022	£69,682	£5.47	EIS

*Adjusted for 100:1 share split. EIS certificates remain valid.

Description of Business

Worldwide some 430m people suffer with hand and arm disabilities. The current treatment for people who have lost the use of a hand following a stroke is to squeeze a ball, repeatedly maybe for up to 8 hours. This is extremely boring.

Dr Paul Rinne, a doctor who had been doing research at Imperial College on the rehabilitation of stroke patients, and Mike Mace, a robotics engineer at Imperial, developed an intelligent variable strength grip, which incorporates accelerometers and wi-fi. This means that a patient is able to play computer games which makes life much more interesting and with the result that patients enjoy their therapy and recover much more quickly. The founders have developed a range of games whose difficulty can be increased to match the returning dexterity of the patient. The brain is extremely plastic, and although a stroke may have destroyed the areas previously responsible for hand operation, given the right feedback the brain is able to relearn how to control hands, using entirely new areas.

Progress Since Investment

ISO 9001 and 13485 have been awarded.

The team has expanded and is working on the software which is not just standalone games, but also a framework which tracks the patient's progress. One of the key features of Gripable is the possibility to interact at a distance with other patients or relatives. It can also distinguish between situations where activities are limited by physical capability and those where mental abilities are holding back progress. The trainers who make use of Gripable particularly like the ease with which Gripable can be set up and used. A study at Imperial showed a vast increase in exercise among patients given the opportunity to use the device. An example of the benefits of Gripable can be seen in a case study of a stroke patient. His grip strength rose from 0.8kg to 12kg. This was achieved by the patient spending 160hrs over 30 weeks with the device. With a normal therapist that might have cost £15,000 and in normal unassisted care, a patient might only average 200 reps rather than the 10,000 reps the patient achieved. In 2022 Gripable raised £8.3m investment in order to push forward the US and closed a distribution deal with Medline who is the US's largest privately held manufacturer and distributor of medical supplies.

Recent Developments

Gripable has shifted its focus further to the US and is focusing primarily on assessment services. Grip strength is a very important indicator of health and measuring that alongside some other indicators can help determine whether a patient is declining in health and needs further support. The savings and patient benefits of this can be very large.

In rehabilitation, both patients and physiotherapists love to use the device, but reimbursement codes make it economically difficult to deploy the device in traditional physiotherapy centres. So the right niches are being sought.

In the meantime, in the UK Gripable has run a small trial and found that using Gripable and brief weekly calls it is possible to get outcomes as good as an inpatient programme of the same length in the top UK centre for hand rehabilitation. This may open up an additional route to savings.



Darkbeam.com

Exit Value **Exit Share Price** **Multiple**

Up to \$11m £0.90* Up to 3.5x**

Darkbeam Investment History			
Date	Amount	Share Price	Type
Oct 2017	£50,000	£1.00	SEIS
Feb 2018	£25,000	£1.00	SEIS
Feb 2018	£10,000	£1.00	SEIS
Mar 2018	£18,200	£1.00	EIS
Sep 2018	£50,000	£0.50	EIS

*90p is the fair value of the shares we judge, including probability-adjusted milestone payments. With tax reliefs accounted for, the value is approx. £1.20

**Depending on the investment round, assuming full options conversion and that all milestones are met. The multiple is calculated in respect to the net cost of investment, i.e. includes tax reliefs.

Description of Business

Lots of bad things happen on the web, which has become so large (>1bn servers) that it has become difficult for law enforcement agencies to track. Darkbeam has developed a suite of cyber security technologies that deliver clients real time supply chain situational awareness. This involves the integration of supplier vulnerability detection and real time cyber threat intelligence through darkweb monitoring abilities and to take action to prevent their data and IP from being stolen.

Progress Since Investment

Having had a challenging first year, which resulted in a change of managing director, Darkbeam is now positioned as a supply chain cyber risk management system. There are three main planks in one simple-to-use offering:

- Cyber Vulnerability Intelligence: this is the real time mapping, classification and prioritisation of a company’s digital footprint and vulnerabilities on the open web – including the dark web.
- Cyber Threat Intelligence: the real-time monitoring of hackers and their behaviours.
- Cyber Vulnerability + Threat Intelligence = Darkbeam’s Cyber Score

These variables roll up into the Darkbeam score (1 low – 999 high risk) which provides an analyst a predictive indicator as to the vulnerability of a company. This is important in insurance and supply chain circles. The Darkbeam score for any company can be obtained in seconds.

During 2023 Darkbeam has seen a material increase in hostile activity in supply chains. Darkbeam has enabled clients to respond to a growing number of threats at a speed and scale they would not have been able to do using traditional approaches. The most recent being the MOVEit vulnerability which has seen some of the largest companies in the UK announce ransoms. Darkbeam developed a scan for this vulnerability in a matter of a day which was deployed across all its clients, providing them immediate visibility of those suppliers that may be vulnerable. They were able to engage them and ensure that gaps were instantly closed.

In 2023, DarkBeam was sold to US company Apex Analytics, a leading supplier of supply chain risk management, data software and services. Apex Analytics is majority owned by investment company KKR. In Q4 2023, shareholders received an initial payment of approx. 63p per share. There are possible future milestone payments which are larger. Through the acquisition DarkBeam’s technology is available to customers of [Apex](#).

Recent Developments

The benefits of the takeover are scale, access to clients and the size of the opportunity. But the integration has not been straightforward and therefore it has been tough to exploit the opportunity to the fullest. One of the acquirer’s leadership team is relocating to London which is excellent news. Darkbeam is behind on where they had hoped to be, but the size of the funnel is material. There is still a good chance that Darkbeam will be in a position to hit earn-out targets.



Atelerix.co.uk

Company Valuation	Valuation Share Price	Fund Holding
£0.81m	£0.10	3.8%

Date	Amount	Share Price	Type
Jan 2018	£50,000	£0.82	SEIS
Apr 2019	£133,187	£1.70	EIS
Mar 2020	£196,851	£1.95	EIS
Jun 2021	£44,767	£0.80	EIS
Nov 2022	£11,099	£0.90	EIS

This report, unusually, is written by the new CEO, Alastair Carrington.

Crafting shelf-stable science inspired by hedgehogs, Atelerix addresses the cryopreservation headache with a gel that doesn't need to be cold. Setting cells, tissues, and viruses free from traditional storage and shipping methods, Atelerix is the future of bioscience where storage is easy, and cells are always fresh. We are pleased to share a summary of the recent milestones and future prospects for Atelerix, underlining our continued commitment to growth and innovation.

Business Growth and Sales Success

Atelerix has demonstrated significant progress in the current fiscal year. Our sales pipeline for the next 12 months is robust, valued at £3.0 million, and we're on target to achieve revenues of £100,000 for 2024. We have successfully doubled the number of new customers, compared to last year, already adding over 20 new customers. This is partly driven by a free sample campaign for qualified prospects, we are excited to see potential larger orders across our product ranges materialise in H2 from this new customer campaign.

Strategic Partnerships and Market Expansion

We have established validation projects with leading Contract Research Organizations (CROs) such as Crown Biosciences, LabCorp, and Charles River, setting the stage for potential lucrative deals and enhanced market penetration. These partnerships underscore our strategic focus on sectors like drug discovery, where our engagement with world-leading CROs positions us favourably for fast adoption and roll out of our preservation products across their projects. Each one of these large CRO's could be worth £100k+ per month and likely to come to full fruition in 2025.

Innovations and Technological Integration

Our technology has been successfully integrated into the clinical trial supply chain, evidenced by positive outcomes in a first-in-man clinical trial LV Prasad. With ISO 9001 certification on the horizon and patents in force across major markets, our intellectual property and quality management system fortify our market position and offer competitive advantages.

Marketing and Rebranding Initiatives

A complete rebranding and the launch of ecommerce first website mark early signs of market disruption. Our marketing efforts have more than doubled visibility metrics year to date. A dynamic PR campaign, beginning with the announcement of a collaboration with DefiniGen and Atelerix, has significantly increased our media presence and stakeholder engagement. The team is seeing qualitative and quantitative results from the rebrand. With targeted business development activities and bespoke marketing strategies, we are well-positioned to capture increased market share and accelerate growth.

Financial Enablers and Future Outlook

The award of a £200k IUK Biomedical Catalyst grant extends from May 2024 to 2025, bolstering our financial position and enabling further product development. The current fundraise has been well received and we aim to close the complete funding round of £750k within Q3, on schedule.

In conclusion, Atelerix stands at a pivotal growth juncture, with strengthened operational capabilities, strategic partnerships, and a clear, customer-centric approach. We are excited about the prospects ahead and confident in our ability to deliver substantial value to all our stakeholders.



Refeyn.com

Company Valuation	Valuation Share Price	Fund Holding
£206.97m	£5.00	1.5%

Refeyn Investment History

Date	Amount	Share Price	Type
Jun 2018	£66,240	£0.40*	SEIS
Jun 2018	£33,760	£0.40*	EIS
Jan 2019	£121,851	£0.64*	EIS
Jul 2019	£67,468	£0.64*	EIS

*Adjusted for 100:1 share split. EIS certificates remain valid.

Description of Business

Refeyn (named for the physicist Richard Feynman) was previously called Arago Biosciences. Refeyn is a spin-out from the University of Oxford that has developed an optical technology able to determine the mass of individual molecules in the range from 40 kDa to >5 MDa (Daltons is another name for Atomic Mass Units). This range encompasses most proteins and assemblies of interest to medicine. The measurement can take place in solutions with a wide range of biologically relevant concentrations and is rapid, with only a few minutes being enough to collect high quality data. A very helpful animation has been added to the Refeyn website (www.refeyn.com) showing how the device works.

Refeyn now highlights 4 key applications of its technology: determining sample composition and purity; the assembly of protein complexes; the measurement of complex biomolecules; and understanding protein-protein interactions. Refeyn is developing and manufacturing a range of devices with different capabilities, from quality-control type instruments to full-blown research tools.

Progress Since Investment

In 2019 Refeyn won 3 top awards for innovation from the Royal Society of Chemistry, R&D magazine and The Scientist. In Nov 2020 Refeyn raised £18m. Philipp Kukura moved back to the university and remains closely involved with Refeyn as a non-executive director. Part way through 2021 Refeyn launched the Refeyn TwoMP which has replaced the OneMP. In 2022 they launched the SamuxMP to measure the full empty ratio of Adeno-associated virus (AAVs - viruses used in cell and gene therapy). These have now been joined by the TwoMP Auto which as the name suggests allows automation of certain functions and allows the user to walk away from the instrument and then return to a set of results. In 2021 Refeyn made its second move, to a new building in Littlemore, Oxford to enable it to expand manufacturing and operations. Refeyn is now also able to carry out extensive demonstration and testing work with companies without having to use university labs. Manufacturing pace has increased and sales numbers have increased satisfactorily. Refeyn now has offices in the UK, US and Japan.

Recent Developments

Refeyn has brought in a new Chief Marketing officer, Fiona Coats who was previously at Sartorius and ThermoFischer among others. Fiona will help continue the growth of the company in both the academic and industrial markets. Refeyn have managed to increase sales despite it being a tough market with equipment makers reporting that many companies and institutions have had capex freezes.

New US head quarters in Waltham Massachusetts were inaugurated in early June. The company is continuing to focus on the protein and cell and gene markets with each of those taking a similar share.

Since the publication date of our last report just over two months ago there have been 54 new publications. Google Scholar has also found some new older publications so that the total is now 922. Samux, the automated tool for AAVs, has now appeared in the list of publications 8 times.

Summary

Refeyn is doing very well.



Cytecom.co.uk

Company Valuation	Valuation Share Price	Fund Holding
£2.41m	£2.34	17.3%

Cytecom Investment History

Date	Amount	Share Price	Type
Jul 2018	£100,440	£1.55	SEIS
Nov 2019	£55,000	£1.55	EIS
Dec 2020	£84,021	£1.55	EIS
Mar 2021	£53,986	£2.23	EIS

Description of Business

Many people all over the world need to test for the presence of live bacteria, for example hospitals and the water, food and brewing industries. Currently, the procedure is to place the sample, diluted by a suitable factor, in a media-containing dish and then wait for several days while cultures develop which can then be counted and analysed. Cytecom has developed and patented a technology in which a fluorescent dye is added to a sample, which is then placed between electrodes and a voltage shock applied. The electric shock alters the cell membranes so that living cells take up the fluorescent dye at an increased rate. Dead cells will not take up the fluorescent dye. Measuring the change in fluorescence over the few seconds after the shock gives a count of the living cells. Cytecom is a spinout from Warwick University. Before the initial investment, Cytecom was awarded an Innovate UK grant of £230,000 which officially started in November 2018.

Progress Since Investment

CyteCount is a stand-alone device about the size of a small shoebox. It contains proprietary electronics, optics and software to count the number of live cells in a sample. Users simply have to place a sample on the special slide (which contains the electrodes for administering the shock), and CyteCount will then carry out the procedures automatically to give the user a readout of the number of live cells in each sample. CyteCount was demonstrated publicly for the first time at Lab Innovations at the NEC in October 2019, where there was interest from various industries. The first sale was achieved in Q1 2021. In that quarter, the company also raised £150,000 at £2.23 per share to further develop the device and hire a distribution team. Dr Magdalena Karlikowska, microbiologist and ex-PHE clinical scientist, joined Cytecom as CEO in April 2022 to lead the expansion into new geographies and sectors.

At the beginning of Q1 2024, Cytecom raised £100k to support an award of £1.5m award, which will be spent over the next three years. The award comes directly from the UK Government (The Department of Health and Social Care) and the reason for the award is that the govt appreciates the growing problem of antimicrobial resistance and wants to see Cytecom's technology developed into a practical solution which could be deployed in the NHS to help tackle the problem. In January, Cytecom achieved the first major milestone by installing their prototype device in the first NHS diagnostic lab in Leicester.

In Q1 2024, as part of their internationalisation efforts, Magdalena, representing Cytecom, travelled to Switzerland with a UK delegation organised by Innovate UK. The visit yielded promising leads for future collaborative projects and strategic partnerships.

Recent Developments

There was a mixture of good and bad news during the quarter. Cytecom won a number of prizes and awards, some of which came with small cash injections. One award was worth £150,000 to help with product development. This was from the West Midlands Health Tech and Innovation Accelerator. But technical work then had to stop due to manufacturing problems with the pads on which the samples are placed. For reasons which are still being explored, maybe a change in the raw material used, the surface of the pads was bumpy which caused problems with focusing the microscope in the instrument.

Progress was made with filing various patent applications. The Japanese patent application was rejected and this is being appealed.



PolyCAT.co.uk

Company Valuation	Valuation Share Price	Fund Holding
£5.14m	£0.25	14.3%

PolyCAT Investment History

Date	Amount	Share Price	Type
Oct 2018	£50,002	£0.03*	SEIS
Mar 2019	£22,058	£0.13*	SEIS
Mar 2020	£11,985	£0.13*	SEIS
Dec 2020	£112,998	£0.19	EIS
Feb 2021	£11,784	£0.19	EIS
Apr 2022	£60,350	£0.25	EIS

*Adjusted for 1000:1 share split. EIS certificates remain valid.

Description of Business

PolyCAT has developed an economic, scalable process to produce metal nanoparticles on polymer substrates. It has allowed the company to develop a range of products across diverse applications, from highly antiviral materials for use in healthcare, to catalytic spill kits that can degrade extremely hazardous chemicals.

PolyCAT's first launch product is called Spill-CAT, which encompasses a range of catalysts that can degrade chemical warfare agents discovered in old munitions dumps or during counter terrorism operations. This has now been demonstrated against all the main classes of agents (Mustards, Tabun, Sarin, and VX) and is now in advanced testing with prospective military customers.

During Q4 2023, PolyCAT had a rights issue at 25p per share to raise capital to support Spill-CAT marketing and sales. This was oversubscribed and closed with £350k having been raised.

Recent Developments

The company formally announced the first versions of Spill-CAT in December 2023. The first two quarters of 2024 have been spent arranging demonstrations and attending conferences and trade shows targeting German, Japanese, Dutch, Belgian, French, US, and UK end users.

US - Bulk agent verification in the US involving litre quantities of mustard gas, sarin, and VX, has finally started and is expected to complete by Aug 2024. If this works out as expected, it will lead to orders from across the US and other allied military and civil defence users for the first Spill-CAT product. In Q1, PolyCAT attended a military tech showcase. PolyCAT has evaluated 3 potential distributors in the US and has made the decision to pursue a deal with one for the initial product roll out. A second US distributor will be selected for the sprayable versions, as these are larger volume items and would need to be manufactured in the US in order to comply with the Berry Act on defence procurement.

Germany/Japan/Belgium/Netherlands/France – A huge find of old munitions in Germany is in line to be dismantled shortly and PolyCAT has been asked to demonstrate its solution to the national authority (GEKA) charged with clean-up of the site and wider area. This is snowballing into a much larger event as GEKA work closely with the Japanese government which has >100,000 munitions still to clean up in China. This is a wonderful opportunity since Spill-CAT is particularly suited to the types of problem that GEKA and the Japanese deal with, and could save huge amounts of time and money for both countries. At the time of writing this test is being planned for September, and has expanded in scope to possibly include destruction of a real munition. This obviously requires some serious planning and PolyCAT therefore expects the timeline to slip further, perhaps into Q4. It is however of great importance to the company that this goes well and so preparing for this test will be the main focus over the coming months. It is worth mentioning that PolyCAT will also be demonstrating the product prototype of the Munition Transport System (we announced in Q1) at this event.

UK – There have been no important updates during Q2 from the UK authorities. A demonstration day is still planned for Q3 2024 to target multiple UK end users in one go, but this may instead be referred to Germany (see above) to save duplication of efforts. PolyCAT still expects that at least one end user in the UK will place orders in 2024, triggered by the results of the US testing program outlined above.



OxWash.com

Company Valuation	Valuation Share Price	Fund Holding
£7.32m	£0.05	0.1%

Date	Amount	Share Price	Type
Mar 2019	£50,000	£1.13	SEIS
Mar 2019	£50,000	£1.13	EIS
Nov 2019	£54,679	£2.45	EIS
May 2021	£36,069	£3.58	EIS

Description of Business

Kyle Grant, an ex-NASA scientist, aims to transform the laundry and washing market. With a co-founder who is no longer with the business, he spent the 18 months before the investment designing and iterating the process while also developing and implementing the sales and logistics mechanisms.

The idea was to have a commercial and hyper-sustainable laundry in a shipping container style box or disused commercial unit. The laundry could be placed anywhere and could be operational within hours. The laundry would be primarily for contracted regular B2B customers such as organisations who run multiple Airbnb units. They need to wash tablecloths, sheets and towels in volume and on short notice. These modules could be bolted together to make a larger unit.

The Oxwash system is as energy efficient as possible. Washing is at as low a temperature as possible. The main oxidising (deodourising and disinfectant) agent is Ozone, generated on site. Water is recirculated as much as possible as is heat. All microplastics are filtered out and so do not end up in the oceans, as is the case with most other laundries.

Progress Since Investment

The first unit, in Oxford, became operational in Q3 2019 as planned and was arguably the most energy efficient and the most environmentally friendly laundry on the planet. The plan was to open more units, starting in the UK but expanding globally. The first units were in Oxford, Cambridge and London. Covid was damaging to Oxwash, with universities closed.

During 2022 Oxwash changed strategy and began to implement this strategy in 2023. The strategy is to create the most efficient, automated and environmentally friendly laundry in the UK. Known as 'Big Blue' this is steadily coming into operation in Swindon. The existing small laundries are being closed and will instead become collection hubs. Laundry will be transported daily by electric vehicles to and from Big Blue which now has the capability of taking on much larger contracts. Oxwash currently has expressions of interest for contracts that would total £40m per year. It cannot yet accept such contracts but hopes to begin taking on the first of these larger contracts as the capacity becomes available at Big Blue. During Q4 2023 Oxwash steadily increased the capacity of Big Blue which was able to process .25 tonnes of laundry /hour by the start of 2024.

Recent Developments

In early June, shareholders received an 'out-of-the-blue' and embarrassed email from Kyle, saying that the company had unexpectedly run out of money and needed to raise £5m by the end of June. The reason was that the installation of the new equipment had taken longer and cost more than expected so that the many new contracts that had been won could not be started. The FD had not been properly on top of the cash flow and has been replaced. Therefore it had been decided to raise £5m by means of an equity raise at 5p per share, meaning that those who did not participate would be wiped out.

In the event this fundraising was oversubscribed with many shareholders taking up their rights and oversubscribing, while others decided not to invest more. Shareholders in the latter group will be able to claim loss relief on their original investment. All the original aims of the business, to become the most automated, efficient and environmentally laundry in the UK and later globally remain.



**THE
SMARTER FOOD
COMPANY**

SmarterNaturally.com

Company Valuation	Valuation Share Price	Fund Holding
£2.76m	£3.00	8.8%

TSFC Investment History

Date	Amount	Share Price	Type
Apr 2019	£89,998	£1.97	SEIS
Mar 2021	£96,058	£2.70	EIS

Description of Business

The Smarter Food Company (TSFC), trading as SmarterNaturally, was established to produce a food to reduce blood glucose levels in people who are defined as being ‘prediabetic’. Science indicates that consuming Glucoraphanin increases the supply of sulphur to cells in a form which they can use in the mitochondria, which generate the energy which cells need to function. As we age the mitochondria work less well and cells can no longer work as well as they did in youth. This is believed to be the fundamental cause of many of the diseases of old age including many cancers and also diabetes. Knowing this science, the Quadram institute developed a broccoli with a very high Glucoraphanin (HGR) content. This took some 20 years. TSFC supplies HGR broccoli soup powder. Just add boiling water and consume one packet per week and all the cells in your body will work better. It costs £20 for a packet of 4, one month's supply. The company’s commercial task is to build the number of subscribers. Breakeven is achieved with about 4,000.

Progress Since Investment

Following some good newspaper articles, the number of subscribers increased to a peak of 2,000+ in Q3 2023. However many people do not renew their subscriptions, and allow them to lapse after an initial period with average customer lifetime being 6 months.

On the plus side, the company has a growing number of wonderful case studies which show that the science really does work. Many of these are from diabetic nurses, who regularly monitor the blood sugar levels of their patients saying *“Goodness what has happened to you? Your blood sugar levels have been rising steadily for years and had reached levels where we were about to have to recommend medical intervention (often associated with negative side-effects), but suddenly your blood sugar levels are way down to healthy levels. Have you finally started to take exercise or changed your diet?”* Answer; *“Well, I have changed my diet in that I now take a weekly bowl of SmarterNaturally soup but I have made no other changes to either my diet or lifestyle.”* These case studies are on the SmarterNaturally website <https://smarternaturally.com/science/citizen-science/>.

Despite this evidence from diabetic nurses, NHS healthcare professionals are prohibited from recommending commercial products unless they have a health-claim and there is no commercial benefit to the health-care provider. At present TSFC cannot make any direct health claims because it cannot afford to do the clinical trials (cost many £ms) which would be necessary.

Recent Developments

Disappointingly the number of subscribers has continued to decline and there were just over 850 at the end of Q2, well below breakeven. This is particularly disappointing when set against the fact that there are estimated to be 3.9m diagnosed diabetics in the UK and another 1m undiagnosed. Treating diabetics consumes 10% of the NHS budget. A great deal of money could be saved if people would eat a bowl of SmarterNaturally soup each week.

Just at the end of the quarter, the company learned that it had been awarded a £250k Innovate grant for market research.



ConnexinTX.co.uk

Company Valuation	Valuation Share Price	Fund Holding
£1.42m	£7.00	4.7%

Date	Amount	Share Price	Type
Apr 2019	£66,325	£7.00	SEIS

Description of Business

There are over 60 million glaucoma cases globally and up to 40% of the patients will be severely visually impaired in one eye. Existing drugs can slow the disease progression, but are not protective. There are no drugs in development with any demonstrated ability to protect retinal cells and prevent vision loss in patients with glaucoma. Connexin Therapeutics is developing novel drugs to protect vision and prevent blindness.

In glaucoma, increased intraocular pressure causes cell death, which by “Bystander Effect” causes death of the neighbouring cells, so cell death proliferates, which leads to vision loss. By blocking the correct connexins (an ion channel) in the retina, it is possible to block the Bystander Effect and preserve vision. Connexin 36 (Cx36) is a protein found in the retina. By blocking Cx36, the Bystander Effect is prevented, thereby preserving neighbouring retinal cells and preserving vision in glaucoma. It is known that there are some molecules that have some effect but safer, more specific Cx36 inhibitors are needed. Connexin Therapeutics wants to create patentable drug candidates which are highly selective for Cx36. The international team will create, screen, and test Cx36 inhibitors to find novel, patentable compounds. Within 24 months from investment, it will hopefully have enough data to start filing provisional patents on compounds.

This should interest pharmaceutical partners and/or the investment community. Roche has stated, “In Glaucoma we are particularly interested in therapies that have demonstrated the ability to protect retinal neurons compared to intraocular pressure lowering therapies.” and Bayer has stated, “[We] are focused on identifying innovative partnering opportunities for retinal disorders to help improve or prevent loss of vision”.

Progress Since Investment

The research programme has started and the first experiments are complete. The new compounds are based on a molecule which has already demonstrated efficacy in mouse models of glaucoma. They are being synthesised and tested as novel small molecules in animal models of glaucoma. Chemical modification enhances specificity, makes administration and delivery easier, and will allow Connexin Tx to get composition of matter patents.

Working with Cambridge-based o2h Discovery, Connexin Tx designed and tested three novel derivatives of meclofenamic acid. Some blocked gap junctions in a dose-dependent manner and others didn’t, so Connexin learned a great deal about the structural requirements for blocking retinal connexins. This helps direct further chemical development work. Covid slowed work down, but it has all restarted.

Recent Developments

The cellular model developed by Leeds University is working well and tests with the first compounds have shown the expected results. The project can now move on to designing and testing new compounds.

Discussions about funding for the next stages are underway, but like most things will only be completed once the money is in the bank.



Cytoswim.com

Company Valuation	Valuation Share Price	Fund Holding
£1.94m	£6.18	18.5%

Date	Amount	Share Price	Type
Apr 2019	£100,274	£2.44	SEIS
Sep 2021	£11,489	£6.18	SEIS
Sep 2021	£59,038	£6.18	EIS
Apr 2022	£34,194	£6.18	EIS

Description of Business

In vitro fertilisation (IVF) is a large and rapidly growing market. Globally an ever increasing number of couples are having trouble conceiving. One of the critical steps in all IVF and other assisted reproduction technologies is the preparation of the sperm sample. For the best outcomes one wants sperm cells that swim rapidly and in straight lines, and are present with minimal structural deformations and in high concentration. Based on years of fundamental biophysics research CytoSwim has developed a biomimetic microstructure inspired by the very microstructures that guide and enhance conception in nature. This key technology has been developed into an easy to use chip which functions essentially as an obstacle course for sperm separating out the high quality cells from the poor ones. This is a critical technology for the market as currently available technologies for IVF are not particularly effective and are largely still carried out the same way as decades ago. The primary method used is centrifugation which requires expensive kit, significant staff training, and causes DNA damage to the sperm. IVF currently has a success rate of around 30%, a figure which has seen no improvement over the last few years. Globally, more than 5 million cycles of IVF are carried out each year. With an average cycle cost of £3,500, the total financial cost is many £bns, on top of which is the human cost associated with failed pregnancies. CytoSwim believes that its technology can improve sperm motility to nearly 100%, and reduce DNA damage in the sperm by over 95%. It is hoped that these significant improvements in sperm quality will lead to better outcomes for both the clinics and the patients. The potential market size for CytoSwim is approximately £1bn globally, with more than half of that in the EU, USA, India, and Japan.

Progress Since Investment

Since the initial investment, CytoSwim has developed a method to injection mould their device, significantly improving throughput and unit cost. Pre-clinical trials are ongoing, and more than 150 sperm samples have shown significant improvements in sperm quality and DNA integrity. Distribution channels have been identified in both the UK and India and investment has been secured from a leading UK fertility distributor, Logixx Pharma which invested £250,000 in Q2 2022 and followed up with a further £250,000 in convertible loans in 2023 alongside an additional £100,000 in equity investment from angel investors. The director of LogixX, Michael Close, has served as non-exec director since his investment, and his sector expertise and network has proved to be invaluable to the company. CytoSwim's first product for sperm separation received approval for use from the FDA in March 2024. With this clearance in hand, the commercialisation of this product can now be started, and the company has managed to secure a £30,000 grant to fund 4 trips to the USA over the next 6 months to identify and recruit its first US customers. In April, the company concluded the Stage 2 audit for BSI and ISO 13485 certification will follow. But, as so many others have found, the certification process in the UK moves at snail's pace. Full EU-wide CE mark approval for sale is expected before the end of the year. With these milestones finally achieved, there are now no more blockers for the company to achieve first commercial sales of its medical device this year.

Recent Developments

During Q2, Cytoswim visited a fertility conference in Las Vegas and made some useful contacts. In particular connections with USFertility, a group accounting for 20% of all US IVF cycles. This has been followed up by several meetings. USFertility are interested in investing in CytoSwim, evaluating SpermAlign and giving their clinics access to the product. Evaluations continue in India. The keynote EU/global ESHRE conference in Amsterdam is being attended by three CytoSwim staff supported by investor and NED Michael Close and his LogixxPharma company in July. This will enable key meetings to take place to promote early sales.



Nikalyte.com

Company Valuation	Valuation Share Price	Fund Holding
£1.54m	£1.60	25.0%

Date	Amount	Share Price	Type
Aug 2019	£49,738	£0.95	SEIS
Feb 2020	£16,152	£0.95	SEIS
Oct 2020	£77,886	£0.95	EIS
Dec 2021	£44,987	£0.95	EIS
Feb 2023	£60,000	£1.50	EIS
Apr 2024	£2,316	£1.60	EIS

Description of Business

Nikalyte was founded by Dr Alistair Kean, Dave Mason and Srinivasa Saranu who have spent years working in the specialised coatings industry, particularly in methods for producing metal nanoparticles. They provided the IP for a company, Mantis Deposition Ltd, which developed a range of instruments for producing nanoparticles and laying these down on a substrate. But although this company was a technical success, its instruments were expensive (many >£200,000) and mostly one-off designs for particular applications, and the company ultimately failed. The objective of Nikalyte is to develop a nanoparticle generator, which will be priced at less than £100,000 and enable researchers to produce nanoparticles of almost any metal or alloy on almost any substrate via a user-friendly interface. Metal nanoparticles are being ever more widely used, in a growing number of applications, including cancer therapies/diagnostics, catalysis, metamaterials, photonics, electrochemistry and batteries. Nanoparticles are of huge interest to the life science research community in areas such as cell binding and drug delivery. Presently there is no clean, non-chemical method of depositing pure, non-agglomerated nanoparticles onto a substrate such as an agar plate.

Progress Since Investment

The first bench top nanoparticle system, known as the NL50, became operational in Q2 2020. A demonstration of the machine in action can be seen at shorturl.at/qsHRT. Nikalyte has expanded its product portfolio to include the NL-UHV nanoparticle source, and also has the capability to build custom systems. Nikalyte also operates its own fully functional nanoparticle deposition system. By changing the operating parameters of the instrument, primarily the voltages and currents used, it is possible to change and measure the mean particle size and the shape of the nanoparticle size distribution curve. Nikalyte uses this machine to provide consultancy and samples of nanoparticles on suitable substrates. Nikalyte also used its own instrument to produce SERS (Surface Enhanced Raman Spectroscopy) substrates which it has been selling via its website. SERS is widely used throughout the world to detect traces of drugs and explosives. Nikalyte is now a well-established supplier of economic and high-quality SERS substrates with around 70 customers worldwide. Volumes are starting to grow. In Q4 2023, Agilent Technologies, a global supplier of SERS spectrometers published a paper which showed the enhanced performance that can be obtained by using Nikalyte SERS substrates. As an example, the ability to detect the drug fentanyl in a street sample rose from 5% to 65% by using a Nikalyte gold substrate. During Q1 2024, Nikalyte began working with Agilent Technologies customers in Australia, Canada, USA and Columbia. Agilent supply the ruggedised hand-held Raman spectrometer to customers and is building data libraries based upon Nikalyte's SERS sensor and recommends Nikalyte's technology to its customers. Nikalyte's SERS customer base continues to grow, and the team has entered discussions with one customer to supply 10,000s of substrates per year.

Recent Developments

During Q2, Nikalyte launched two new products, the NEXUS and NL-FLEX full depositions systems and has since been busy promoting these products on social media and at events, including a very successful exhibition at the European Materials Research Society meeting in Strasbourg and at the European Vacuum Conference in Harrogate. Hugh Lazenby will be joining the team as Head of Sales at the start of Q3 to help drive sales growth for the company.

Date	SERS Sales
Q3 22	£472
Q4 22	£1,182
Q1 23	£2,274
Q2 23	£4,781
Q3 23	£860
Q4 23	£2,800
Q1 24	£3,780
Q2 24	£3,262



Etcembly.com

Company Valuation	Valuation Share Price	Fund Holding
£26.04m	£6.00	5.7%

Etcembly Investment History

Date	Amount	Share Price	Type
Jan 2020	£70,588	£0.40	SEIS
Nov 2020	£20,587	£1.58	SEIS
Nov 2020	£49,411	£1.58	EIS
Feb 2021	£17,677	£1.58	EIS
Apr 2022	£42,444	£3.00	EIS

Description of Business

Etcembly uses its own AI platform to analyse and understand TCRs (T Cell Receptors), an important component of the immune system's function. The immune system is very complex and has long been an inspiration for pharmaceutical development. Curing diseases using biologic agents derived from components of the immune system has saved countless lives and is a multi-billion dollar success story.

Etcembly is a true 21st-century drug discovery company. It uses informatics from its machine learning platform EMLy™ (Etcembly Machine Learning) to understand and exploit the immune system by observing the TCR repertoire as it responds to health and disease. It is these differences in the TCR repertoire of individuals which may explain why people react so differently to viral infection and cancer. Some people throw off the infection and develop immunity with no symptoms at all; others die.

Just as computers are now able to play chess better than humans, so Etcembly aims to bring its machine learning platform, EMLy™, to bear on the immune system. Etcembly has created a massive database of TCR sequences (in order of hundreds millions) and uses machine learning to understand the rules of target engagement and specificity.

The aim is to shorten drug development timescales cycles, lower drug development costs and potentially to create new TCRs.

Progress Since Investment

£5.2m was raised in the last round in Q4 2022 at £6.00 a share. A larger round to progress the TCR based therapeutic assets is being raised.

In Q2 2023 Etcembly achieved a notable success when it designed a TCR, known as ETC-101, manufactured in silico in its lab, and demonstrated binding with low picomolar affinity of ETC-101. Focus is now on testing and optimising the bispecific therapeutic, ETCer (Etcembly's T cell engaging receptors). This lays the groundwork to develop a best-in-class therapy which will be able to treat a wide range of cancer types and has a very well-supported business case.

Etcembly had a very positive response to their press release on ETC-101, highlights include reporting in Forbes - [Breakthrough In Cancer Treatment: The Role Of Generative AI In Drug Development](#).

Effective target identification for TCRs is a challenge for the whole field. To meet this, Etcembly is developing a new program with academic collaborators looking in the blood and tumours of patients who survive cancer and do well. This new program may reveal the next generation of targets and TCRs.

Recent Developments

Etcembly continues to seek to raise a larger investment round. There is a well-recognised lead investor, but progress on putting together a consortium has been slow.



FlareBright.com

Flare Bright Investment History			
Date	Amount	Share Price	Type
Sep 2020	£29,000	£1.00*	SEIS

*Adjusted for 100:1 share split. EIS certificates remain valid.

Company Valuation	Valuation Share Price	Fund Holding
£2.30m	£1.00	1.3%

Description of Business

FlareBright is developing systems to enable drones to fly safely even if they lose radio contact with their controller or lose GPS signal. At the moment, a drone which loses contact could fly out of control and crash, which is hampering obtaining full regulatory approval, particularly in Beyond Visual Line of Sight operations. The founders of FlareBright are Kelvin Hamilton, Conrad Rider and Chris Daniels, all seasoned technical entrepreneurs.

Progress Since Investment

FlareBright has made excellent progress. By Q1 2024 it had won eight defence contracts worth over £2m together as well as four UKRI grants to develop its systems. Staff numbers increased to from 3 to 18 and FlareBright is becoming a recognised “go to” name in the defence and UAV sector and is now regularly asked to speak at conferences and has a decent amount of name recognition within the industry.

At the start, FlareBright built its own small drone, Snapshot, but the business model has evolved. Increasingly the model is for FlareBright to install its software on drones made by other manufacturers, supplemented with a 50gm communications/sensor package if required.

During 2023, FlareBright exhibited at multiple events including SOF week in Florida, Paris Air Show, and DSEI (London). Needing a London base, FlareBright has opened an office in Imperial College’s new iHub in White City. A number of other relevant organisations are also there, including NATO’s Defence Innovation Accelerator, MOD’s Defence and Security Accelerator, Stratcom (US Strategic Command), the US Army DEVCOM and others.

Recent Developments

The long-awaited MOD contract which secures FlareBright’s financial runway for the next two years was signed at the start of Q2. FlareBright has already completed (and importantly billed and been paid for) the first two workstreams of this contract. The details of this contract are secret, but it is the largest contract to date, and is focused on cheap smaller drones for operational theatres, where FlareBright is the Prime, and so is subcontracting various elements of this contract to other small suppliers. This is likely to lead directly to follow-up MOD contracts.

Elsewhere the two UKRI Future Flight contracts continue, and FlareBright expects to complete the work on both in Q3. Although the programme is due to complete in Q3 this year, rumours are circulating that the UK Govt may allocate further funding for another phase. FlareBright started a new 3-year Research & Development contract with the US Navy's Office of Naval Research to deliver a subsea version of its software navigation. Although a relatively small contract, this is strategically important.

FlareBright continues to be involved at high profile events, and was exhibited at US SOF Week, the US Special Forces conference in early May. The company also spoke at an MOD-organised conference about drones and Ukraine recently in London. FlareBright is preparing for the Farnborough Airshow, where it has a stand, courtesy of the Boeing Aerospace Xelerated programme.

In summary, FlareBright continues to make excellent progress.



Cryologyx.com

Company Valuation	Valuation Share Price	Fund Holding
£5.13m	£15.55	10.4%

Cryologyx Investment History

Date	Amount	Share Price	Type
Mar 2021	£75,000	£3.34	SEIS
Mar 2023	£86,336	£8.00	EIS
Feb 2024	£15,083	£15.55	EIS

Description of Business

CryoLogyx provides cryopreserved biological cell-based products and services to the Life Sciences, Healthcare and related industries. Its proprietary and patented cryoprotectant, CryoShield, combines with deep expertise in cryopreservation to provide unique and valuable protocols for freezing and thawing cells, attracting commercial interest from major organisations such as Astra Zeneca, MOD, Charles River and ATCC. The company is co-founded by Dr Tom Congdon, CEO, and Professor Matthew Gibson based on globally leading research into Macromolecular cryoprotectants.

The company is commercialising three main offerings:

Assay Ready Cells - a growing catalogue of mammalian cells are being developed in frozen plated and suspension formats to ‘thaw-and-go’. The offering is targeted at large Pharma, biotech, CROs and formulation companies that use cells in plated format for early-stage research and high throughput screening. The global assay-ready market is growing 10%+ CAGR and CryoShield plates can reduce cell culturing times by up to 90%, with an 80%+ reduction in single-use plastic and accelerated research outcomes. Five cell lines have been developed for production in the UK lab with more in the pipeline.

CustomReady Product Development - changes in FDA regulations and a shift away from animal testing are putting increasing emphasis on early-stage in-vitro cell experimentation and testing. CustomReady is a service-based offering leveraging the unique IP and expertise from decades of cryopreservation research to solve complex problems in the preparation of cell-based assays. Through this offering, CryoLogyx engages industry leaders to provide cryopreservation solutions for various cell lines, in varied plate formats, such as 384 well and increasingly into growth areas such as transwell plates and 3D models with spheroids and organoids.

CryoShield Red - CryoLogyx has DASA funding sponsored by the MOD to freeze bags of blood for flexible storage and transportation to near the front line, for rapid thaw and use within 15 minutes. As the war in Ukraine has highlighted, around 50% of deaths on the front line are caused by haemorrhage. The MOD is putting together a funding programme for ‘blood-on-tap’ in response to medical lessons learned from Ukraine. CryoLogyx has been funded with £450k by dstl so far with a significant increase expected later in 2024 based on strong results achieved to date in the lab.

Recent Developments

CryoLogyx won the Society of Lab Automation and Screening New Product Award in Barcelona in June, for the assay-ready plates. Its co-founder Professor Matt Gibson was also awarded the Corday-Morgan Mid-Career Prize for Chemistry. The company launched a 5th assay-ready product in a new vial-based format and are exploring collaboration opportunities with advanced cell-based assay developers. CryoLogyx presented the findings from the last phase of its MOD-funded project ahead of securing the next round of funding. The company has been exhibiting at a number of trade shows and receiving strong customer interest for CustomReady and other solutions.



Zayndu.com

Company Valuation	Valuation Share Price	Fund Holding
£7.16m	£0.106**	4.6%**

Zayndu Investment History

Date	Amount	Share Price	Type
Mar 2021	£133,505	£0.062*	EIS
Apr 2022	£83,029	£0.158*	EIS
Sep 2022	£51,548	£0.30	EIS
Feb 2023	£66,562	£0.33	EIS

*Adjusted for 1000:1 share split. EIS certificates remain valid.

**While the latest investment price is 19p/share, we reduce our share price and our fund's holding to take into account the unfavourable participating preference rights of the incoming investors' shares.

Description of Business

Zayndu uses plasma to treat seeds before planting. The benefits are far-reaching; more seeds germinate, fewer seedlings are lost to fungus or disease, and typically many crops see yields increased by 15-25%. The process is entirely dry, using only a very small amount of electricity and air.

Summary

The founders of Zayndu are Ralph Weir and Dr Felipe Iza. Felipe developed the technology at Loughborough University, which is also a shareholder in the business. Zayndu attracted much interest from vertical farms and indoor growers, particularly in the US where the culture is more open to trying new ideas. The original investment (which also secured a £700,000 Innovate Loan), enabled the company to produce the first commercial product and to make first sales. The business model is that customers pay a monthly fee for the service. The service includes the use of the machine and also the recipes for each seed type. The treatment required to produce the best results for watercress is different to the treatment required for spinach. The machine is run online and obtains the protocols it needs for each run from Zayndu's database in the cloud.

Meanwhile the ongoing practical research in the biology lab (lead by Dr Alberto Campanaro) is steadily building a database of optimised protocols for each individual seed variety, building a treatment library which will be a core part of Zayndu's IP. Protocols from this library can be downloaded/upgraded to an individual machine using the company's SeedCloud management system. Work on human pathogen elimination has also continued, delivering two orders of magnitude reduction in enterobacteria – the pathogens which cause human food poisoning. This is a significant result with far-reaching consequences for the food supply chain.

Despite the potential of the business and the good results in the lab, Zayndu's customers have wanted to conduct paid-for trials and it has taken much longer than originally hoped for a few engineering issues to be sorted out and for contracts to be placed. The result of all this was that Zayndu became short of cash and had to accept an offer of investment of £1.7m at a significantly reduced effective share price. But the company is now much better resourced and will hopefully make better progress on the sales front.

Recent Developments

Zayndu is making slower progress than hoped. Customers are wanting to do long-term trials before making a purchase decision. There are 5 paid trails in progress and it is hoped that these will be converted to 3 years contracts in the next quarter.



[Machine-Discovery.com](https://machine-discovery.com)

Company Valuation	Valuation Share Price	Fund Holding
£12.72m	£10.54	1.5%

Date	Amount	Share Price	Type
Mar 2021	£74,999	£4.77	SEIS
Jul 2023	£28,996	£10.54	EIS

Description of Business

Machine Discovery is an ambitious, early-stage software company developing state-of-the-art machine learning and artificial intelligence technology to simplify, automate, and accelerate simulation tasks. Currently, the company is addressing two market needs: Fusion Energy and Semiconductor design. The vision is that by 2027 (the next three years), Machine Discovery will cut the product design development cycle in half, leveraging its proprietary AI technology.

Machine Discovery’s investors include BGF, East Innovate, Foresight WAE Technology Funds, UK Innovation and Science Seed Fund (UKI2S), and Oxford Technology.

Progress Since Investment

In May 2023, the company announced First Light Fusion. The University of Oxford, the University of York, Imperial College London, and Machine Discovery will collaborate under a £12m grant award from UK Research and Innovation’s Prosperity Partnership program (details <https://machine-discovery.com/resource-grant.html>). Machine Discovery’s solution is selected to support the above consortium.

In September 2023, the company closed its pre-series A funding of £4.5m at a higher valuation to accelerate the delivery of AI tools for semiconductor designs. The first core application is analog semiconductor design, delivering instant prediction capability for integrated circuit design as a companion to existing tools and simulators. The investment round was led by BGF, one of the UK’s most prominent investors, and East Innovate, alongside Foresight WAE Technology Funds, UK Innovation and Science Seed Fund (UKI2S), independently managed by Future Planet Capital (Ventures) Ltd, and Oxford Technology (<https://machine-discovery.com/resource-MachineDiscoverySecures%C2%A34.5MilliontoDeliver.html>).

This latest round of funding has allowed the company to grow its engineering and business development teams in the UK and the USA, driving commercial adoption of its technology across the semiconductor design space and in other markets.

Recent Developments

Good progress is being made with a number of chip design companies, several of whom are now using the software and finding it ever more useful. Commercial negotiations are ongoing but are confidential. Appropriate announcements will be made in due course.



HydregenOxford.com

Company Valuation	Valuation Share Price	Fund Holding
£6.61m	£27.98	3.8%

Hydregen Investment History

Date	Amount	Share Price	Type
Mar 2021	£100,005	£15.00	EIS
Mar 2023	£63,000	£27.98	EIS

Description of Business

One of the most common reactions in organic chemistry is hydrogenation which represents 14% of all organic chemistry reactions. 20% of drugs, for example, have chiral alcohol groups in them which are frequently created by hydrogenation of aldehydes or ketones. To date, there were two main methods of hydrogenation: high temperature catalysis using metals - which had disadvantages of non specific reactions, high energy use and expense of the metals, and enzymatic biocatalysis typically using glucose as the fuel to drive the reaction - which has the downside of large amounts of waste and not being suited to flow reactors. Hydregen has developed a third method, which consists of combining separate enzymes on a carbon particle, and using gaseous hydrogen as the source of hydrogen and energy so that at the end of the reaction there is no waste to dispose of. The Hydregen method is fast, clean and accurate. Furthermore it is easy to integrate into flow chemistry and should scale very well from lab to large scale.

The three key people in Hydregen at the start were CEO Holly Reeve, scientific founder Kylie Vincent and CSO Sarah Cleary, with the support of experienced chairman Will Barton.

Hydregen was set up with £200k in funding of which half came from OT(S)EIS, to support an Innovate UK grant to help develop and market test small flow reactors packed with their proprietary enzyme beads to which customers will be able to add their enzyme of choice and their reagents.

In March 2023 Hydregen raised £2.6m.

Recent Developments

New customers, new sales, projects progressing well (not everything works first time, but overall the company is sticking to its projected plans), new partners for projects. Hydregen's pipeline is growing all the time. Over that last year 50% of discussions have progressed to orders.

Hydregen is enabling customers to explore new chemistries but also to make savings in existing chemicals. The savings (energy, materials, process steps) offered by Hydregen's technology can be very significant, >30% in a recent example.

The project to scale up Hydregen's enzyme production capability is going ahead nicely too.

Summary

Hydregen continues to make steady progress commercially and technically. Discussions with funders for the next round (£8m) are also going well.



OxVent.org

OxVent Investment History

Date	Amount	Share Price	Type
Apr 2021	£79,124	£0.002	SEIS
Apr 2022	£60,000	£0.002	EIS

Company Valuation	Valuation Share Price	Fund Holding
£1.53m	£0.002	9.1%

Description of Business

OxVent was created to exploit the ventilator designs developed at the beginning of the Covid crisis by Kings College and Oxford. It was founded by Profs Mark Thompson, Federico Formenti, Sebastien Ourselin, Andrew Farmery together with CEO Peter Phillips. The UK govt placed an order for 3,000 ventilators and agreed to purchase the parts. In the event the order was cancelled, but the purchased parts were given to OxVent. The original ventilator has not been built and to accelerate the commercial side of the company, OxVent closed a contract with The Ventilator Partnership in Boston and acquired all rights to its AIRA ventilator. It is a more sophisticated device with a higher price-point and a wider range of features than the OxVent device. Importantly, it already has Emergency Use Authorisation from the FDA which meant it could be sold in a number of countries with minimal additional regulatory barriers.

OxVent has been certified to the ISO 13485 quality standard for design, manufacture and distribution of ventilators and this qualification would allow the AIRA ventilator to be manufactured by OxVent in compliance with FDA requirements.

The OxVent was designed at breakneck speed in Spring 2020 but in the following months the academics at Oxford, having thought more about ventilators, have since come up with what is believed to be an altogether better and simpler design, the OxVent P: Patents are in application and the potential for licensing to other manufacturers as well as in house exploitation is very real.

Recent Developments

Work on the OxVent P is progressing over the summer (control systems and performance measures) and we await the outcome of grant applications.



OxCan.org

Company Valuation	Valuation Share Price	Fund Holding
£16.61m	£102.96	1.7%

Date	Amount	Share Price	Type
Jun 2021	£50,000	£40.00	SEIS
Jul 2021	£50,000	£40.00	EIS
Jul 2022	£28,314	£102.96	EIS

Description of Business

A company founded by Peter Liu and Andreas Halner, two Oxford DPhil researchers with medical training. They have developed machine learning algorithms to detect early stage lung cancer with 85% sensitivity and specificity over 99%. They are focusing on recurrent lung cancer as the first niche. Lung cancer is usually detected quite late and while it is often curable by surgery in stage 1, once it has reached stage 3 or 4 the prognosis is much worse.

When we first met them they had recently completed a study comparing the performance of their algorithms with those published by Johns Hopkins University. With the same specificity they were able to detect double the number of early (stage 1) lung cancers. The test is based on a liquid biopsy, where a blood sample is taken and genetic, protein and epigenetic information is collected.

We participated in a £1.2m investment round led by Chinese lab robotics company MegaRobo.

Progress Since Investment

Since our investment, OXcan has rapidly scaled to a team of 12, adding expertise in Machine Learning, Liquid Biopsy, Business Development, and Regulatory Affairs. They have also taken on three employees via the Government Kickstart scheme, helping to get disadvantaged young people into work during these challenging times. The company has now raised over £5m. In 2023 results on a large 600 patient cohort show 86% sensitivity and 99% specificity for early stage lung cancer detection.

Recent Updates and Summary

In Q1 OxCan agreed terms for a \$10m funding. The parameters of their cancer tests are being narrowed. OXcan has achieved substantial commercial traction, with revenue generation expected from this year.

Revenue in 2024 is expected from OXcan's research-as-a-service (RAAS) capability of the proteomics lab-based and machine learning analytics pipeline primarily in North America, UK and select EU countries. OXcan has pending contracts and has secured MOUs with research organisations for proteomic services of patient samples.

Key Hiring

OXcan has been joined by Prof. Heinrich Roder as a full-time employee. He is a Rhodes Scholar from Oxford and Founder of Biodesix, lung cancer proteomics liquid biopsy company listed on the Nasdaq where he brought their product from invention to market, and cleared FDA approval with strong revenue growth. He will be working on the ground in North America on US operations and product deployment.

Scientific Advances

On the pipeline front, OXcan has further expanded on the multi-cancer aspects of data and samples, with over 1,000 samples secured for multi-cancer in addition to lung cancer, and 300 esophageal cancer samples are currently being analysed in the lab in Oxford. Together these account for over half of the most prevalent and deadliest cancers in the US and worldwide for further market size expansion.



MitoRxTherapeutics.com

Company Valuation	Valuation Share Price	Fund Holding
£10.13m	£1.2421	3.3%

Date	Amount	Share Price	Type
Nov 2021	£60,000	£0.75*	SEIS
Nov 2021	£12,450	£0.75*	EIS
Jan 2022	£9,750	£0.75*	EIS
Dec 2022	£112,920	£1.2421	EIS
Feb 2023	£52,803	£1.2421	EIS
Oct 2023	£31,602	£1.2421	EIS

*Adjusted for 100:1 share split. SEIS/EIS certificates remain valid.

Description of Business

When bacteria developed in the early earth, several billion years ago, there was little oxygen in the atmosphere and certain bacteria evolved ways of using sulfide as a source of energy. 1.5 billion years ago, our ancient cellular ancestors formed a mutually beneficial relationship with these sulfide utilizing bacteria, which were incorporated into the mitochondria of our cells. The mitochondria of every living thing on the planet (grass, fish, ourselves) use this sulfide chemistry to produce the energy needs to drive cellular processes. If anything goes wrong with the sulfide-based biochemistry, then the cells cannot function properly. In particular, they cannot mount a protective response in disease states. MitoRx believes that this is the fundamental cause of many diseases, and that by fixing this fundamental problem, we can halt the course of progressive degenerative diseases which currently blight patients, their families and society. MitoRx was founded by Prof Matt Whiteman (CSO), Jon Rees (CEO), Norman Law (CTO / Head of IP).

The list of diseases which may be treated by targeted sulfide delivery is very long, based on results in animal models in the company and in academia. The list includes muscle diseases, lung inflammatory diseases, genetic diseases and neurodegenerative diseases. MitoRx’s initial focus is on proving their technology in Duchenne Muscular Dystrophy (DMD) and Huntington's Disease models, but it could also help in Alzheimer's Disease, Parkinson's Disease, sarcopenia, cancer cachexia, COPD and obesity.

Progress Since Investment

MitoRx completed its seed round investment in late April 2022 and it has since been topped up. It announced that Glyn Edwards MBE had joined as chairman of the company. The science has been going well so far and there has already been interest in the company and its programmes from both pharma and investors. By the end of April 2024, MitoRx will have five patents.

Recent Developments

MitoRx is preparing confirmatory studies in the DMD model. In the DMD field several potential competitors have pulled out, effectively having proven other approaches won’t work. There has been a somewhat controversial approval of a gene therapy.

Without disclosing any other details, MitoRx has made good progress with the formulation of their drug i.e. controlling how much goes where.

Summary

MitoRx is making excellent progress on technical aspects and is refining the market approach.



OVO BIOMANUFACTURING

OVOBiomufacturing.com

Company Valuation	Valuation Share Price	Fund Holding
£2.54m	£15.00	11.8%

OVO Investment History

Date	Amount	Share Price	Type
Nov 2021	£90,799	£10.99	SEIS
Mar 2023	£176,355	£15.00	EIS

Description of Business

When viruses replicate, they create lots of imperfect copies of themselves. It is this quality of viruses that enables them to mutate and create variants. Vaccines are manufactured using viruses which have been engineered to include the genetic code of the vaccine, so that when the viruses replicate they produce the vaccine. However as well as copies of the vaccine, the viruses also produce variants which in turn go on to reproduce. So after a number of generations the mixture will contain all sorts of other material as well as the desired vaccine. As well as particles with minor deficiencies, the vaccines also produce much smaller particles maybe with only 20% of the mass of the original vaccine. But if these smaller particles, known as DIPs (Defective Interfering Particles) also have the correct starting and ending codons, they will also take over the replication mechanism of the cell and replicate. As they are much shorter, they will replicate faster than the original virus. In this case, after a few generations, the mixture will be composed almost entirely of DIPS because of their much shorter reproduction time. OVO Biomufacturing is a spin-out from Warwick and Coventry Universities aiming to control/exploit DIP production. There are two strands to OVO's technology:

1. Vaccine Optimisation Platform: Manufacturers of virus-based vaccines culture the vaccine in eggs. The vaccine enters the cells in the eggs and there takes over the reproduction mechanism, so that each infected cell then produces 1000's of copies of the vaccine. But manufacturing efficiency may be hampered by the production of DIPs at the same time. OVO's software platform can estimate what will happen to the rate of future vaccine production given the mix of vaccine and the various DIPs at an early stage of the production process. The aim here is to maximise the output of vaccine. OVO believes that it can approximately halve the annual \$1bn cost of vaccine production.
2. Novel Antiviral Therapies: OVO aims to create therapeutics using DIPs to outcompete and inhibit the reproduction of the real virus.

Progress Since Investment

On the Vaccine Platform side, OVO felt that they could provide some form of benefit for vaccine manufacturers at the technology's initial stage of development. OVO has been in discussion with several vaccine manufacturers since the outset. The aim is to enable these manufacturers to reduce their manufacturing costs by many £m pa, by using OVO's technology.

Recent Developments

Development of the vaccine platform is progressing well. OVO believes that they are close to completing the technology, which is now at an MVP stage of development. OVO is continuing to showcase the technology to major manufacturers and are in positive talks on progressing the technology to the next stages of testing. This will allow OVO to begin generating revenue. OVO has also begun to approach other major vaccine manufacturers, with a view to expand the number of clients with whom OVO is testing the technology.

Development of the antiviral platform technology is progressing and OVO is in the process of spinning out the technology into a separate entity due to the different risk profiles associated with each technology. Additionally, OVO is in the process of acquiring an additional DIP antiviral platform through a licensing arrangement to expand the portfolio. The new platform also has potential anticancer properties which OVO is now exploring.



Digilab.co.uk

Company Valuation	Valuation Share Price	Fund Holding
£7.01m	£0.51	8.3%

Date	Amount	Share Price	Type
Dec 2021	£75,000	£0.075*	SEIS
Aug 2022	£75,001	£0.51	EIS

*Adjusted for 1000:1 share split. EIS certificates remain valid.

Description of Business

digiLab is a spinout building on the work of Prof Tim Dodwell (CTO), who leads the Data Centric Engineering Group at Exeter University and holds a prestigious Turing AI Fellowship. Heading up the company as CEO is one of Prof Dodwell’s former PhD students, Anhad Sandhu; supporting them on the board are two experienced directors in Paul Garman (Chairman) and Dan Hatfield, both of whom we know from Cryologyx. OT helped to seed digiLab with a 75k investment.

Many companies generate lots of data about their systems, but don’t know what to do with it. Companies in sectors with difficult operating environments also suffer from highly variable data quality, with the result that existing ML/AI solutions would suffer from the “Garbage In, Garbage Out” phenomenon. digilab is harnessing these big, but variable quality, data sets to improve decision intelligence. Their algorithmic models can learn from the time series data produced by real world sensors, in order to build a virtual system; this virtual system can then predict what those sensors will say in the future, or even what they would say if certain conditions were to occur.

Progress Since Investment

digiLab has been working with the UK Atomic Energy Authority, Jacobs Engineering, and South West Water, as well as other unnamed clients. Delivering on the above contracts should validate its industry-agnostic approach.

One of digiLab’s key tasks has been to figure out how to distil its academic knowledge into scalable, widely-deployable software tools. The company has identified the need for three core, interoperable modules: a data cleaning tool, an emulator tool to accelerate existing simulators, and an easy-to-use intelligence tool on the front-end, for controlling workflows and understanding data.

Recent Developments

digiLab sales continue to grow. Fusion and utilities remain the two big markets. Many aspects of fusion, such as how to optimise the magnetic fields of a tokamak reactor are things that digiLab can help with. With utility companies an example is where to place sensors so that the information generated is most useful.

digiLab has agreed the Heads of Terms of a new funding round. The OT(S)EIS fund will be participating.



Neuroute.co

Neuroute Investment History

Date	Amount	Share Price	Type
Jan 2022	£55,813	£1.89	SEIS
Jan 2022	£24,185	£1.89	EIS

Company Valuation	Share Price	Fund Holding
£0.72m*	£0.42*	2.5%

*Share price assumed represents avg loss relief per share.

Description of the business

Neuroute (formerly Neucruit) provides software to accelerate clinical trial recruitment and planning, by aggregating real-time data from over 25 million health-related conversations initiated online everyday. This helps sponsors and investigators pick the best trial locations, optimise their recruitment process, and access hard-to-reach demographics.

Founder Livia Ng introduced the company with the following question: “Could you imagine being locked down for 12 years?” That’s how long it takes, on average, for a life-changing therapy to reach vulnerable patients. Clinical trials take up the majority of those 12 years, and over 86% of them are delayed by at least 6 months, costing the pharmaceutical industry more than \$500bn a year. Finding the right patients in the right places is tough. Our hope with Neuroute is for synergies across the portfolio: many of our companies have been hit by difficulties and delays with trials.

For instance, Neuroute can virtualise the screening process by using chatbots to select which patients are eligible. By providing a patient registry that fulfils a study’s eligibility criteria, the platform has reduced some RCTs’ enrolment timelines by ~90%.

Progress Since Investment

Neuroute closed 14 contracts in 2022 (13 companies and one CRO) of which 60% were medical devices, 15% digital therapeutics and 25% traditional therapeutics.

Recent Developments

In 2023 Neuroute closed a £1.1m funding round as an ASA (convertible at a discount of 20% to the next round) which included Swiss pharma company Debiopharm and a number of funds. Despite many requests, we continued to hear nothing meaningful from the company.

Stop Press.

On 2 July, a Zoom conference was held by the largest investor, a Spanish VC fund who have been on the Board, for all the many investors. At this call, investors were told that the founder had been having personal issues and wanted to abandon the company. The reaction of investors ranged from “It would be best to accept this and not waste more time and effort.” to “This is outrageous and legal action should be taken!”

We await developments. Meanwhile, we discount the share price to represent potential loss reliefs.



Theraport Investment History

Date	Amount	Share Price	Type
Aug 2022	£10,004	£7.41	SEIS
Aug 2023	£30,000	£20.00	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£0.24m	£20.00	23.9%

Description of the business

Theraport was set up by Anne Thomas, Travis Prescod and Anna Huhn, all still currently studying at Oxford. The founders are developing methods to increase and improve the loading of drugs into exosomes, vesicles and other small hollow targeted drug carriers.

Exosomes are one of the ways in which cells in the body communicate with each other. Proteins or other payloads are wrapped up in small bits of lipid bilayer with appropriate receptors and ligands on their surface so they are taken up by the right cells.

The possibility of directing more of a drug to the cells that need it by using exosomes is being developed, but one of the bottlenecks is the consistent and sufficient filling of the exosomes.

Although we can't say how Theraport achieves this, the first proof of concept experiments show positive results.

Theraport won an Innovate grant to help with further development of its technology. Experiments have given mixed results.

Recent Developments

The two Theraport founders have had a very busy period. Anna has finished her DPhil (congratulations) and Travis is just starting. They have the resources to do one more experiment which will probably determine whether to continue pursuing the Theraport technology or not.



Date	Amount	Share Price	Type
Oct 2022	£100,002	£7.00	SEIS
Dec 2023	£100,000	£10.00	EIS

Company Valuation	Valuation Share Price	Fund Holding
£1.77m	£10.00	13.7%

Description of the business

When expensive mechanical machinery has been in service for many years, often in hostile environments such as seawater or steam, it is often necessary to do repairs and maintenance and, in many cases, to replace certain parts. Often the original fixings, frequently bolts or nuts, will have become corroded so severely that they cannot be removed by conventional means. Another example is jet engines which require inspection and maintenance after 8,000 hours of flight. By effectively dissolving metallic fasteners, Scintam eliminates the need for drilling, grinding and heating processes that are hazardous for the operator and the component.

Scintam was founded by three young engineers who have developed a spark erosion machine which is designed especially for this task. The machine has a hand-held erosion head, which may be fitted with a head which fits snugly over the particular bolt/fixing which is to be removed. The operator can set the precise depth to which the erosion is to happen, and can then squeeze a trigger to carry out the process. In the case of an aircraft engine, Scintam believes that using its device will reduce the time taken to separate an engine from its casing from 30 hours to 2. That would result in a saving of about £1.96m over the lifetime of the engine.

The initial target markets will be aerospace, wind turbines, remanufacturing, and nuclear decommissioning.

The company filed patents in August 22. The original research was done at the University of Nottingham, sponsored by Rolls Royce, who are aware of the need. During Q4 2023 Scintam received its first major order worth £137,000, due to be delivered in summer 2024. The order is for a system which will remove corroded bolts used in auto turbochargers so that they can be remanufactured. The machine was developed with the aid of a £450,000 Innovate UK grant. In Dec 2023 Scintam sought to raise an additional £300,000 at an enhanced share price. £200,000 of this was committed by existing investors, including £100k from OT(S)EIS. Scintam presented to WOTAN on the first Thursday of December 2023 and had raised £110,000 by the end of the day. The Board decided to accept the extra £10,000.

Recent Developments

Scintam continues to make excellent progress. The first 'FastEDR' portable EDM system has been delivered to the customer. During training of the operators, some challenges were encountered in removing the intended fasteners as the team were not made aware of the full scenario, particularly the presence of a strong adhesive used during installation of the bolts. The customer has allowed some time to solve the challenges and a second training session will take place in July.

The design of 'ARTES' automated remanufacturing system has been substantially upgraded, and the machine that will now be shipped will be a significant improvement on what was sold to the customer. This also means that the delivery has slipped and the product is now scheduled to be delivered in late August, but the customer is happy since they will receive a better machine.

A second FastEDR order, worth £85,000, has been received. This is to be used to remove a particular fastening on a particular jet engine being serviced. The machine will be shipped with a pro forma invoice in July. If the customer is happy they will pay the invoice.

A US lawsuit was filed against Scintam by their single competitor on the basis of patent infringement. Scintam took advice of a US patent & litigation attorney, and after a carefully worded letter to the plaintiff, the litigation was withdrawn over lack of jurisdiction. Sales activities in the US will continue with caution.



Genevation.co.uk

Company Valuation	Valuation Share Price	Fund Holding
£2.00m	£1.60	32.5%

Date	Amount	Share Price	Type
Jan 2023	£100,000	£0.40	SEIS
Nov 2023	£100,000	£0.80	SEIS
May 2024	£50,000	£1.60	EIS

Description of the business

Genevation was founded by Dr Prasun Chakraborty, a former Research Fellow at Dana Farber Cancer Institute, Harvard University and University of Dundee, with over 10 years of experience in RNA, cancer, molecular and cell biology and biochemistry. He previously raised more than £1m for research in the role of mRNA in cancer.

Genevation aims to be able to take a sample of healthy tissue from a patient, and also a sample of a tumour, and then, in a period of weeks, to produce an mRNA vaccine which will destroy the tumour. The first step is to demonstrate that this works in mice. The investment was to enable this first step, and the hope at the time of investment, was that this would be completed by the end of 2023.

Genevation is now based at the Stevenage Biocatalyst Catalyst.

The sequencing of the normal vs the tumour samples from lung, colorectal and skin cancer was completed in Dec 2023. There was then a delay caused by a password not being supplied and the researcher in question being on holiday. But work started again in early January.

Recent Developments

Prasun gave a WOTAN presentation seeking to raise £150,000 to match an additional £50,000 from OT(S)EIS and was oversubscribed. This money, together with the capital which remained from the initial investment from OT(S)EIS should fund the company until mid 2025.

The plan remains to inject the vaccines into the mice, which have skin, colon and lung cancer, hoping to cure all three. It had been hoped that this would have been achieved by the end of Q2, but there have been various delays and the initial batch of one of the vaccines did not pass the quality control checks. Genevation will get only one shot at this so it is very important that it is done as well as possible to give it the greatest chance of success.

The latest news is that the test will be done in the Charles River lab in North Carolina, and that the vaccine will be injected before the end of July with the readout at the end of August. If this deadline is missed additional costs will be incurred since new mice will be required.



Ascendbiotx.com

Company Valuation	Valuation Share Price	Fund Holding
£1.37m	£0.50	21.8%

Date	Amount	Share Price	Type
Mar 2023	£100,000	£0.25	SEIS
Sep 2023	£75,000	£0.50	SEIS
Nov 2023	£25,000	£0.50	EIS

Description of the business

AscendBio was founded by Marcus Yeo and Prof Ludovic Vallier. The company will develop cells from different organs based on induced pluripotent stem cells. Marcus was previously CEO of Definigen, a Cambridge University company providing stem cells for research based on Prof Vallier’s research. Ludovic now serves as Professor of Stem Cells in Regenerative Therapies at the Berlin Institute of Health at Charité (BIH). His group, based at the BIH Centre for Regenerative Therapies, employs human stem cells to generate cells with a clinical interest for disease modelling and cell-based therapy. Some of his lab remain at the Cambridge Stem Cell Institute.

The first cell products that AscendBio will be developing are pancreatic cells, but there are more than 40 cell types which can be developed based on the technology and they will be used for research and also for clinical applications. The idea is to put the pancreatic cells in a matrix in the body so that they will produce insulin in response to rising blood sugar levels and in this way provide a treatment for diabetes.

OT(S)EIS invested £100k to get the company started.

AscendBio has set up in the Oxford BioEscalator which is optimally located to access Oxford Centre for Diabetes, Endocrinology and Metabolism (ODEM) expertise and University of Oxford Old Road campus platform scientific services. Human pancreatic beta cells with a physiologically relevant glucose sensitive insulin response were generated and the company then planned commencing its full seed round raise of £4.5m in July 2023 with a forecast autumn close. To accelerate commercial development the company has also engaged with corporate partners to leverage its platform technology in key areas of the fast-growing stem cell industrial sector.

In Q3 2023, Ascend Bio raised £175,000 of which £100,000 came from OT(S)EIS. This was in the form of an Advanced Subscription Agreement which would convert at a discount of 20% to the price at which the next larger round of capital would be raised, with a fallback conversion price of 50p per share by 31 March 2024. This should provide a runway until summer 2024.

Recent Developments

No new capital had been raised by 31 March so the ASA duly converted at 50p per share.

Investors are unwilling to invest more unless and until a partnership deal of some sort with a pharma company and/or a pharma company venture capital fund invests. At the end of Q2, in addition to continuing negotiations with corporate and VC in the pharma stem cell space, a set of European and US funds have been engaged. The most advanced negotiations are with a specialist silicon valley drug hunter fund with whom AscendBio is under NDA. This funder has the capacity to invest the entire funding sought, and active discussions are in progress and will continue in Q3.



C H A M B E R T E C H L T D

Company Valuation	Valuation Share Price	Fund Holding
£3.17m	£2.37	21.7%

Chambertech Investment History

Date	Amount	Share Price	Type
Mar 2023	£80,000	£0.42	SEIS
Nov 2023	£55,000	£0.71	SEIS
Feb 2024	£46,260	£2.37	SEIS
Apr 2024	£6,337	£2.37	EIS

Description of the business

Richard Chambers, an Oxford graduate in exercise physiology, has a distinguished career specialising in the measurement of electrical signals that cause atrial fibrillation (AF). With experience in over 3,000 cases, Richard identified significant shortcomings in current arrhythmia treatments: long, high-risk open-heart surgeries and often unsuccessful cardiac ablation procedures. In response, he has developed a revolutionary process and associated device for atrial ablation, expected to halve procedure duration and significantly improve success rates. Currently, around 1 million AF procedures are performed annually in the US and Europe.

Device Development and Initial Trials

The design phase has progressed well, with a successful initial trial conducted on pigs in the US during the summer of 2023. These trials provided valuable insights, leading to further design improvements.

Funding and Recognition

In Q1 2024, Chambertech secured a non-dilutive £1.5 million Biomedical Catalyst grant. Congratulations to Richard for this significant achievement. To support the grant, Chambertech raised over £160,000 in new capital at an increased share price of £2.37. Chambertech was selected from 2,000 applications as one of 300 companies to join MedTech Innovator, the world's largest life science accelerator.

Recent Developments

Engineering Milestones: Minima Engineering has completed the first multi-shaped catheter build, incorporating an active handle mechanism. The next steps include sheathing and adding electrodes, with the first bench study scheduled for Q4 2024.

Grant Applications: Chambertech has applied for a £2.5 million non-dilutive NIHR i4i PDA grant, focusing on a novel pulsed field ablation generator. The outcome of this application is expected in Q1 2025. The Innovate funding continues to support catheter development.

In summary Chambertech continues to make excellent progress.



Surreyh2.com

Company Valuation	Valuation Share Price	Fund Holding
£3.79m	£2.1484	7.1%

SurreyH2 Investment History

Date	Amount	Share Price	Type
Mar 2023	£75,000	£1.26	SEIS
Apr 2023	£25,000	£1.26	SEIS
May 2024	£100,008	£2.1484	EIS

Description of the business

SurreyH2 (legal name Clean Hydrogen Ltd) is developing a technology for very cost-effective production of green hydrogen. The patented technology was developed by Dr Bahman Horri of the University of Surrey. The CEO is Dan Somers who has a background in spinouts and chemical engineering.

The technology makes use of two parallel processes joined together with a ‘chemical loop’. The first process is a standard alkaline electrolysis process (splitting water into hydrogen and oxygen using electricity). The second process is a thermochemical process whereby a cheap metal catalyst is oxidised in water to generate hydrogen, and the metal oxide solution ‘loops’ into the electrolyser where it is reduced back to metallic powder. This two step process allows for a very high rate of hydrogen production relative to the energy inputted.

The technology is very cost-effective for locations where hydrogen is required and where cheap, though variable, electrical energy from renewable sources such as wind or solar is available.

OT(S)EIS invested £100k as an SEIS investment as part of a £175k round.

In Q1 SurreyH2 has been awarded a £450k Innovate grant to make the next step in the development of the technology. In addition SurreyH2 was awarded £100k grant from TechX, part of the Net Zero Technology Centre accelerator programme which has been expanding connectivity particularly in Scotland.

Recent Developments

In Q2 SurreyH2 raised capital to match the various grants (including £165,000 as a result of a WOTAN presentation) bringing the total capital raised to £1.3m.

This will be used over the next year to build a 25Kw (defined as the energy value of the Hydrogen produced per hour) demonstrator. The next step after this will be to build a 250Kw system.



Revolutionary Concepts

Revolutionaryconcepts.co.uk

Company Valuation	Valuation Share Price	Fund Holding
£0.84m	£0.68	19.0%

Date	Amount	Share Price	Type
May 2023	£60,000	£0.34	SEIS
Dec 2023	£40,000	£0.68	SEIS

Description of the business

Gas Boilers are likely to be outlawed in new build houses in the UK from 2025. While water heating can be provided by electricity, one gets out only the heat one puts in. But a heat pump will give 8 kW of heat out for 3 kW of electrical energy in. But existing air-source heat pumps are too large to fit inside the average house. Will Spain has established RCL to design an improved heat pump, which should be smaller and more efficient than anything currently available.

The basic idea is to draw air in from outside the house and then to compress it whereupon it becomes hot. The hot compressed air will then have its heat extracted through a heat exchanger and the low pressure warm air, or warm water (several possibilities exist) will then be ducted as necessary to provide space heating for the house. The now-cold compressed air will then be expanded through a second turbine, on the same shaft as the original compressor and helping to drive it, and will cool as it expands, finally leaving the house at maybe -15C.

The theoretical calculations show that 3 kW of electrical energy in may provide 8 kW of space heating for the house. The actual numbers will depend on the temperature of the external air on the day and the desired house temperature. Unlike conventional air-source heat pumps, the RCL compressor will be a much smaller unit and will be much the same size as a conventional boiler, and able to fit in a small cupboard. Additionally, there is no requirement for external components or refrigerants which reduces installation cost and complexity.

Recent Developments

Since the investment, Will, and his fellow engineer Simon Bainbridge have been working on the design, and completed the first prototype in Q1 2024. This failed to achieve the 8 kW of heat output for 3 kW of energy in, due to a mismatch between compressor and turbine which prevented the system from operating at the expected pressures. Trials to fully understand this system behaviour continued, and feedback from these trials was fed into the next prototype which should be completed in mid Q3.

Two patents are being drafted and should be filed in Q3. Until these patents are filed, RCL does not wish to reveal any technical details.

RCL has also been working on a system suitable for decarbonising heat networks and commercial buildings. This requires a larger, more industrial unit which targets and supports the heat network zones policy of the Department for Energy Security and Net Zero.

All in all, RCL is making very encouraging progress.



Mycelsius.co.uk

Celsius Investment History

Date	Amount	Share Price	Type
Oct 2023	£67,504	£4.68	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£1.09m	£4.68	6.2%

Description of the business

The objective of Celsius is to provide women going through menopause with a practical and easy-to-use device which will enable them to get relief from hot and cold flushes, which, in many cases, cause women significant distress. The Celsius device is worn on the wrist, where the skin is particularly thermally sensitive. When a woman feels a hot flush coming on, she presses a button and a battery activates a Peltier cooling block, giving her a cold pulse on her wrist. Preliminary tests have shown that in many cases this is sufficient to reduce the hot flush severity or interrupt it entirely if activated early enough.

The objective of the investment is to build and test more prototypes, to further improve the device efficiency and reduce its size. Thereafter, the goal is to build interest from customers and make the device available for pre-order on the Celsius website. (Both Tesla and the Brompton Bicycle company financed their initial production runs, by precisely this means. Experience showed that customers were prepared to pay in advance and also to wait a considerable time for delivery). Celsius is exploring whether this could also be applicable here.

The founders of Celsius are Maxime Kryvian, who had the initial idea and who will lead the marketing and commercial development, and Aonghus O'Donovan who is doing the engineering and design. Celsius is considering the potential for a patent.

Recent Developments

Work on developing the first saleable version of the Celsius device continued during Q2 with the design and the printed circuit board being miniaturised as much as possible and components sourced to achieve a good balance between reliability and cost. It is hoped that a device will become available for pre-order on the Celsius website at some point during Q3.



[Matilda.technology](https://matilda.technology)

Matilda Investment History

Date	Amount	Share Price	Type
Mar 2024	£60,000	£1.69	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£0.60m	£1.69	10.0%

Description of the business

Matilda is a spin-out from Oxford University and the University has a 5% shareholding. The three founders, two of whom have PhDs have developed a device which sits behind the ears like a hearing aid and which displays the brainwaves of the users on a screen. AI is then used to analyse the waves which the user is also able to influence by thinking different thoughts.

After the investment the founders screened 25 users, each spending 90 minutes on the test. During the test they had to play a simple computer game, while also counting down from 1,000 in 7s. At other times they had to do more complicated tasks and at other times simply think pleasant thoughts. AI is now being used to analyse this data to see what lessons can be learned.

The first commercial targets are Egamers who can earn up to £3m pa. It is hoped that they will be able to use Matilda to ensure that they are at maximum concentration before a game, and therefore more likely to do well.

Egaming is a very large global business with thousands of teams from university teams to national teams. In April it was announced that the total prize money at the Esports World Cup which will take place in Riyadh in Saudi Arabia, starting in July, will be \$60m.

Recent Developments

Matilda has just started to manufacture the first version of its device in Shenzhen, China, and is developing relations with commercial teams in the APAC-region where Gaming & Esports continues to be a flourishing high-growth sector. Some of the team will be attending the Esports World Cup, hoping to make the first sales of Matilda.

Metacarpal Investment History			
Date	Amount	Share Price	Type
Apr 2024	£87,098	£1.98	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£3.18m	£1.98	2.7%

Description of the business

Fergal Mackie is the founder and CEO of Metacarpal. He is an Enterprise Fellow of the Royal Academy of Engineering 1851 Royal Commission. With Metacarpal he has designed a body powered hand that as well as being strong and light, has fingers which individually adapt to the shape of the object being held.

Despite the development of robotic hand controlled by muscles on the amputated hand, there is a lot of benefit to a body controlled hand. It is instant in response, it provides feedback regarding the amount of force being exerted and is lighter than the robotic hands. The immediacy of response is very useful when learning to use the hands and people using the most recent prototypes were able to do things like catch and throw within a few hours of use.



A prosthetic hand has a price of roughly \$10,000.

Oxford Technology invested £87,098 in a larger round of approx. £783,000 which is aimed at getting the hand into production and onto the market, starting in the US. In the US roughly half the hands are mechanical and most of those are the original hook design from the early 1900's.



Metallobio.com

MetalloBio Investment History			
Date	Amount	Share Price	Type
Apr 2024	£54,999	£3.477	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£4.17m	£3.477	1.3%

Description of the business

MetalloBio is developing new types of antibiotic molecules based around ruthenium cores. It is unusual in that they are not of natural origin. The MetalloBio molecules kill bacteria in a variety of different ways and thus far no genetic antibiotic resistance has surfaced, despite lengthy testing. Despite their potency, thus far toxicity has not been seen at the concentration required for anti-bacterial activity.

The MetalloBio compounds are broad-acting molecules able to tackle a very wide range of bacteria, especially infectious pathogens of particular concern to the World Health Organisation (WHO).

Although the development focus for MetalloBio is for systemic antibiotics, it is also working with companies to produce antibiotic surfaces for products such as catheters.

There is a steady rise in antibiotic resistance and governments are looking at different ways of encouraging the development of new antibiotics. It remains to be seen how these new approaches will benefit MetalloBio, but we think that there will be plenty of opportunities to make profits using the traditional approaches too.

The company is headed up by Dr Mike Murray and is based on technology developed by co-founders, Professor Jim Thomas and Dr Kirsty Smitten (deceased), out of The University of Sheffield.

Recent Developments

In Q2 2024, MetalloBio completed a strategically important £420,000 investment into the company.

A key microbiological study of 240 clinical isolates, composed of 60 examples of each of four bacterial pathogens involved in complicated urinary tract infections (cUTIs), showed that all 240 bacterial isolates are susceptible to KLS-116, MetalloBio's lead antibiotic drug candidate, across a range of concentrations which include those that would be expected to work in human patients in due course.

The new funds into the company have been committed (amongst other projects) to a series of mouse studies to be conducted throughout Q3 and into Q4. Negotiations with a CRO have been completed and all details of the planned studies finalised.

On the coatings front, a MetalloBio proprietary coating has passed the first of two proof of concept hurdles as it is stable under rigorous sterilisation procedures. MetalloBio has also started in-depth discussions (under a secrecy agreement) with an orthopaedics company interested in exploring the company's technology for use in implants.

The company has received notification of the first grants of its global patent applications (Australia and South Africa) and has moved the European application into the final stage of its examination.

Dr Richard Senior has signed a contract with MetalloBio and will be leaving the University of Sheffield and starting on the company payroll in Q3 2024.



Digistain Investment History			
Date	Amount	Share Price	Type
Apr 2024	£69,821	£0.36	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£9.22m	£0.64	1.3%

Description of the business

Dr Hemmel Amrania is a physicist and clinical scientist specialising in spectroscopy of cancer. He is a Y Combinator alumnus equipped with a unique blend of both academic and commercial experience. After his PhD he ran a successful marketing consultancy after qualifying as a Google Partner where he was able to exploit his data analysis experience in the field of data driven marketing. Within the first 18 months he had accumulated over £3m in sales. Driven by a desire to translate his academic research to the clinic he started Digistain - a technology company which makes use of infrared spectroscopy to provide a rapid answer for a very difficult clinical question:

Should this patient who has breast cancer, receive chemotherapy or not.

Chemotherapy is implicated in 25% of breast cancer related deaths so avoiding it if possible is an important decision to make. Digistain takes a thin slice from the tumour that has been removed and analyses the mid-infrared spectrum. This is analysed to determine the degree of aneuploidy - (poor copying of DNA in cell division) in the cells. This in turn is combined with other data from the patient to provide a risk score that is unique to the biology of the patient. A score above 1 means a >10% likelihood of recurrence within 10 years, which is often taken as the cut-off for giving chemotherapy. Digistain enables the doctors to correctly identify the 49% of patients who don't need adjuvant chemotherapy. The technology was validated with 801 breast cancer patients.

Digistain is on the cusp of commercialisation. It has just received all the approvals it needs and is providing a service to oncologists around the world. It is much quicker and less expensive than incumbent genetic risk profiling and more than doubles the performance of the current gold standard NPI (Nottingham Prognostic Index).

Progress Since Investment

Digistain has signed a deal with Bupa to supply the service to Bupa patients. The kick off meeting was on the 25th of April.

During Q2 2024, Digistain's lab was inspected and is now ISO 13485 certified.

Digistain entered the EIT Health Catapult programme. There were more than 300 entries and Digistain was in the top 4 and was awarded a prize which includes a pilot in Portugal.

Most importantly sales have started, with patient samples beginning to arrive. The sales were approximately as follows (in \$).

Feb 3k

Mar 8k

Apr 9k

May 17k

The cash in hand is £130k and the burn rate is approximately £25k per month.

Full and Partial Exits

Name of Company	Description of Business	Date of (Initial) Investment	Total Paid for Shares Sold	Tax Reliefs (1)	Net Cost of Investment (2)	Date of Exit	Payout	Gain (3)	Cash Due and Fair Value of Milestones	Multiple (4)	Potential Further Milestones
Full Exits (all figures in £000)											
Ducentis Biotherapeutics	Immune modulation therapeutics	Jul 2015	£339	£118	£221	Sep 2022	£1,385	£1,164	£3,413 (5)	21.71	£34,893
Dark Beam	Web data security	Oct 2017	£153	£63	£90	Oct 2023	£128	£38	£55 (6)	2.03	£359
Partial Exits (all figures in £000)											
Animal Dynamics	Animal-inspired drones/robots	Jun 2015	£35	£18	£17	Mar 2019	£244	£227	-	14.35	-
Refeyn	Imaging Biomolecular Interactions	Jun 2018	£128	£47	£81	Sep 2022	£893	£812	-	11.02	-
Covatic	Personalised media feed	Feb 2017	£9	£3	£6	Sep 2022	£18	£12	-	3.00	-
Oxwash	Hyper-sustainable laundry	Mar 2019	£13	£8	£5	Oct 2023	£56	£51	-	11.2	-
TOTALS			£677	£257	£420	-	£2,724	£2,304	£3,468	-	£35,252
<i>Exits in Process (all figures in £000)</i>											
Lightpoint	Real-time imaging for cancer surgery	Jun 2013	£471	£156	£315	<i>TBC (7)</i>	<i>£1,214</i>	<i>£899</i>	<i>£579</i>	5.69	-

(1) Assuming 40% taxpayer and ignoring any reliefs on capital gains tax which will have applied to investors with capital gains tax to pay.

(2) Calculated as Total Paid for Shares Sold minus Tax Reliefs.

(3) Calculated as Payout minus Total Net Cost of Investments. This does not take into account fees.

(4) Calculated as total of Payout, Cash Due and Fair Value of Future Milestones divided by the Net Cost of Investment. This does not take into account fees.

(5) Cash Due in the Ducentis exit includes cash held in escrow and the value of Arcutis shares, and the Fair Value of Future Milestones we calculate, after probability-adjusting, as approx. 9% of all potential future milestone payments.

(6) We calculate the sum of Cash Due in the Dark Beam exit (money held in a retention account) and the probability-adjusted Fair Value of Future Milestones to be 13% of all potential future payments.

(7) Potential Payout (£1,214,000) and Future Milestone payments (£579,000) in the Lightpoint exit will be held in escrow and released once all payments have been received and the company is liquidated (approximately 3 years). The values in italics are projections.

Investee companies no longer in the portfolio

Name of Company	Description of Business	Date of initial investment	Initial investment (£000)	Follow-on Investment (£000)	Total Investment (£000)	Date of closure	Total tax relief (1) (2) (£000)	Net loss after tax relief (1) (£000)
Message Missile	Mobile phone app	May 2013	£16	£25	£41	Jan 2016	£29	£12
Ibexis	Remote data loggers	May 2013	£50		£50	Feb 2017	£29	£21
Abgentis	Improved antibiotics	Mar2014	£42		£42	Jul 2019	£29	£13
Power OLEDs	Improved OLED technology	Dec 2013	£75	£178	£253	Dec 2020	£156	£97
Animal Dynamics	Animal-inspired drones/robots	Jun 2015	£75	£53	£128	Sep 2023	£94	£34 (3)
Lupe Technology	Better vacuum cleaner	Feb 2017	£51	£345	£396	Sep 2023	£236	£160
Electrowinning Technologies	Electrical metals capture	Feb 2017	£25	£35	£60	Sep 2023	£42	£18
Asymmetric Suzuki Reactions	Synthesising chiral molecules	Mar 2019	£65		£65	Sep 2023	£45	£20
Spendology	Mail-ordering foreign currency	Apr 2016	£38	£160	£198	Jun 2024	£119	£79
LRESytem	Lateral resurfacing elbow replacement	Jan 2018	£50	£75	£125	Jun 2024	£78	£47
Totals			£487	£871	£1,358	-	£857	£501

(1) Assuming 40% taxpayer and ignoring any reliefs on capital gains tax which will have applied to investors with capital gains tax to pay.

(2) Investors in the closed companies have received emails about how they can claim loss relief.

(3) Animal Dynamics shareholders had the option to sell, and those who took this option made a return of just under 14x on the after-tax share price of their shares.

Brief notes on the closed companies (i)

Message Missile was founded by a pre-university student and the aim was to enable Tesco, the first customer, to be able to alert all those within 200 yards of a particular store to the fact that there was a deal on bananas. Although he went to university to read computer science, the app never worked adequately.

Ibexis - this was a small investment in remote data loggers. For example, one system was installed in the middle of a lake, powered by solar panels. It sent back real time data about the salinity of the lake. Other system, in mountains, collected real time data about snowfall. The data was returned by satellite link. But orders were insufficient to justify further investment.

Abgentis was established by a distinguished biochemist to modify a known antibiotic to increase its effectiveness. Quite early on it was discovered that there was a technical reason why the original idea could not work and the project was abandoned.

PowerOLEDs was an investment into a new class of Organic LED materials with high efficiency and durability. Despite interest from several large players no deal was struck before the founder became ill and then passed away.

Animal Dynamics was a spin-out from the Zoology Department at Oxford. The company sought to use its insights into nature to design more efficient flying and swimming machines. The company did very well from a technical viewpoint and won a number of lucrative defence contracts from both the UK and US defence departments to build various devices, including a Dragon Fly drone, a swimming device based on a ray, and an autonomous paraglider, known as Stork which could carry 135kg for 400 km. The company raised additional capital in 2019 and the early investors were offered the opportunity to sell their shares at 14x the after tax cost. About 50% opted to do this. But a major problem was that OSE had not brought in other investors and ended by owning well over 99% of the company. When a manufacturing facility was set up to manufacture Stork, the monthly costs greatly increased and OSE were unable to find other investors to come in. BAE eventually acquired the company for £1 and took over the manufacturing facility.

Lupe Technology was set up by two engineers who had previously worked on the design team at Dyson. Their aim was to design and manufacture what would be the world's best cordless vacuum, which would also be green and designed to last with replaceable parts, unlike today's throw-away products. In this aim, they succeeded brilliantly. The Lupe, which was manufactured in China by a manufacturer whose owner invested was rated as much the best cordless vacuum cleaner in the world by Vacuum Wars, who rated the top 50 brands. They do this very thoroughly, for example by putting 100 gm of sand on a deep pile carpet and weighing how much each brand picks up. Lupe was the winner by a large margin. Sadly, however, having a great product is not quite enough and although Lupe made good sales, aided by rave reviews, especially in the US, the sales were not quite enough to generate enough cash to replace the stock. Lupe sought to raise a larger sum - maybe £2m - to finance new stock and marketing to build the brand, but was not able to find an investor. One of the founders, who has invested heavily himself is still selling the remaining stock and still hopes to find a way forward.

Brief notes on the closed companies (ii)

Electrowinning Technologies was founded by Duncan Grant an expert on electric circuits both for handling high and low powers. He had designed the worlds lowest power consuming Radio which used 1/10 of the power of the next least power-hungry radio. The initial objective of EWT was to improve the quality and quantity of copper produced by companies which produce copper by controlling the very large (000s of amps) currents which these plants use more precisely. EWT was awarded a contract to install a system in one cell of such a plant, but, having spent the money to build the equipment, the contract was cancelled at the last minute without explanation so that the technology was never tried. A greatest shame, since, in theory at least, a large quantity of energy could be saved. Finally, EWT had a patent on how to inject a $\frac{1}{2}$ harmonic waveform into the National Grid, which, in theory would enable the grid to transmit about 30% more power over the existing infrastructure. With the growth of electric cars, the grid will need a major upgrade over the next ten years. This idea could help. However, nothing has happened so far and it was decided to close the company.





Asymmetric Suzuki Reactions was a small investment in a spin-out from the Chemistry department at Oxford. The founder, working with the professor while doing her DPhil, had discovered a better method of achieving Suzuki reactions, a particular class of reactions used for producing chiral chemicals and used in the pharmaceutical industry. In theory using her technology could reduce costs and improve output for pharma companies. However, although interest was shown by one pharma company in Switzerland. In the end no paying customers were found and the company was wound up. The net loss was £19,512.

Spendology developed a SaaS system to enable tour operators and others to deliver foreign currency to customers by post before they go on holiday. This remains a big global need despite the use of cards. Many people like to have foreign currency in their wallets when they arrive in a foreign country. Spendology was just getting going when Covid struck and global travel ceased. This could hardly have been worse for Spendology, which then became loss-making and had to raise more capital to survive. In Q2 22 the £23bn international travel conglomerate, Internova, signed a franchise deal with Spendology for the US market. However, there were numerous delays in getting this deal live. In particular, various licences were required for regulatory reasons. Then, just before the launch, scheduled for 31 Oct 23, the launch was halted due to an audit by the state of California. At the start of Q1, it transpired that Internova had decided to use another company entirely (actually a company that was introduced to Internova by Spendology to help with the regulatory issues) and cancelled the deal with Spendology. In the light of all this, it was decided to close the business and the shares have nil value.

LRESystem. Joe Pooley, an orthopaedic surgeon invented the LRE (Lateral Resurfacing Elbow) in the late 1990s to meet the need of the patients on whom he operated. The product was a great success, and in the period from 2000 to about 2015 was installed in more than 1,000 patients. The company which manufactured and had the IP rights to the LRE was then sold, and, for technical reasons, the rights to the LRE then reverted to Joe Pooley, who then appointed his brother as the CEO to take over the commercial aspects. They owned the new company, 50/50 to start with. We invested to help get the company restarted. Despite the fact that the LRE had already been installed in 1,000 patients and that follow-up studies had been done with no adverse effects being found, it was necessary to apply for a new CE mark. This was a hugely bureaucratic and expensive process. Worse, the brothers fell out and a legal action was started by one of them to oust the other. The vote was put to the shareholders who, in the end, voted that both brothers should remain as directors. It was a recipe for disaster. Then Covid effectively provided the final blow. As the CE mark having finally been obtained and sales were just starting (19 LREs were sold in 2020 at a price of £6,000 each), all elective surgery ceased in Europe and no LREs at all were sold in 2021. A long time was spent negotiating with a company which distributes similar products to take over ownership of the product, but in the end this too came to nothing and the decision was taken to close the company in Q1 2024. A very sad end.






OT(S)EIS Fund Portfolio

1st May 2024

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation
Run 3D 	3D Gait Analysis for Physiotherapy	£100,000	18/12/2012	SEIS	£50,000	£400,000	8.00	Latest Share Price
		£15,000	18/10/2013	SEIS	£7,500	£60,000	8.00	
		£10,000	18/10/2013	Non SEIS/EIS	£10,000	£40,000	4.00	
		£3,000	10/11/2017	EIS	£2,100	£6,000	2.86	
		£10,206	29/03/2019	EIS	£7,144	£13,608	1.90	
		£2,317	03/04/2024	EIS	£1,622	£2,317	1.43	
BioMoti 	Improved Cancer Drugs	£74,998	08/01/2013	SEIS	£37,500	£15,000	0.40	Discounted to £0
		£40,000	28/05/2014	EIS	£28,000	£11,200	0.40	
		£74,661	31/03/2021	EIS	£52,263	£20,905	0.40	
Combat Medical 	Bladder Cancer Treatment	£74,999	02/04/2013	SEIS	£37,500	£196,300	5.23	Latest Share Price
		£74,998	05/12/2013	EIS	£52,500	£178,400	3.40	
		£10,002	29/10/2014	EIS	£7,000	£22,700	3.24	
		£34,271	05/12/2014	EIS	£24,000	£77,700	3.24	
		£74,998	10/03/2016	EIS	£52,500	£60,000	1.14	
		£64,995	12/10/2016	EIS	£45,500	£65,000	1.43	
		£129,212	30/03/2017	EIS	£90,400	£103,400	1.14	
		£27,058	12/03/2018	EIS	£18,900	£21,600	1.14	
		£54,223	26/03/2021	EIS	£38,000	£54,200	1.43	
		£21,218	01/04/2022	EIS	£14,900	£21,200	1.43	
Message Missile 	Mobile App Geo-location Notifications	£16,000	23/05/2013	SEIS	£8,000	£3,200	0.40	Discounted to £0
		£5,000	18/10/2013	SEIS	£2,500	£1,000	0.40	
		£20,000	19/06/2014	SEIS	£10,000	£4,000	0.40	

*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)






For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation
Ibexis Technologies	 Remote Datalogging	£50,000	24/05/2013	EIS	£35,000	£14,000	0.40	Discounted to £0
Lightpoint Medical	 Real-time Imaging for Cancer Surgery	£74,999	04/06/2013	SEIS	£37,499	£976,872	26.05	Share Price Equivalent to Exit**
		£75,000	10/03/2014	EIS	£52,500	£242,946	4.63	
		£9,991	07/11/2014	EIS	£6,994	£26,028	3.72	
		£124,895	04/12/2014	EIS	£87,427	£325,356	3.72	
		£100,000	10/03/2016	EIS	£70,000	£121,807	1.74	
		£20,000	24/03/2016	EIS	£14,000	£24,361	1.74	
		£26,941	27/03/2019	EIS	£18,858	£25,544	1.35	
£38,825	25/03/2020	EIS	£27,178	£36,812	1.35			
Metal Powder & Process	 High Quality Metal Powder Production	£150,000	16/08/2013	SEIS	£75,000	£150,000	2.00	Latest Share Price
Power OLEDs	 Improved OLED Technology	£75,000	11/12/2013	SEIS	£37,500	£15,000	0.40	Discounted to £0
		£25,000	18/07/2014	EIS	£17,500	£7,000	0.40	
		£30,000	27/04/2015	EIS	£21,000	£8,400	0.40	
		£30,000	04/09/2015	EIS	£21,000	£8,400	0.40	
		£60,065	05/04/2017	EIS	£42,000	£16,800	0.40	
		£33,332	08/03/2018	EIS	£23,300	£9,300	0.40	
Abgentis	 Improved Antibiotics	£42,191	27/03/2014	SEIS	£21,100	£8,400	0.40	Discounted to £0

*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)

**Note: Lightpoint investments are valued based on the share price calculated as a fair equivalent of the exit arrangements.





For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation
Designer Carbon Materials	 Endohedral Fullerene Production	£75,000	03/04/2014	SEIS	£37,500	£125,000	3.33	Latest Share Price
Sasets	 Software for Construction Industry	£75,000	30/07/2014	SEIS	£37,500	£37,500	1.00	Latest Share Price
		£75,000	22/01/2016	EIS	£52,500	£30,600	0.58	
Sime Clinical AI	 Rapid Diagnostic to Protect Pre-term Baby Lungs	£75,000	04/09/2014	SEIS	£37,500	£297,200	7.92	Latest Share Price
		£100,000	07/04/2016	EIS	£70,000	£355,700	5.08	
		£25,040	12/11/2018	EIS	£17,500	£41,900	2.39	
Expend	 Software to Reduce Paperwork for Expenses	£75,000	23/12/2014	SEIS	£37,500	£3,300,000	88.00	Latest Share Price
		£17,338	09/02/2017	EIS	£12,100	£62,814	5.18	
		£3,000	04/12/2017	EIS	£2,100	£4,125	1.96	
		£13,000	28/08/2018	EIS	£9,100	£28,600	3.14	
		£30,719	29/03/2019	EIS	£21,500	£67,581	3.14	
		£29,300	25/03/2020	EIS	£20,500	£64,461	3.14	
Molecular Warehouse	 Proteins for Diagnostics and Therapeutics	£75,000	21/04/2015	SEIS	£37,500	£15,000	0.40	Discounted to £0
		£75,000	02/02/2016	EIS	£52,500	£21,000	0.40	
		£20,000	24/03/2016	EIS	£14,000	£5,600	0.40	
		£52,005	14/09/2016	EIS	£36,404	£14,561	0.40	
		£20,000	22/09/2017	EIS	£14,000	£5,600	0.40	
Animal Dynamics	 Mechanical Engineering inspired by Animal Motion	£75,000	29/06/2015	SEIS	£37,500	£243,662	6.50	Proceeds From Sale & Discounted to £0**
		£35,220	27/11/2017	EIS	£24,654	£9,861	0.40	
		£3,001	30/07/2018	EIS	£2,100	£840	0.40	
		£14,391	30/03/2020	EIS	£10,074	£4,029	0.40	

*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)

**Note: Valuation of the first investment in Animal Dynamics is based on the proceeds from sale. The values of the remaining investments represent available loss relief.






For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation
Ducentis Biotherapeutics	 Immune Modulation Therapeutics	£50,000	13/07/2015	SEIS	£25,000	£1,478,300	59.13	Proceeds From Sale & Fair Future Milestones**
		£30,000	14/12/2015	SEIS	£15,000	£689,870	45.99	
		£160,275	30/03/2017	EIS	£112,193	£1,842,826	16.43	
		£45,314	29/03/2018	EIS	£31,720	£468,909	15.78	
		£53,820	13/03/2019	EIS	£37,674	£318,249	8.45	
Bioarchitech	 Engineered Oncolytic Virus	£79,560	13/08/2015	SEIS	£39,800	£795,600	20.00	Latest Share Price
		£40,000	08/03/2016	SEIS	£20,000	£240,000	12.00	
		£16,200	07/07/2017	EIS	£11,300	£97,200	8.57	
		£29,000	12/10/2017	EIS	£20,300	£145,000	7.14	
		£89,674	29/03/2019	EIS	£62,800	£298,900	4.76	
		£4,637	19/12/2019	EIS	£3,200	£9,900	3.06	
		£36,758	25/03/2020	EIS	£25,700	£78,800	3.06	
Orbit Discovery	 Peptide Drug Development	£100,000	27/11/2015	SEIS	£50,000	£111,200	2.22	Latest Share Price
		£38,245	07/07/2017	EIS	£26,800	£38,200	1.43	
Curileum Discovery	 Intestinal Tract Therapies	£75,000	07/03/2016	SEIS	£37,500	£476,200	12.70	Latest Share Price
		£25,950	19/05/2016	SEIS	£13,000	£164,800	12.70	
		£20,000	15/07/2016	SEIS	£10,000	£127,000	12.70	
		£20,000	16/07/2016	EIS	£14,000	£127,000	9.07	
		£19,997	28/10/2016	EIS	£14,000	£258,000	18.43	
		£20,002	08/11/2016	EIS	£14,000	£258,000	18.43	
		£30,000	11/05/2017	EIS	£21,000	£387,100	18.43	
		£102,020	27/03/2019	EIS	£71,400	£1,316,400	18.43	
		£4,330	29/03/2019	EIS	£3,000	£55,900	18.43	
		£13,791	25/03/2020	EIS	£9,700	£55,200	5.71	
£29,656	19/12/2022	EIS	£20,800	£29,700	1.43			

*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)






**Note: Valuation of Ducentis investments is based on the proceeds from sales (after the exit) and the fair value of future milestones (approx. 10% of the max potential milestones)

For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation	
Spendology		Online Financial Interface	£37,500	01/04/2016	SEIS	£18,750	£7,500	0.40	Discounted to £0
			£62,500	20/10/2016	EIS	£43,750	£17,500	0.40	
			£25,000	13/09/2017	EIS	£17,500	£7,000	0.40	
			£65,329	06/03/2023	EIS	£45,731	£18,293	0.40	
			£7,331	01/12/2023	EIS	£5,131	£2,053	0.40	
Active Needle Technology		Ultrasound Visible Needles	£50,000	05/04/2016	SEIS	£25,000	£375,580	15.02	Latest Share Price
			£65,000	23/08/2016	EIS	£45,500	£312,480	6.87	
			£19,000	07/03/2017	EIS	£13,300	£91,318	6.87	
			£30,000	29/03/2017	EIS	£21,000	£144,185	6.87	
			£28,000	02/01/2018	EIS	£19,600	£100,154	5.11	
			£101,781	18/03/2019	EIS	£71,200	£270,447	3.80	
			£32,122	25/03/2020	EIS	£22,500	£85,353	3.80	
			£55,653	24/03/2021	EIS	£39,000	£123,231	3.16	
£7,728	03/04/2023	EIS	£5,410	£7,728	1.43				
Oxford Nanoimaging		Super-resolution Microscopes	£100,000	29/04/2016	SEIS	£50,000	£1,050,000	21.00	Latest Share Price
Entia		Portable Blood Analyser	£75,000	19/05/2016	SEIS	£37,500	£133,825	3.57	Latest Share Price
			£9,504	21/10/2016	EIS	£6,700	£16,962	2.55	
			£48,554	30/11/2017	EIS	£34,000	£58,326	1.72	
			£89,934	01/02/2019	EIS	£63,000	£74,629	1.19	
			£26,017	24/03/2021	EIS	£18,200	£19,257	1.06	
Covatic		Personalised Media Feed	£39,776	02/02/2017	SEIS	£19,888	£48,906	2.46	Latest Share Price
			£60,224	06/02/2017	EIS	£42,157	£73,737	1.75	
			£30,000	05/02/2018	EIS	£21,000	£19,664	0.94	
			£67,997	31/03/2021	EIS	£47,598	£66,407	1.40	
			£37,926	01/04/2022	EIS	£26,548	£22,237	0.84	

*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)






For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation	
Electrowinning Technologies		Electrical Metals Capture	£25,000	06/02/2017	SEIS	£12,500	£5,000	0.40	Discounted to £0
			£35,000	29/09/2017	SEIS	£17,500	£7,000	0.40	
Lupe Technology		Better Vacuum Cleaner	£51,000	20/02/2017	SEIS	£25,500	£10,200	0.40	Discounted to £0
			£30,000	22/02/2017	EIS	£21,000	£8,400	0.40	
			£51,000	12/03/2018	EIS	£35,700	£14,280	0.40	
			£37,001	12/03/2018	EIS	£25,900	£10,360	0.40	
			£9,999	27/03/2018	EIS	£6,999	£2,800	0.40	
			£138,719	25/03/2020	EIS	£97,103	£38,841	0.40	
			£50,243	12/03/2021	EIS	£35,170	£14,068	0.40	
£27,864	01/04/2022	EIS	£19,505	£7,802	0.40				
Process Vision		Gas Inspection Optics	£99,999	27/03/2017	SEIS	£50,000	£99,999	2.00	Latest Share Price
			£3,000	28/06/2018	EIS	£2,100	£3,000	1.43	
			£68,494	31/03/2021	EIS	£47,946	£102,741	2.14	
			£6,858	01/12/2023	EIS	£4,801	£6,858	1.43	
Gripable		Mobile Rehab Technologies	£49,999	15/09/2017	SEIS	£25,000	£88,000	3.52	Latest Share Price
			£106,934	27/02/2019	EIS	£74,900	£101,600	1.36	
			£33,219	15/12/2020	EIS	£23,300	£24,292	1.04	
			£69,682	02/03/2022	EIS	£48,800	£50,956	1.04	
Dark Beam		Web Data Security	£50,000	06/10/2017	SEIS	£25,000	£45,000	1.80	Share Price Equivalent to Exit**
			£25,000	05/02/2018	SEIS	£12,500	£22,500	1.80	
			£10,000	09/02/2018	SEIS	£5,000	£9,000	1.80	
			£18,200	26/03/2018	EIS	£12,700	£16,380	1.29	
			£50,000	03/09/2018	EIS	£35,000	£90,000	2.57	

*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)

**Note: Dark Beam investments are valued based on the share price calculated as a fair equivalent of the exit arrangements.







For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation	
LRESsystem		Lateral Resurfacing Elbow Replacement	£50,000	12/01/2018	SEIS	£25,000	£10,000	0.40	Discounted to £0
			£75,050	21/01/2019	EIS	£52,535	£21,014	0.40	
Atelerix		Transport of Viable Cells	£50,000	22/01/2018	SEIS	£25,000	£13,669	0.55	Latest Share Price
			£133,186	03/04/2019	EIS	£93,200	£41,993	0.45	
			£196,851	30/03/2020	EIS	£137,800	£61,175	0.44	
			£44,767	04/06/2021	EIS	£31,300	£15,892	0.51	
			£11,100	29/11/2022	EIS	£7,800	£3,848	0.50	
Refeyn		Imaging Biomolecular Interactions	£66,240	26/06/2018	SEIS	£33,100	£840,300	25.37	Latest Share Price & Proceeds From Sale**
			£33,760	27/06/2018	EIS	£23,600	£422,500	17.88	
			£121,851	24/01/2019	EIS	£85,300	£955,900	11.21	
			£67,468	04/07/2019	EIS	£47,200	£528,600	11.19	
Cytecom		Detection of Bacteria Viability	£100,440	31/07/2018	SEIS	£50,200	£151,632	3.02	Latest Share Price
			£55,000	27/11/2019	EIS	£38,500	£83,033	2.16	
			£84,021	04/12/2020	EIS	£58,800	£126,844	2.16	
			£53,986	31/03/2021	EIS	£37,800	£56,649	1.50	
Polycat UK		Nanoparticle Polymer Catalysts	£50,002	05/10/2018	SEIS	£25,000	£441,300	17.65	Latest Share Price
			£22,058	29/03/2019	SEIS	£11,000	£43,300	3.92	
			£11,985	23/03/2020	SEIS	£6,000	£23,500	3.92	
			£112,998	16/12/2020	EIS	£79,100	£148,700	1.88	
			£11,784	10/02/2021	EIS	£8,200	£15,500	1.88	
			£60,350	19/04/2022	EIS	£42,200	£60,400	1.43	

*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)








**Note: Multiple = Valuation of Refeyn investments is based on the proceeds from sales (after the partial exit) and the latest share price for the shares remaining in the portfolio

For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation	
Asymmetric Suzuki Reactions	 ASR Asymmetric Suzuki Reactions	Synthesising Complex Chiral Molecules	£65,040	18/03/2019	SEIS	£32,520	£13,008	0.40	Discounted to £0
Oxwash		Hyper-sustainable Laundry	£50,000	15/03/2019	SEIS	£25,000	£26,883	1.08	Latest Share Price
			£50,000	22/03/2019	EIS	£35,000	£28,117	0.80	
			£54,679	07/11/2019	EIS	£38,275	£21,763	0.57	
			£36,069	12/05/2021	EIS	£25,248	£10,401	0.41	
The Smarter Food Company		Foods for Pre-diabetics	£89,998	03/04/2019	SEIS	£45,000	£136,900	3.04	Latest Share Price
			£96,058	31/03/2021	EIS	£67,200	£106,700	1.59	
Connexin Therapeutics		Glaucoma Treatment	£66,325	04/04/2019	SEIS	£33,200	£66,300	2.00	Latest Share Price
Cytoswim		Sperm Cell Separation	£100,274	04/04/2019	SEIS	£50,100	£254,000	5.07	Latest Share Price
			£11,489	16/09/2021	SEIS	£5,700	£11,500	2.00	
			£59,038	28/09/2021	EIS	£41,300	£59,000	1.43	
			£34,194	01/04/2022	EIS	£23,900	£34,200	1.43	
Nikalyte		Nanoparticle Generators	£49,738	06/08/2019	SEIS	£24,869	£83,770	3.37	Latest Share Price
			£16,152	24/02/2020	SEIS	£8,076	£27,203	3.37	
			£77,886	16/10/2020	EIS	£54,520	£131,176	2.41	
			£44,987	29/11/2021	EIS	£31,491	£75,768	2.41	
			£60,276	23/02/2023	EIS	£42,193	£64,294	1.52	
			£2,317	03/04/2024	EIS	£1,622	£2,317	1.43	








*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)

For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation	
Etcembly		Immune pattern recognition system	£70,588	21/01/2020	SEIS	£35,300	£1,058,800	30.00	Latest Share Price
			£20,587	16/11/2020	SEIS	£10,300	£78,200	7.59	
			£49,411	18/11/2020	EIS	£34,600	£187,600	5.43	
			£17,677	23/02/2021	EIS	£12,400	£67,100	5.43	
			£42,444	19/04/2022	EIS	£29,700	£84,900	2.86	
Flare Bright		Autonomous drones	£29,000	28/09/2020	SEIS	£14,500	£29,000	2.00	Latest Share Price
CryoLogyx		Cell cryopreservation	£75,000	12/03/2021	SEIS	£37,500	£349,175	9.31	Latest Share Price
			£86,336	29/03/2023	EIS	£60,435	£167,816	2.78	
			£15,083	22/02/2024	EIS	£10,558	£5,083	1.43	
Zayndu		Seed treatment	£133,505	26/03/2021	EIS	£93,453	£228,324	2.44	Latest Share Price
			£83,029	01/04/2022	EIS	£58,120	£56,765	0.98	
			£51,548	01/09/2022	EIS	£36,084	£25,362	0.70	
			£66,562	23/02/2023	EIS	£46,593	£31,466	0.68	
Machine Discovery		Simulation Optimisation	£74,999	31/03/2021	SEIS	£37,500	£165,720	4.42	Latest Share Price
			£28,996	27/07/2023	EIS	£20,297	£28,996	1.43	
Hydregen		Biocatalysis	£100,005	31/03/2021	EIS	£70,004	£186,543	2.66	Latest Share Price
			£63,151	27/03/2023	EIS	£44,206	£63,151	1.43	
Oxvent		Low cost ventilator	£79,124	01/04/2021	SEIS	£39,600	£79,100	2.00	Latest Share Price
			£60,000	27/05/2022	EIS	£42,000	£60,000	1.43	







*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)

For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation
OxCan 	Early cancer detection	£50,000	29/06/2021	SEIS	£25,000	£128,700	5.15	Latest Share Price
		£50,000	02/07/2021	EIS	£35,000	£128,700	3.68	
		£28,314	27/07/2021	EIS	£19,820	£28,300	1.43	
MitoRx Therapeutics 	Therapeutics targeting Mitochondria	£60,000	16/11/2021	SEIS	£30,000	£99,288	3.31	Latest Share Price
		£12,450	18/11/2021	Non SEIS/EIS	£12,450	£20,602	1.66	
		£9,750	24/01/2022	EIS	£6,825	£16,134	2.37	
		£101,820	17/11/2022	EIS	£71,274	£101,820	1.43	
		£11,100	29/11/2022	EIS	£7,770	£11,100	1.43	
		£52,803	23/02/2023	EIS	£36,962	£52,803	1.43	
OVO BioManufacturing 	Improving vaccine manufacturing and antivirals	£90,799	19/11/2021	SEIS	£45,400	£123,930	2.73	Latest Share Price
		£176,355	24/03/2023	EIS	£123,449	£176,355	1.43	
digiLab Solutions 	Next-generation machine learning	£75,000	13/12/2021	SEIS	£37,500	£510,000	13.60	Latest Share Price
		£75,000	04/08/2022	EIS	£52,500	£75,000	1.43	
Neuroute 	Making clinical trials easier	£55,813	26/01/2022	SEIS	£27,907	£11,163	0.40	Discounted to £0
		£24,185	02/02/2022	EIS	£16,929	£6,772	0.40	
Theraport 	Exosome Loading Technology	£10,004	15/08/2022	SEIS	£5,002	£27,000	5.40	Latest Share Price
		£30,000	10/08/2023	SEIS	£15,000	£30,000	2.00	
Scintam 	Spark erosion tooling	£100,002	07/10/2022	SEIS	£50,001	£142,860	2.86	Latest Share Price
		£100,000	01/12/2023	EIS	£70,000	£100,000	1.43	





*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)

For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation	
Genevation		Personalised mRNA cancer vaccines	£100,000	24/08/2023	SEIS	£50,000	£400,000	8.00	Latest Share Price
			£100,000	14/11/2023	SEIS	£50,000	£200,000	4.00	
			£50,000	24/05/2024	EIS	£35,000	£50,000	1.43	
AscendBio		Cell generation from human stem cells	£100,000	03/03/2023	SEIS	£50,000	£200,000	4.00	Latest Share Price
			£75,000	28/09/2023	SEIS	£37,500	£75,000	2.00	
			£25,000	09/11/2023	EIS	£17,500	£25,000	1.43	
Chambertech		Improving the treatment of heart arrhythmia	£80,000	15/08/2022	SEIS	£40,000	£451,430	11.29	Latest Share Price
			£55,000	17/11/2023	SEIS	£27,500	£183,592	6.68	
			£46,260	27/02/2024	SEIS	£23,130	£46,260	2.00	
			£6,337	03/04/2024	EIS	£4,436	£6,337	1.43	
SurreyH2		Cost efficient green hydrogen	£74,999	30/03/2023	SEIS	£37,499	£127,879	3.41	Latest Share Price
			£25,001	12/04/2023	SEIS	£12,500	£42,629	3.41	
			£100,008	21/05/2024	EIS	£70,506	£100,008	1.43	
RCL		Novel compressor heat pumps	£60,000	12/05/2023	SEIS	£30,000	£120,000	4.00	Latest Share Price
			£40,000	20/12/2023	SEIS	£20,000	£20,000	2.00	
Celsius Innovations		Relief for menopausal hot flushes	£67,504	25/10/2023	SEIS	£33,752	£67,504	2.00	Latest Share Price

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For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.

Company	Business	Amount Invested	Date	SEIS/EIS	Net Cost	Fair Value	Multiple*	Method of Valuation
Matilda	 Performance-enhancing neurofeedback wearable	£60,000	13/03/2024	SEIS	£30,000	£60,000	2.00	Latest Share Price
Metacarpal	 Body-powered prosthetic hand	£87,098	04/04/2024	SEIS	£43,549	£87,098	2.00	Latest Share Price
Metallobio	 New antibiotic molecules	£54,999	04/04/2024	SEIS	£27,499	£54,999	2.00	Latest Share Price
Digistain	 Infrared spectroscopy of cancer	£69,821	05/04/2024	SEIS	£34,910	£124,126	3.56	Latest Share Price

*Note: Multiple = Fair Value/Net Cost, where Net Cost takes into account only the tax relief against income tax and Fair Value includes loss relief where applicable (and assumes a 40% taxpayer)

For those investors who also have capital gains tax to pay, there are further CGT reliefs (SEIS) or CGT deferrals (EIS) available.