



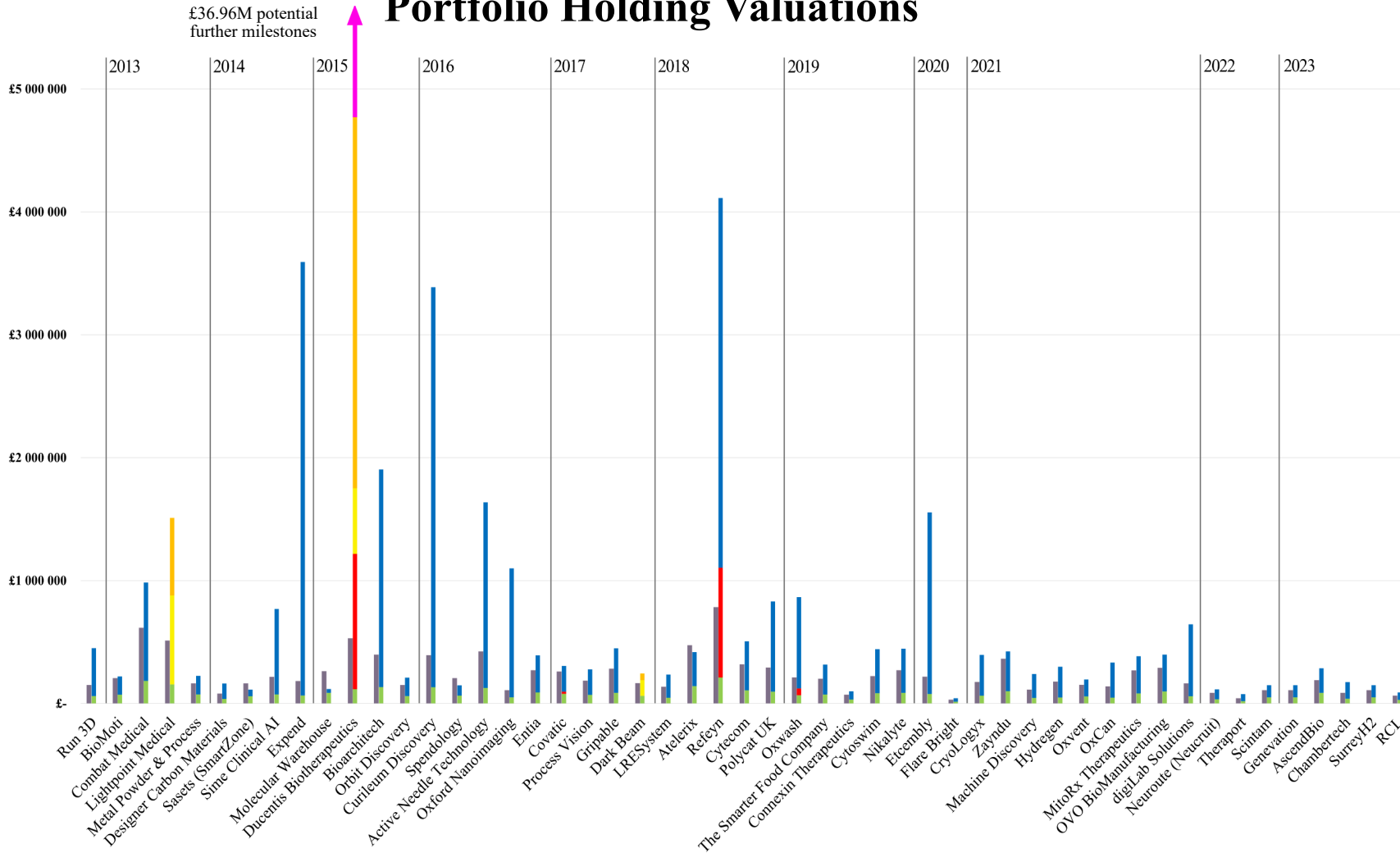
# OT(S)EIS Full Portfolio - Q3 2023

## Investment Objective

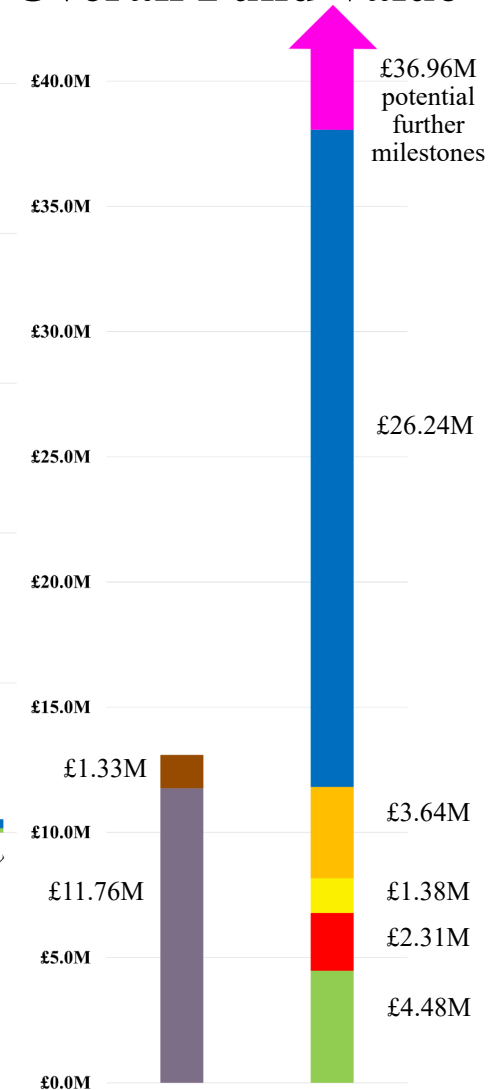
1. OT(S)EIS invests in life, physical, and data science start-ups based in and around Oxford and London, at the pre-seed and seed stage. Our investment horizon is patient and long-term.
2. We are active investors, using our expertise to help portfolio companies develop scalable business models, robust 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	£38.05m*
Portfolio	50 Active Companies
Contact	otseis@oxfordtechnology.com

## Portfolio Holding Valuations



## Overall Fund Value

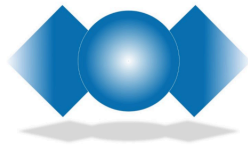


Key:	Invested Capital*	OT and WCS Fees	Cash from Tax Relief	Cash Received from Exits	Cash Due	Fair Value of Milestones	Potential Further Milestones	Equity Value
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\*On the Portfolio Holding Valuations graph, OTM & WCS fees are included in the Invested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

\*Excluding potential further Ducentis milestones

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## Oxford Technology Q3 2023 Portfolio Report

### Summary

This report summarises the progress made by portfolio companies in the latest quarter. By the 30th September 2023, OT(S)EIS had completed 221 investments in 59 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: £11.76m**

**Total OTM and WCS fees: £1.33m**

**Cash from Tax Reliefs: £4.48m**

**Cash from Exits: £2.31m**

**Cash due from Exits: £1.38m**

**Fair Value of Post-Exit Milestone Payments: £3.64m**

**Remaining Equity Value: £26.24m**

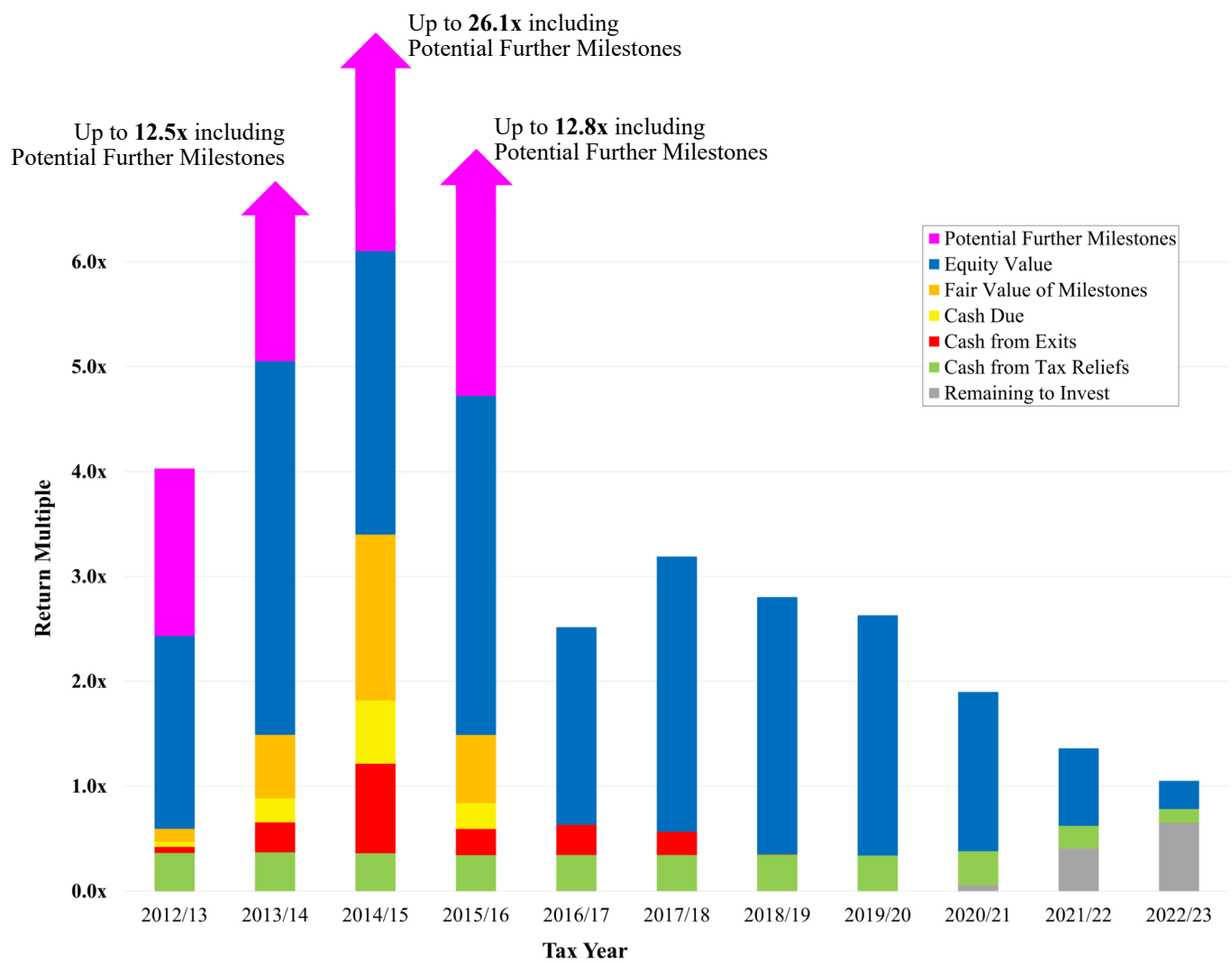
In addition, there is a potential for further £36.96m in milestones from the Ducentis exit.

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 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 have about another £60,500 in cash, held in escrow, and likely to be received in autumn this year. 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 no new investments in Q3.

## News in Brief

During the quarter we asked how many employees our investee companies had when we first invested and how many they have now. The results surprised us.

Employees at the date of the initial investment (aggregated from all companies): 88

Employees as at Q3 2023: 909

So, one can see why the SEIS scheme is good value for UK PLC. The jobs created are mostly good quality, highly paid, (although it is true that a few of them are in the US) so the monthly PAYE and NI receipts by HMRC must be many times the original SEIS tax relief given.

Since 2021 OT(S)EIS has invested in 59 companies. So far, 8 have failed, and details of these may be seen on page 65. As may be seen from the table, the losses are hugely reduced by the tax reliefs.

For example, OT(S)EIS invested £65,000 in Asymmetric Suzuki Reactions. The business achieved some notable success in the laboratory but failed to secure sufficient commercial contracts to succeed financially. The net loss to OT(S)EIS investors was less than £20,000. It was worth the attempt.

We have also put a table of the exits achieved so far. The tables together make encouraging reading for investors. Of course past performance is no guide to future performance, but many companies in the portfolio are doing well and we remain optimistic about the future.

## 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 very 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. The aim is to maximise long-term returns, not tax reliefs.

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.

Information Memorandums and Application forms are available at [www.oxfordtechnology.com/invest](http://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
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%.

## International Team

**China Office** - [chenjie@oxfordtechnology.com](mailto:chenjie@oxfordtechnology.com)

Oxford Technology has an office in Shanghai, China, run by Chenjie Ma, who read engineering at Oxford. She worked for us here in the UK before going to run the office in China. It is naturally a great help to our investee companies to have a Chinese speaker on their side if/when they are seeking to make their first sales in China.

**California Office** - [bijan@oxfordtechnology.com](mailto:bijan@oxfordtechnology.com)

Oxford Technology also has an office in Menlo Park, just outside San Francisco in California, run by Bijan Kiani. Oxford Technology invested in his first start-up business, INCA, in the 1980s, which was ultimately acquired by a company in California. Bijan then helped to grow Synopsys from 300 to 13,000 people: it is now the No 1 player in Electronic Design Automation.

In 2019, Bijan contacted OTM, saying that while he had loved building Synopsys, what he had 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. He offered to help our investees in the UK get going in the US. The CEOs of our investees who have worked with Bijan all say how helpful and useful he has been. Bijan has also become the CEO of Machine Discovery, in which he is also a shareholder.

## Presentations

At 10am on the first Thursday of every month, Oxford Technology hosts a Zoom meeting at which existing investee companies who are raising additional capital can make presentations to investors. After the presentations and before questions, there is a live performance by pianist Anita D'Attellis. The next meetings are on:

Thursday 2 November	Chopin Preludes
Thursday 7 December	Chopin Preludes
Thursday 4 January	Chopin Preludes

In order to invest, you have to certify that you are a sophisticated investor or a HNW and understand the risks associated with investing in start-ups. If you would like to attend and don't already have the link, please email [otseis@oxfordtechnology.com](mailto: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). Etcembly has since raised £5.2m at £6 per share.
2. With OT(S)EIS, you make a single investment and we do all the work. We handpick about 5-6 SEIS investments from the ~1000 approaches we receive each year, 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. Companies at presentations are almost always only EIS, whereas OT(S)EIS gets you SEIS exposure and hence better tax reliefs.
4. 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!

Lucius Cary has himself invested in OT(S)EIS 9 times, so he has shares in every investee company, bar one — an administrative error on our part!

## 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. The concept is very simple. Since we invest in companies at the very earliest stage, 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 get started 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](http://Run3D.co.uk)

<b>Company Valuation</b>	<b>Valuation Share Price</b>	<b>Fund Holding</b>
£1.50m	£0.45	25.9%

### Run 3D Investment History

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

### 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 also at various other points on their legs 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 then outputs a complete gait analysis, giving every detail of the gait, 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 less complicated to use and more appealing to a wider market of less-experienced clinicians.

Date	UK & Ireland	US	Europe	Rest of World	Mobile	Total
Dec 2017	7		1			8
Dec 2018	8		1	2		11
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
Sep 2023	30	1	2	3	1	37

### Recent Developments

The number of clinics has increased to 37, but the rate of growth has slowed. Also, for a variety of reasons, but mostly due to problems associated with upgrading the software, the launch of Walk3D has again been delayed. One bright spot has been the enthusiasm with which the annual conference has been received, with more than 100 delegates (mostly paying) coming to the day-long conference in Oxford, hearing speakers on both the latest developments in gait analysis as well the owners of clinics on how best to market the Run3D service, and ending with a dinner in Trinity College.



[Biomoti.com](http://Biomoti.com)

Company Valuation	Valuation Share Price	Fund Holding
£0.98m	£0.05	15.2%

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

The team continue to review options including a closer collaboration with a larger partner. We reduced the valuation in Q2 and are keeping it lower.



[CombatCancer.com](http://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 now 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.

### Recent Developments

Combat has been working on resolving quality issues on the bladder devices. The precise origins of the two faults have been tricky to identify, but a solution has been found for one of the components. Unfortunately this has delayed some sales. Supplies of BCG, one of the drugs Combat is displacing are high again, taking away one of the drivers of sales growth. All in all, Combat is behind where it hoped to be with sales and slightly down on last year, though better than any previous year. The peritoneal business is doing well especially on the sales of kits, which equates to growing usage.

Paul Molloy has joined the board and immediately provided a good impact with his experience of struggles and success. Edward Bruce-White, Combat's founder and CEO, had worked with Paul previously at LMA which exited very successfully.

### Summary

It has been a period of very hard work following some setbacks for Combat. More hard work ahead but also the prospect of new markets opening up for the peritoneal business.



[LightpointMedical.com](http://LightpointMedical.com)

Exit Value	Exit Share Price	Multiple
Up to \$35m	Up to £0.47	1x - 19x*

\*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 £0.47 and in respect to the net cost of investment, i.e. includes tax reliefs.

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 after surgery. Lightpoint has developed an imaging technology based on existing imaging PET and SPECT radiopharmaceuticals, to provide surgeons with a real time image of the cancer. Lightpoint is very actively engaged with surgeons to ensure that the products are best suited to their needs.

## Sale of Lightpoint

OT(S)EIS was the initial investor in Lightpoint when we invested £75k in 2013 to get the company started.

In June 2023, Lightpoint announced that it had been acquired by Telix, a radiopharmaceutical company which is quoted on the Australian Stock market. The acquisition will be completed once certain conditions precedent have been met, such as security related permission to transfer image analysis AI technology overseas. The deal comes 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 Lightpoint's development plans and, unforeseen circumstances aside, should be achieved.

Those investors who invested in OT(S)EIS at the start do very well with a return of about 19x the net cost of the investment if all the milestones are met. Those who invested directly more recently do much less well.

Lightpoint was in a difficult position since semiconductor chip shortages that started during Covid meant that the chips used in its product suddenly became unavailable. This meant that Lightpoint could make no more sales. 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 Lightpoint sought to sell the company 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 process of concluding the sale is still in progress but it will not be done until it is all done.

## METAL POWDER AND PROCESS

[MetalPowderProcess.co.uk](http://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 would produce powder of higher purity than the powders produced by existing atomisers making 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, MP&P 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 MP&P powder and MP&P lost its largest customer. In Q2 2017, Bertha produced her first titanium powder. During Q1 2021 the new fluidised bed, owned by MP&P'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

MPP has continued to supply hundred kg quantities of an alloy used in liquid fuelled rocket motors. The powder is used to make highly stressed components, both thermally and mechanically, by laser powder-bed additive manufacturing. To develop optimal properties in the component, unusually close tolerances in the alloy powder composition must be achieved. The commercial terms for the £300k per month order are now being discussed.

The next generation of military planes will be manufactured from Titanium powder and having a supplier of this powder in the UK has strategic importance. MPP has produced Ti powder, and has been in discussions with several aerospace companies about being part of a consortium to produce the large volumes of high quality titanium powder that will be required.



## 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. Professor Porfyrakis developed a method of making fullerenes which contain an atom of another element inside. At the time of the investment, the elements chosen were Gadolinium, Yttrium and Nitrogen. It was believed that these novel materials would have potential uses as a better contrast agent for MRI scans, for improving the efficiency of photovoltaics, and for use in certain quantum computing applications. There had been considerable interest from researchers around the world. Production capacity at the time of investment was about 1 gram per month. This is a classic high risk, high potential reward investment.

### 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 will be seeking to commercialize 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 manufactures and supplies 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 with ordering parameter  $O_{zz} = 0.61$ . (Perfect alignment is 1, random is 0 and orthogonal anti-alignment -0.5) With the aligned samples, the company was able to achieve addressability of the available 4-electron spin levels in endohedral nitrogen by coherent manipulations. Furthermore, these functionalized 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 9 citations. A substantial research proposal will be submitted to UKRI funding agencies as a collaboration between the Universities of Oxford and Greenwich, and DCM by Q4 2023. 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. The centre will aim to increase the Research & Knowledge Exchange impact for the University and to bring several stakeholders together, including spin out companies such as DCM.

### Recent Developments

DCM has recently agreed 2 more sales with research groups at the University of Oxford worth £6k for providing materials for different projects involving quantum information and electron spin dynamics. There is a good prospect of further sales to these groups in the next quarter.





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
Sep 2023	520

### Recent Developments

The upward trend continues, with the number of users having now increased to 520, a record high. There are currently 18 corporate customers, the smallest of which has 2 users and the largest 150. The platform works very well and the users are very complimentary about Sasets saying how useful they find it, and indeed how they could not now operate without it.

A next generation Sasets, incorporating a substantial element of AI, is being planned and the business plan for this continues to be developed. It is likely that some additional capital will be needed to finance this development, so Sasets may do a fundraising at some point in the next few months.



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

<b>Company Valuation</b>	<b>Valuation Share Price</b>	<b>Fund Holding</b>
£14.17m	£8.36	4.9%

## **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 22, Sime achieved its CE mark that enabled its device to be sold for clinical use.

## **Recent Developments**

Between April and August 2023, SIME secured additional funding and finished its clinical revalidation of the point-of-care device (AIMI). 76 babies were recruited and the device exhibited high precision consistent with previous clinical studies. This data was formally presented at the JENS Neonatal Conference in Rome on September 20th and received significant interest from attending clinicians. There was also a presentation of the design of an interventional study which will, if successful, show the health benefits of using the AIMI device. In October, SIME will submit the data from the revalidation study to the US FDA through a 'Breakthrough Designation' application.

SIME is also planning to launch the fundraising campaign on Floww.io, an investment platform designed to prepare companies and their governance structures to become IPO ready and facilitate greater liquidity of shares through secondary sales.





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

Company Valuation	Valuation Share Price	Fund Holding
£30.75m	£0.22	11.5%

### 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 designed to simplify expense management for SMEs and larger organisations. Expend’s vision is to offer a “zero-touch” experience via a fully autonomous expense and spend management platform for businesses. Through an innovative mobile app and web platform, Expend provides optional contactless payment cards, receipt & invoice management, mileage tracking, spending approvals and expense reimbursements, and integrations with common accounting platforms, all in one platform. Expend supports all transaction types, regardless of the source, and is developing partnerships with financial institutions, including banks, to provide turnkey solutions for their business customers.

### Progress since Investment

Growth has been steady over the last few years and accelerated in the last year. An increasing number of companies across various sectors now trust Expend as their expense and spend management platform. The platform works well for SMEs and also for larger companies. Notable customers include Amazon, Cote Restaurants and AgeUK. Overall, feedback has been excellent, as can be seen from customer reviews.

Expend has developed its commercial offering and now benefits from a hybrid, multi-revenue model. Like a typical SaaS business, Expend enjoys monthly recurring revenue from subscriptions and generates income when people use its payment products and cards (for example, through payment interchange when a card is used and fees for items like foreign exchange transactions). Expend also receives revenue from its partnerships with financial institutions.

Expend’s revenues have risen steadily almost every month since the company started and surpassed £1m ARR in April 2023. Expend should continue to grow well and see notable growth acceleration in the coming months and through 2023 as phased updates are rolled out to customers, with many new features schedule for released.

The company’s new real-time Visa transaction support “Card Connect” feature, allowing users to “Bring their own card”, is now live with customers and has attracted good PR. Expend believes it is the first company to bring this innovation to market. This allows companies to pull their transaction data from Visa automatically into Expend, which is then used to automate the expenses and spending management process. Expend believes this will drive growth as it opens up the platform to many new users, including financial institutions and, ultimately, its “non-Expend card” customers.

The company completed a widely-publicised partnership with Virgin Money Bank in 2022 and is in talks with another sizeable UK financial institution to provide Expend’s services to its customers.

### Recent Developments

Expend has raised £230,000 at 22p per share from investors, including some new investors during the last three months. There are a number of potentially large deals in negotiation, and the company is looking forward to developments in the next quarter, but cannot say anything about these at the moment.



[MolecularWarehouse.com](http://MolecularWarehouse.com)

Company Valuation	Valuation Share Price	Fund Holding
£0.62m	£0.10	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

### 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 is developing new technology for MW in the lab in Brisbane.

### Recent Developments

Kirill Alexandrov's group has published a paper that discloses the new design that increases sensitivity and specificity of the sensors. The enzymes now have two switches that have to be triggered to engage the enzyme. This reduces the unintended activity of the enzyme - the background noise - thereby increasing the dynamic range that can be measured up to 9000 fold.

There is interest in the use of the enzymes for the measurement of methotrexate on simple lab equipment instead of having to use mass spectrometer. Kirill is undertaking those discussions in Australia.



**ANIMAL  
DYNAMICS**

[Animal-Dynamics.com](http://Animal-Dynamics.com)

Company Valuation	OT(S)EIS Share Value	Fund Holding
No longer tracked	£0.05*	0%

### Animal Dynamics Investment History

Date	Amount	Share Price	Type
Jun 2015	£75,000	£0.14	SEIS
Nov 2017	£35,220	£0.36	EIS
Jul 2018	£3,001	£0.97	EIS
Mar 2020	£14,391	£0.97	EIS

\*Loss relief, for an investor with the 40% tax rate, is on average 5p/share, but depending on the investment participated in, it is between 3p and 27p per share. The standard (S)EIS tax reliefs were 7-29p/share on top of that.

### Description of Business

Animal Dynamics was a spin-out company from Oxford University. It was founded by Dr Adrian Thomas, Professor of Biomechanics in the Animal Flight research group in Zoology, and Alex Caccia, an entrepreneur with start-up experience in media, technology and manufacturing and a background in finance. Adrian is an expert on how animals - birds, fish and insects - move through water and air and on land. Unsurprisingly, over millions of years, they have evolved very efficient means of doing this. Animal Dynamics aims to adapt the techniques and structures used by animals to create more efficient and effective means of flying and moving through water and over land.

### Progress since Investment

Animal Dynamics has three vehicle development programmes:

1. Stork: A system for delivering packages autonomously. In Q4 2017, Animal Dynamics won a contract against 100 bidders to develop this system, and subsequently delivered the first production units. This became the company's lead product with full-scale production of the STM (135 kg payload, 400 km range, autonomous) planned.

2. Skeeter: A micro drone like a dragonfly. The Company successfully delivered the Skeeter project to Dstl in April, and achieved the target flight time and wind tolerance.

3. Raydrive (formerly known as Malolo): Two underwater R&D projects were successfully completed in 2019, exploring the potential of underwater autonomous systems using flapping propulsion. The first was a navigation system using the Earth's magnetic field to aid navigation, and achieved useful resolution on both latitude and longitude; the second was RayDrive, which is an underwater vehicle based on the configuration of manta rays. The prototype vehicle delivered high efficiency, low noise signature and moves well. But this programme too, is on hold.

In March 2019, Animal Dynamics raised £6m at 97p per share. The round was very oversubscribed and 50% of the SEIS shareholders took the opportunity to exit at this price (14x the initial after tax share price.) The others opted to stay for the ride.

OSE, who already owned 99% of the company, invested another £7m in Q1 23, to keep the company afloat and to buy time to raise another £7m from outside investors to take the company forward. Talks were held with many investors but no satisfactory offers were received. In hindsight, many mistakes were made along the way. The products developed by the company are wonderful and attracted great interest from defence forces both in the UK, US and elsewhere. The company was put into 'hibernation' in Q2 in the hope that a way forward could be found. We reduced the valuation to the amount that the average SEIS/EIS shareholder will be likely to recover through tax relief.

### Recent News

During Q3, companies associated with BAE took over the company for £1 and are paying the factory overheads and continuing to employ some staff. A negotiation is going on about the IP, and what might be paid for this. There are loans outstanding of c. £10m so there is unlikely to be any value to ordinary shareholders. We consider that the shares have nil value and a letter has been written to shareholders which will enable them to claim loss relief.

# Ducentis

BioTherapeutics

[DucentisBio.com](http://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 an £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
<b>Total</b>	<b>£5,000</b>	<b>£2,000</b>	<b>£856,669</b>

\*In Arcutis shares + escrow cash

\*\*In steps over the next 10 years, and NOT guaranteed.

**Small update:** The Arcutis share price has fallen from \$20 at the time the deal was concluded to under \$5 at the end of Q3. What will matter is the share price at which we will be able to sell once the shares come out of escrow. Generally the news for Arcutis seems good with their first product starting to sell. All the analysts predict a return to share prices above \$24. We will just have to wait and see. As at 30 June 23, Arcutis had \$270m of cash/cash equivalents. The R&D on CD200 is ongoing.



[Bioarchitech.com](http://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 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 Bioarchitech is developing will be able to be administered to many more types of cancer than is currently possible. Bioarchitech is developing drugs for two stages of cancer. The first type of drug, based on a virus, will be used to treat patients who are at a late stage where the cancer has already spread. The second type of drug is for patients at a very early stage where only a primary tumour has been identified and is designed to shrink that tumour and prevent relapse, this is an RNA-based drug.

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. 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 Bioarchitech, he was a senior scientist at Oxford Cancer Biomarkers.

### Progress since Investment

Bioarchitech has developed a number of candidate drugs in its lab that work well in a dish. With the investment, Bioarchitech is currently working on in vivo models to generate proof of concept data. These in vivo models, based on mouse models of cancer, will generate the data to determine Bioarchitech' s best-performing therapy to take into first in human studies. There is sufficient cash in the bank to cover the planned in vivo studies, further fundraising from venture capital or pharmaceutical companies will be required to do the first in human studies.

### Recent Developments

Bioarchitech is continuing to produce in vivo data for its proof-of-concept studies. The dosing regimens are being established and most of the current experiments are focusing on the therapeutic efficacy. As the therapeutics developed by Bioarchitech are designed for humans it has taken considerable effort to adapt these to mouse models of cancer. Animal models are a requirement of larger venture funds, pharmaceutical companies and medicine regulatory agencies to demonstrate efficacy and safety. Both the virus-based therapies and RNA-based therapies developed at Bioarchitech are currently generating in vivo data which will continue over the next 6-12 months.





# ORBIT DISCOVERY

[OrbitDiscovery.com](http://OrbitDiscovery.com)

## Orbit Investment History

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
£17.96m	£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

Orbit has raised the money it was seeking and has made a good recovery from the setback we reported last quarter. The platform continues to deliver good results, and recently delivered a set of peptides to Sanegene as this project scales down. Furthermore, the Sanegene project allowed for the implementation of new capabilities in high content imaging. On the 11th of September a deal was announced with Oranomed. The collaboration will harness the capabilities of Orbit's peptide display engine to identify peptide candidates specific to tumour-associated targets. Oranomed will then conjugate alpha particle emitting Pb212 to the peptides. The result will be a highly targeted and very local cancer treatment.

### Summary

Orbit continues to develop and commercialise its technology to identify high affinity and functional peptides.



[Curileum.com](http://Curileum.com)

Company Valuation	Valuation Share Price	Fund Holding
£17.04m	£4.00	19.1%

### 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. The company has six employees: two managing operations and business development and four stem cell scientists – two of whom are completing company-sponsored PhD programmes at UCL.

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 2022:

1. **ULI-015** (ULI means powerful in Chinese) is the active small molecule compound that Curileum isolated from a plant extract component (PLE015) of a traditional Chinese medicine. The company is developing ULI-015 to intervene early in the development of bowel cancer.

#### 2. Stem cell therapy candidate for healing fistulas.

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.

Curileum received wonderful data during Q123 from a trial on pigs with the FAP gene (meaning that they develop bowel cancer). One pig was fed with a daily dose of PLE015 for three months, while the control pig was fed a normal diet. In the treated pig, 255 polyps became necrotic (meaning that they had become dead skin and there was only one 'progressive' polyp remaining. So this might become a pill to be taken daily by millions, to prevent or slow the development of bowel cancer.

Curileum raised more than £500k, mainly from its existing shareholders in Q1, but would now like to find a pharma partner or a large funder to take this forward. The possibility is that ULI could be the active ingredient in a pill (ULI has already been shown to be safe and works when taken orally) to be taken by millions of people worldwide to prevent and or slow the development of bowel cancer.

### Recent Developments

Curileum has engaged a fundraising group to attract investment to enable the company to complete its pre-clinical development as well as complete a Phase I trial.



[Spendology.com](https://spendology.com)

Company Valuation	Valuation Share Price	Fund Holding
£1.37m	£0.15	6.1%

Date	Amount	Share Price	Type
Apr 2016	£37,500	£1.00	SEIS
Oct 2016	£62,500	£1.00	EIS
Sep 2017	£25,000	£1.00	EIS
Mar 2023	£65,329	£0.15	EIS

## Description of Business

Spendology was founded by three entrepreneurs from software, foreign exchange and personal finance backgrounds. The business provides a white label solution for the travel industry which allows tour operators, airlines and travel agents to offer a mail order or click & collect travel cash add-on service to their holiday customers. Spendology Cloud allows the travel industry to increase turnover, boost profits and enhance customer retention. In 2021, Spendology launched a franchise solution, offering any business anywhere in the world the opportunity to use the Spendology Cloud platform to provide an ecommerce front-end to their foreign currency distribution business. In February 2022, the \$23bn international travel conglomerate, Internova Travel Group, signed a multi-million dollar franchise deal with Spendology for the US market.

## Post-pandemic Performance

Travel chaos caused by staff shortages marred what was beginning to look like a dramatic recovery for the travel industry in Summer 2022 – and virtually no country was unaffected. So 2022 fell short of the 2019 peak. IATA reports that 2023 flight volumes exceeded 2019 levels for the first time, and the travel industry looks to be returning to profitability. That should allow travel companies to bring IT staffing levels back up to par, and renew their focus on travel ancillaries such as travel cash.

## Recent Developments

The Spendology Cloud platform has moved on a lot in the last 12 months, and is now capable of supporting travel money orders online and in-person, for delivery to home or collection from store. This means that foreign currency distribution businesses can offer Spendology Cloud as a complete digital solution for all of their clients' travel cash needs. In fact, this maturing of the feature-set has led to an unprecedented opportunity to partner with one of the world's largest wholesale note distributors. The intention is to run a pilot in Q1 2024 before locking in a long term deal to provide their ecommerce platform worldwide. In the US, the rollout of Spendology Cloud through the £23bn Internova Travel Group has been further delayed by technical issues on their side. These have now been resolved and the first white label has finally been launched for Altour Foreign Currency (<https://foreigncurrency.altour.com>). Spendology expects revenues to be flowing at last from November 2023. The UK has stalled this year due to an unexpected change to currency distribution arrangements that has temporarily eaten into margins and therefore made some of the UK white labels less competitive. A new 5 year deal has now been agreed with Travelex which will deliver Spendology's best-ever margins and help accelerate not only sales from existing white labels, but also to close some exciting business development opportunities before Xmas - including one of the UK's largest online travel agents, and one of the UK's largest travel ancillary providers (both of whom have proposals for a Spendology pilot going to their respective Boards in October).

Stagnation of UK income and the lack of US revenues has meant the Board has needed to raise further investment to extend the runway into next summer, when even pessimistic forecasts see the company breaking even on a monthly basis. Recognising that the company is still at the bottom of its growth curve, the Board have retained the very attractive £0.15 share price from the last round, valuing the business at £1.2m. The Board estimates an on-target EBITDA of £7.8m in 5 years, valuing the business at £111m. If the worldwide distribution deal goes ahead, the Board expects to achieve its optimistic forecast of £20.1m EBITDA and a valuation of £275m. Spendology has launched a crowdfund on [Seedrs.com](https://seedrs.com) to run alongside a direct investment campaign with the OT and Damus Capital investment communities. The round reached its initial £300k target in mid October but remained open.





[ActiveNeedle.com](http://ActiveNeedle.com)

Company Valuation	Valuation Share Price	Fund Holding
£12.58m	£0.93	12.0%

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

The Tranquill deal is very close to being signed. This has been the main focus of the company, besides fundraising.



[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 Q123 Paul Scagnetti joined as CEO. He was previously Vice President of Corporate and Business Development at Illumina and worked at FEI and Intel.

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

### Recent Developments

ONI is now headquartered in California, and we hear very little for the company. But we see from Companies House that Bo Jing, the founder and initial CEO ceased to be an employee in March 23 and ceased to be a director in May 2023. The last accounts at Companies House, for the year to Dec 21, show a loss of £10.9m on sales of £5.6m. There was £55m of cash in the bank.



# entia

[Entia.co](http://Entia.co)

Company Valuation	Valuation Share Price	Fund Holding
£24.17m	£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.lumhealth.uk](http://www.lumhealth.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 raised £15.4m in July. Liberty (picture on the right) was developed with input and readings from 1,000 patients and 25 patients are currently trialling the system at five large cancer centres in the UK, including Imperial College NHS Foundation Trust and The Christie hospitals. The UK CA marking is now just an invoice and a rubber stamp away with all the audits successfully completed. The uncertainties caused by Brexit and the medical regulations have been painful and expensive for Entia who have carried additional certifications only to be told that they won’t now be necessary until 2030 at the earliest. In any case they are now starting the training programmes with Pfizer and the launch of Liberty is imminent.



## Summary

The recent fundraising allows Entia to keep moving forwards. Liberty is soon to be available for patients, starting in the UK.



[Covatic.com](http://Covatic.com)

Company Valuation	Valuation Share Price	Fund Holding
£9.69m	£9.19	2.2%

### Covatic Investment History

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 £9.19. 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.

### Recent Developments

We receive no financial data from Covatic. But the cost base has increased with many new staff since the fundraising was completed. But Nick Pinks, CEO reports that the pipeline of customers is building and that he hopes to reach £700k of revenue per quarter by the Spring of 2024.



[EW-Technologies.com](http://EW-Technologies.com)

### Electrowinning Investment History

Date	Amount	Share Price	Type
Feb 2017	£25,000	£0.10	SEIS
Sep 2017	£35,000	£0.50	SEIS

Company Valuation	OT(S)EIS Share Value	Fund Holding
£0	£0.02 / £0.10*	39.0%

\*Loss relief, for an investor with 40% tax rate, is 2p/share for the investments in Feb 2017 and 10p/share for the ones in Sep 2017. Both these investments received earlier 5p and 25p per share of income tax reliefs, respectively.

### Description of Business

Duncan Grant is an electrical engineer and spent his life in academia, at Bristol University developing novel methods of controlling minute currents and voltages to minimise power consumption and also controlling very high currents. At one time he developed a radio which used 1/10 of the power of the next lowest powered radio, and which had been intended for use in low income economies. The purpose of the investment in Electrowinning Technologies was to improve the quality and quantity of copper produced in electrowinning and electro refining plants by controlling the huge currents used in these plants with greater precision than had ever been done before.

### Progress since Investment

The business started well when a contract was obtained to install the system in a single cell in a large European electrorefining plant. The hope was that this would have demonstrated the economics of the business, both the improved quality output and the reduction in power used. However, just before the system was due to be installed, and for reasons which remain unclear but which were believed to be political/internal management issues at the client customer, the contract was cancelled at the last moment.

So since then Electrowinning Technologies has been in mothballs.

The company continues to inform the mining industry of its existence and its hopes for the technology.

### Recent Developments

There has again been little progress and the likelihood is that the company will go into liquidation in Q4.



[LupeTechnology.com](http://LupeTechnology.com)

Company Valuation	OT(S)EIS Share Value	Fund Holding
£0	£0.60*	11.1%

\*Loss relief, for an investor with 40% tax rate, is on average £0.60/share, but depending on the investment participated in, it is between £0.136 and £1.26 per share. The standard (S)EIS tax reliefs were £0.20-£1.35 per share.

### Lupe Investment History

Date	Amount	Share Price	Type
Feb 2017	£51,000	£0.68	SEIS
Feb 2017	£30,000	£0.68	EIS
Mar 2018	£51,000	£1.50	EIS
Mar 2018	£37,001	£1.50	EIS
Mar 2018	£9,999	£1.50	EIS
Mar 2020	£138,719	£2.78	EIS
Mar 2021	£50,243	£3.50	EIS
Apr 2022	£27,864	£4.50	EIS

### Description of Business

Lupe was formed to design and launch a better vacuum cleaner. One that would work well and last a long time, with all parts designed to be maintained and replaceable, unlike today’s throw-away vacuums. The two founders were previously on the engineering design team at Dyson.

### Progress since Investment

Lupe made excellent progress. The production prototype was completed in Sept 2018 and rapturously received at a huge trade fair in Germany. In 2018 Lupe did a kickstarter campaign hoping to raise £75k by asking people to pay 9 months in advance of delivery, to help fund production, but raised £650k. In summer 2020 the first production units arrived. Lupe received rave reviews with over 250 media articles, and was judged to be by far the best cordless vacuum cleaner in the world by Vacuum Wars, which, in its own words, is strictly for nerds. They test everything (eg putting 100g of sand on a deep pile carpet and weighing the amount collected by each brand). You can see this video at [shorturl.at/aoKU1](http://shorturl.at/aoKU1).

Partly as a result of these excellent reviews and the associated comments on social media, Lupe achieved steadily rising sales direct from its website with almost 90% of the sales being in the US, a market which Lupe hadn’t expected to target initially. This was excellent, given that it’s one of the largest markets for vacuum cleaners in the world.

In Q4 21, Lupe became a victim of its own success when it completely sold out of stock. However, it transpired that people were prepared to order and pay in advance for delivery up to five months later. During 2022 Lupe achieved year on year revenue growth of 40%, despite declining consumer demand across the globe. It came very close to break even.

However, Lupe did not quite reach breakeven and approached many investors seeking a larger investment of c. £2m to fund growth. But it was unable to attract investment.

During 2023, rather than growing, sales fell slightly as worsening economic conditions (higher mortgage payments and energy bills) caused consumers delay the purchase of a vacuum cleaner.

### Recent Developments.

The company will enter voluntary liquidation on 19 October. Shareholders will be able to claim loss relief on their next tax returns.

Pablo will endeavour to re-float the US corporation Lupe has, and that will be able to continue to operate after the liquidation of the Lupe UK. This US corporation is itself insolvent and has a net liability despite its stock of vacuums, but Pablo believes that it has a small chance of recovery if it focuses on the USA.



[ProcessVision.com](http://ProcessVision.com)

Company Valuation	Valuation Share Price	Fund Holding
£8.78m	£3.00	2.3%

### 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

### 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 many other industries, the gas industry is conservative - but over the last couple of years, things have started to accelerate. There are currently 5 Line Vu systems in use.

### Recent Developments

Interest in the US is now rising rapidly where the appointment of a general manager has had a very positive effect. Where it had taken several years for UK users to place an order, one US customer recently placed an order (for a survey, i.e. the use of the system for one month at \$10,000 plus a mobilisation fee) in a fortnight.

Another US customer has a 'liquid-in-the-pipes' problem, which it estimates is costing it \$800k per month. It has just placed an order for a survey so that it can identify where the problem is coming from.

Named customers in the US with which PV is now in discussion are indicating a need for more than 100 systems over the next 1-2 years.

PV had previously approved a fundraising, seeking to raise up to £3m at £5 per share. It has so far raised £1.2m. The Board has now decided to reduce the price to £3 per share and is seeking to attract up to a further £1.2m which should take the company to cash flow breakeven by Spring 2024, and give a good safety margin.



# GRIPABLE

[Gripable.co](http://Gripable.co)

Company Valuation	Valuation Share Price	Fund Holding
£17.54m	£5.47	2.1%

## 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 been at exhibitions in the US and in the UK. At the Minnesota State Fair this month, along with Dr. Corey McGee and his team from the University of Minnesota, Gripable was able to gather almost 1,000 measurements of grip strength from volunteers at the fair to add to the normative data set. The company also exhibited at the American Society for Hand Therapists.





[Darkbeam.com](http://Darkbeam.com)

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

Up to \$11m      £0.90\*      Up to 3.5x\*\*

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. £1.10

\*\*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. These services provide vital information to customers which is designed to alert them to vulnerabilities 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.

### Recent Developments

DarkBeam has been 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. Shareholders will receive an initial payment of 62p per share with possible future milestone payments which are larger. Through the acquisition DarkBeam’s technology is available to customers of Apex under the name CyberPro (<https://www.apexanalytix.com/portal/cyberpro/>).



Date	Amount	Share Price	Type
Jan 2018	£50,000	£0.95	SEIS
Jan 2019	£75,050	£2.14	EIS

Company Valuation	Valuation Share Price	Fund Holding
£2.69m	£2.14	7.0%

### Description of Business

Whilst knee and hip replacements are quite common, elbow replacements are much less so. One of the reasons is that the only surgical solution on offer had been the total elbow replacement which left the patient unable to rotate the wrist and only able to lift very modest weights. The treatment was therefore only offered to retired people. The alternative treatments were drugs and removal of part of the elbow. Mr. Joe Pooley, who is a top orthopaedic surgeon, realised that almost all elbow problems start with the outer elbow joint and developed a replacement joint that only replaces the ends of the bones.

The technology was developed in 2005 and licensed to a large medtech company. The medtech company later underwent a merger and returned the ownership of the IP to Joe Pooley. With his brother, David Laskow Pooley, he has created LRESystem to develop and commercialise the Lateral Resurfacing Elbow.

LRESystem has been developing a kit (Elbow in a Box) so that everything the surgeon needs will be in one sterile pack. With an improved surgical technique, it will be possible to carry out the surgery very quickly so the decision to have surgery rather than taking strong immunosuppressive drugs and painkillers will be quite easy. The market for replacement elbows may become much larger than it is currently.

### Progress since Investment

Everything went well with production and sterilisation certification. The biggest delay was in going through the hugely bureaucratic (and expensive) process of obtaining a CE mark. LRE's Elbow-in-a-box finally obtained its CE mark on 11th March 2020.

Year	LRE Elbows Sold	Cumulative Total
2019	9	9
2020	19	28
2021	0 (Covid)	28
2022	16	42
Q1 2023	2	44

Covid meant that all elective surgery ceased all over the world and there were no LREs installed in 2021.

### Recent Developments

LRE was featured at several conferences recently including the European and the British Elbow and Shoulder society exhibitions. There is much interest in the product but there is slow progress on the negotiations between LRE and the company it is hoping to team up with. There is a real difficulty for small medtech companies to maintain their CE marks. The company has to show ongoing use of their quality management system and if there are not enough sales, it is difficult to achieve that.



<b>Company Valuation</b>	<b>Valuation Share Price</b>	<b>Fund Holding</b>
£2.78m	£0.90	10.0%

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

## Description of Business

Cell cultures are widely used in medicine. Whether it is to test stem or T-cells for new procedures or to develop new drugs, the cells need to arrive at the place of use in the best possible condition. In most cases, when cells (or assemblies of cells) need transporting, they are cryogenically frozen, shipped, then thawed and brought back to functioning status. The process has many steps, is expensive and time sensitive – you don’t want the cells to thaw in transit. Some cell types can withstand this treatment without problems, but many cell types struggle, with delayed cell death rendering experiments invalid or difficult to interpret. There are some cell assemblies that cannot withstand freezing at all and are therefore impossible to ship.

Prof. Che Connon’s group in Newcastle discovered that when their special gel was put on cells, the cells were just suspending their function and when the gel was removed, they resumed as if nothing had happened. The gel also protects the cells during transportation. Atelerix may play an important role in enabling the development of drugs for complex conditions, enable easier administration of stem cell therapies, and better handling of pathology samples. Its three products are BeadReady, WellReady and TissueReady. Mick McLean, founder CEO and now Non Executive Director and adviser, has led new ventures and start-up companies in drug discovery and development, pharmaceutical manufacturing, research tools and contract research.

## Recent Developments

Earlier this year Atelerix announced a partnership with RAFT Solutions for the transportation of sperm and fertilised embryos in the cattle breeding industry. It took a bit of collaborative work to get it right, but now both parts are doing well. Atelerix’s hydrogel encapsulation technology offers a cryo-free solution to germplasm transport, which can support efficient milk/meat production and therefore make a significant contribution towards the industries in achieving net zero emissions.

The new and growing cellular agriculture sector is starting to use Atelerix’s products to preserve the starting material (cells & tissues) for artificial meat, with orders coming from the UK and Singapore. Atelerix has also received first orders from two pharmaceutical companies and is expanding its global presence through the appointment of new distributors to sell and market the products across Spain, Portugal, and the Czech Republic. Customers are starting to repeat their orders, particularly in the biotech and academic institutions in the US, with WellReady and TissueReady being the most commonly purchased products.

Atelerix released a white paper showing TissueReady is very good for storing cancer biopsy samples and in particular increases the ability to culture cells from samples that are retained over multiple days. The ‘biopsy’ market will be a new market for the company.

Fundraising is progressing though not quite completed yet. Offer letters have been received from two regional VCs and due diligence is in progress.

## Summary

Sales are increasing, new markets are being entered, and fundraising is moving forward.



[Refeyn.com](http://Refeyn.com)

Company Valuation	Valuation Share Price	Fund Holding
£205.05m	£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](http://www.refeyn.com)) showing how the device works.

The technology has brought together experts from a range of fields; optics, image processing, software, chemistry and biology. Prof Philipp Kukura invented the interferometric scattering methodology, Prof Justin Benesch is an expert in mass measurement techniques and applications, and Daniel Cole and Gavin Young are graduate students who developed the prototype hardware, software, and experimental methodologies. The team is growing quickly and very good people have been attracted to the opportunity.

Refeyn 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. New CEO Anthony Fernandez joined from Teledyne e2V and Philipp Kukura has 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 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 keeps growing, and had 169 employees in September (that number may already have gone up). In January a new CEO Gerry Mackay will join them from German pharma and equipment company Sartorius. The science keeps rolling in and this year 194 papers have been published using Refeyn equipment with roughly even split between OneMP and TwoMP. We have selected some user comments to explain why it is so popular. *"To assess the empty-full AAV capsid ratio, you could do ultracentrifugation, but this is a week of work. If you do cryo-EM, the turnaround time is a month. With mass photometry, you get results on individual samples within minutes, and you need way less material."* *"I think that it is very cool that you can teach someone how to use the mass photometer in one day."*

Refeyn is a proper company now, that is doing very well.



[Cytecom.co.uk](http://Cytecom.co.uk)

<b>Company Valuation</b>	<b>Valuation Share Price</b>	<b>Fund Holding</b>
£1.35m	£2.23	29.5%

### 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 21. 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.

### Recent Developments

Cytecom has successfully gone through the committee stage of a £1.5m award. There are still various verification stages but the consortium of clinicians and academics will work on developing the CyteCount technology to test the antibiotic susceptibility of bacteria from blood cultures and also urine samples. The aim is to knock 24-48 hours off the time required to select the best antibiotic for the case. Cytecom is making progress on a new way of processing the data it captures which will broaden the range of concentrations of bacteria it can deal with.

### Summary

Magda Karlikowska has led Cytecom through a successful award application which should substantially change their situation. We said last time that it was crunch time, it seems the cookie is crumbling in the right direction. We will hope to be able to give more details in the next report.



[PolyCAT.co.uk](http://PolyCAT.co.uk)

Company Valuation	Valuation Share Price	Fund Holding
£4.24m	£0.25	17.3%

### 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. This 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. The following are in commercial development:

**Spill-CAT** - PolyCAT has developed a range of catalysts that can degrade chemical warfare agents discovered in old munitions dumps or during counter terrorism operations. These have now been demonstrated against all the main classes of agents and are now in end-user testing with prospective military customers.

**Steri-CAT Antiviral coating** - During the pandemic, PolyCAT developed a method of producing materials impregnated with colloidal silver and copper, both famous for their antimicrobial properties. Extensive testing has confirmed that the coating deactivates viruses within minutes and can be produced to scale at a low cost, allowing PolyCAT to make continuously self-disinfecting disposable PPE items that previously were not cost effective. Unfortunately, due to the large volumes of PPE still lying unused in the market, the target customer postponed the project in Spring 2023. PolyCAT has therefore decided to freeze any further development of the platform until further notice.

**React-CAT** - Earlier in the year the EU passed legislation cutting the allowed release limits of formaldehyde from industrial processes. Formaldehyde can be destroyed at room temperature by Platinum catalysts, but these are too expensive for large scale use. PolyCAT has developed a low-cost alternative that can be used in existing industrial filters without needing to make any changes in the size or format of the filtration plant.

### Recent Developments

The company has been focusing heavily on bringing Spill-CAT to market and has started pre-sales activity with key military customers to develop delivery systems, training, and pricing. Bulk agent verification in the US involving litre quantities of mustard gas, sarin, and VX, formally started in October, but the company expects actual work to start in January once notification filings have been made with OPCW (Organisation for the Prohibition of Chemical Weapons). This should lead to orders from across the US and other allied military and civil defence. PolyCAT is also exploring a marinised delivery system for Spill-CAT to deal with finds at sea as this is an increasing problem encountered by wind farm constructors, pipeline builders, and port operators in the North and Baltic Seas. A huge new find of old munitions in central Europe has also come to light and the company is pushing to present its solution to the national authority charged with clean-up of the site.

React-CAT continues to perform well in testing, and PolyCAT in discussions with one potential customer regarding trials. The sales partners are also exploring other leads now that the company has confidence in the performance and repeatability of the product.





[AsymmetricSuzuki.co.uk](http://AsymmetricSuzuki.co.uk)

## ASR Investment History

Date	Amount	Share Price	Type
Mar 2019	£65,040	£5.42	SEIS

Company Valuation	OT(S)EIS Share Value	Fund Holding
£0	£1.08*	37.5%

\*Loss relief, for an investor with 40% tax rate, is £1.08/share. The standard (S)EIS tax reliefs were £2.71/share.

### Description of Business

The ability to synthesise complex chiral molecules is of increasing importance across the chemical industries. Challenges with asymmetric catalytic processes have limited the ability of drug development and agrochemical screening programmes to access new chemicals. Stephen Fletcher, Professor of Chemistry at University of Oxford, has developed efficient and low-cost solutions to some of the most difficult problems in asymmetric catalysis. Together with Dr Sarah Morrow, Stephen has formed Asymmetric Suzuki Reactions (ASR) to provide better access to existing complex targets and new chemical space. ASR will provide:

- A digital compound library for screening
- Custom compound libraries
- Process design for chemical manufacturing
- Custom synthesis of complex chiral molecules
- New active molecules and discovery of new targets

In order to develop the opportunity, Oxford Technology invested £65,000 in March 2019. The initial market scoping and business development phase sought to de-risk the project for a more substantial seed investment. ASR has the capacity to provide small amounts (<1g) of compounds of interest to potential partners. These can be synthesised in an ad hoc fashion to avoid the need for long term rental of laboratory space.

### Progress since Investment

Asymmetric Suzuki Reactions developed its website and marketing materials for circulation to > 30 potential customers and collaborators, with contacts generated by attending conferences and by word-of-mouth. Initial interest led to conversations with approximately half of this group, and ASR was invited to present at the Agrochemical company Syngenta. However, although one pharma company expressed interest in using ASR's technology, no contract with suitable payment was forthcoming and ASR was therefore put into hibernation at the end of Q1 2020.

### Recent Developments

The company's efforts reported in Q1 have not resulted in any meaningful contracts, and a decision has been taken to dissolve ASR.

The table on the right-hand side shows an illustrative investment of £1,000 made via OT(S)EIS. The calculations assume an investor with 40% income tax rate. Investors who also had capital gains tax will have had an even lower loss.

#### Investment of £1,000 in ASR via OT(S)EIS

Cost of investment	£1,000
Cash back via reduced income tax	£500
Net cost of investment	£500
Shares bought (at £5.42)	185
Value of shares now	£0
Loss relief (40% of 500)	£200
Loss relief per owned share	£1.08
Total loss on investment	£300



[OxWash.com](http://OxWash.com)

<b>Company Valuation</b>	<b>Valuation Share Price</b>	<b>Fund Holding</b>
£26.79m	£6.69	2.8%

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 super energy efficient. Using special technology, washing is close to room temperature. The main oxidising (deodourising and disinfectant) agent is Ozone, generated on site. Solar panels on the roof collect energy, which is stored in a large battery or fed into the grid. Water is filtered and recirculated, so microfibres or damaging chemicals will not be discharged to the environment. A sludge tank will need to be emptied periodically. A state-of-the-art automated ironing and folding machine has also been incorporated. Delivery and collection are performed exclusively by electric cargo bike.

### Progress since Investment

The first unit, in Oxford, became operational in Q3 2019 as planned. The laundry is 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.

### Recent Developments

During 2022 Oxwash changed strategy and has begun to implement the new strategy in 2023. The plan is to create the most efficient, automated and environmentally friendly laundry in the UK. Known as 'Big Blue' this is now beginning to come 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 large contracts but hopes to begin taking on the first of these as the capacity becomes available at Big Blue.

The total laundry market in the UK is estimated to become about £4bn by 2028 and Oxwash hopes to capture a significant share.





**THE  
SMARTER FOOD  
COMPANY**

[SmarterNaturally.com](http://SmarterNaturally.com)

### Smarter Food Investment History

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

Company Valuation	Valuation Share Price	Fund Holding
£2.55m	£3.00	9.6%

### Description of Business

The Smarter Food Company (TSFC) was established to produce food to reduce blood glucose (FBG) levels in people who are defined as being ‘pre-diabetic’. Its technology is in the form of a traditionally bred broccoli type that contains very high quantity of a naturally occurring compound, Glucoraphanin. Research indicates that one portion of this material weekly can help lower high blood sugar and be beneficial for a large number of other chronic conditions. It has incorporated its unique broccoli into an instant soup and is currently selling this directly to the consumer.

### Recent Developments

Smarter Food now has good momentum, subscriber numbers have dropped back a little over the summer due to a pause in marketing - hot soup is not seen as a summer dish and a desire to not invest in marketing whilst so many are on vacation. However, there are significant marketing initiatives in the pipeline in the autumn and winter months. The company has completed its most recent funding round of £500k. This is to help bring production forward to cater for existing and anticipated demand. This means growing in Spain in January 2024. The harvest of this year’s high Glucoraphanin broccoli in the UK is currently taking place. The yield is looking good and the first samples have been sent to the lab to confirm Glucoraphanin levels. The current soup recipe has been reformulated to be more ‘clean’ label reflecting customer feedback and consumer trends. This will be made available as soon as the current stock has sold out which will be soon. In the meantime the business has appointed a dietitian, a GP and a celebrity chef to support its work and add strength and depth to the team. The company also plans to start selling its GRextra broccoli powder in a pouch for customers to add to their diet as they wish. This product will also appeal to a younger market and will be launched with series of recipes.

Since the launch of the soup just last year, the focus has been on customer acquisition. With a good base of subscribers the business has turned its attention to customer loyalty and retention whilst also swelling new customer numbers. Those investors who are also customers will start to be the recipients of some of this work. Inroads are also being made to supply the material as an ingredient to food manufacturers and ingredient companies as well as exploring possible retail channels with its existing consumer products.

Available as a subscription from the company’s website, the soup costs £5 a week, £20 a month.

**Note on the science:** Bacteria developed 3.5 billion years ago when there was almost no oxygen in the earth’s atmosphere. So they evolved an energy producing chemistry which was based on sulphur. When the oxygen content of the atmosphere increased and multicellular organisms began to evolve they used bacteria and their sulphur chemistry to produce the energy they needed, and this is still the case today. All cells in plants and animals and ourselves use the original sulphur-based chemistry in the mitochondria to produce the energy needed to drive cellular processes. As we age, things can go wrong with the sulphur chemistry and, in particular, the mechanisms for taking sulphur into the cells can go wrong so that the cells no longer have an adequate supply of sulphur in the right form. It is believed that this may be the underlying cause of all sorts of diseases associated with ageing, including diabetes, breast and prostate cancers and maybe some of the diseases of the brain. Over 20 years, The Smarter Food Company has developed a strain of broccoli which is very high in Glucoraphanin. Glucoraphanin is converted to sulforaphane in the body which is a source of sulphur for cells. So this may explain why the VHG broccoli soup works as well as is believed.



[ConnexinTX.co.uk](http://ConnexinTX.co.uk)

<b>Company Valuation</b>	<b>Valuation Share Price</b>	<b>Fund Holding</b>
£1.42m	£7.00	4.7%

## Connexin Investment History

<b>Date</b>	<b>Amount</b>	<b>Share Price</b>	<b>Type</b>
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 synthesized 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

There has been good progress on the university grant application and the work should result in Connexin having a cellular assay that will allow rapid testing of compounds as well as computer models that will give the possibility to more rapidly design the compounds. We are awaiting final confirmation before the details can be released. It's not a huge grant but it lays some very important ground work.



[Cytoswim.com](http://Cytoswim.com)

Company Valuation	Valuation Share Price	Fund Holding
£1.90m	£6.18	18.9%

### Cytoswim Investment History

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 growing market for humans and animals. One of the key steps in IVF is the selection of healthy sperm cells, characterised by swimming fast and straight. Cytoswim has developed a new, easy-to-use chip, essentially an obstacle course, which separates the healthy from unhealthy cells.

The current techniques for selecting healthy cells are not particularly effective. The most commonly used process is centrifugation, which takes up to an hour, requires expertise and causes damage to sperm DNA. The current preparation techniques cost the patient from £100 to £300. In Europe, there are 800,000 IVF procedures per year and in Japan and the US combined roughly 650,000. Territories such as China and India do not report IVF cycles with the same accuracy, but are estimated to carry out an additional 1m cycles in total. Altogether the global accessible market is approximately £500m-£1bn.

### Progress since Investment

Work at Sheffield University testing the prototype devices with sub-standard human sperm showed the DNA fragmentation index (an indicator of unhealthy sperm and future miscarriage) was 10x lower for samples that had been through the Cytoswim devices than other separation techniques.

The company moved all the prototyping work into its own lab in the Warwick University Venture Centre and continues to use labs in the Warwick University Physics Department only for biological work. In April 22, Cytoswim accepted a £250,000 investment from Logixx Pharma to fund the next stage of certification, accelerate USA deployment and continue collaborations with industry partners. The founder of Logixx Pharma distributes products to IVF clinics globally and has a very good understanding of the market and of the potential for Cytoswim. He has become a director and provides invaluable input at board meetings. OT(S)EIS invested a further £34,000 at the same time.

The device will not be able to be used commercially for human fertilisation until a CE mark or FDA approval is obtained. It had been hoped that this would be in Q4 2022, but, as so often happens, the regulatory bodies move at a snail's pace.

The device is being tested by leading IVF clinics in the UK, India, and South Africa.

### Recent Developments

The technical file has been submitted to the FDA and, all being well, approval should be obtained by March 2024. It is expected that CE mark will also be achieved in a similar timescale. It will then be possible to make sales to IVF clinics.



[Nikalyte.com](http://Nikalyte.com)

Company Valuation	Valuation Share Price	Fund Holding
£1.38m	£1.50	26.0%

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

## 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 benchtop nanoparticle system, known as the NL50, became operational in Q2 20. A demonstration of the machine in action can be seen at [shorturl.at/qsHRT](http://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 based on Nikalyte's proprietary technology. 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. In partnership with Wasatch Photonics, it is now also producing state-of-the-art SERS substrates, which can be purchased directly from the company's website: [nikalyte.com](http://nikalyte.com)

## Recent Developments

Build Nikalyte second bespoke nanoparticle system is well underway and on track to be delivered in Q4 to Scottish University for use in medical nanotechnology research. Nikalyte has had a busy summer of events and conferences, including its first exhibition at Electrochem 23 this year held in Bristol, where it successfully launched its new application area; catalysis for green energy. Nikalyte will follow up on this theme at the Royce hydrogen conference in Oxford and Materials Research Society Fall meeting in Boston both to be held in Q4.

The SERS business was a little quiet in the summer holiday months, but Nikalyte is seeing a steady growth in repeat SERS business, with most promising progress seen in the narcotics and border control market. One global Raman supplier is due to publish a white paper in Q4, detailing the performance of Nikalyte SERS substrates for detection of narcotics. The second SERS product was soft launched in Q3 with samples sent to selected customers. Full launch will take place in Q4.

Date	SERS Revenue
Q3 2022	£471.80
Q4 2022	£1,182.04
Q1 2023	£2,274.04
Q2 2023	£4,781.00
Q3 2023	£1,828.00



[Etcembly.com](https://etcembly.com)

Company Valuation	Valuation Share Price	Fund Holding
£22.74m	£6.00	6.5%

### 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 how 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™ to understand and exploit the immune system by observing the TCR (T Cell Receptor) 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™, (Etcembly Machine Learning) 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 a new TCRs.

### Progress since Investment

£5.2m was raised in the last round at £6.00 a share in Q4 22. A larger round to progress the TCR based therapeutic assets is now being raised, aimed to close in November 2023.

### Recent Developments

Etcembly continues to make excellent progress. Etcembly's milestone achievement in Q2 was the in silico engineering of low picomolar affinity of the lead TCR candidate, 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 has had a very positive response to the August press release on ETC-101, highlights include reporting in Forbes: *Breakthrough In Cancer Treatment: The Role Of Generative AI In Drug Development* (<https://www.forbes.com/sites/bernardmarr/2023/09/20/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.





[FlareBright.com](http://FlareBright.com)

Date	Amount	Share Price	Type
Sep 2020	£29,000	£100.00	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£2.30m	£100.00	1.3%

### Description of Business

Flare Bright is developing systems to enable drones to fly safely even if they lose radio contact with their controller or lose GPS signal. A drone which loses contact at the moment could fly out of control and crash, which is hampering obtaining full regulatory approval, particularly in Beyond Visual Line of Sight operations. This system is being extended to Advanced Air Mobility (Air Taxis) as it saves weight compared to the nearest competing system, and every kg of weight saving is critical for increased endurance and safety.

Flare Bright is implementing its system (machine learning developed software) which can be augmented with a 50 gram box of sensor electronics if these don't already exist on other drones. Although an initial gliding nanodrone was developed by Flare Bright from scratch, the business model is to implement Flare Bright's software on other drones and Air Taxis. In addition, Flare Bright is now finding business in using its machine learning digital twin toolsuite for more general optimisation, scenario planning and other purposes, outside of UAVs.

The founders of FlareBright are Kelvin Hamilton, Conrad Rider and Chris Daniels, all seasoned technical entrepreneurs.

### Progress since investment

Flare Bright has now won eight defence contracts worth over £2m together, as well as four UKRI grants to develop its systems, and has been working hard on delivering these contracts. Staff numbers have increased to from 3 to 16. Flare Bright 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.

### Recent developments

Flare Bright has recently had a successful week at the main defence and security show in Europe, DSEI. It was featured as one of 3 companies with a 3 minute slot on a DSTL (Defence Science and Technology Laboratory's) showcase video at the show. DSTL, is a specialist agency of the MOD and provides expert research, specialist advice and invaluable operational support.

Flare Bright will be showcasing its technology in October at end-of-project trials with the UK MOD at Radnor Range in Wales, and with the US Department of Defense during a trial in Spain. Both of these are likely to lead to significant further contracts, although likely with a few months' lead time.

A number of MOD contracts are being rolled out under an umbrella of an MOD Test & Evaluation trial at Radnor Range in Wales, worth over £500k in total. Simultaneously, Flare Bright is progressing with multiple US Department of Defense (DoD) contracts and is about to commence its third contract, which will focus on GPS-free drone technology over featureless terrain.

Flare Bright is commencing two unrelated contracts with a key Prime contractor to the MOD regarding utilising Flare Bright's machine learning digital twin toolsuite on purely modelling tasks, which is likely to lead to further business.

Flare Bright has successfully completed two UKRI Future Flight grants and is in the next phase of these projects.



[Cryologyx.com](http://Cryologyx.com)

Company Valuation	Valuation Share Price	Fund Holding
£2.93m	£10.00	11.3%

Date	Amount	Share Price	Type
Mar 2021	£75,000	£3.34	SEIS
Mar 2023	£86,336	£8.00	EIS

### Description of Business

Prof. Matt Gibson’s group at Warwick University is a cross-disciplinary group that works on glycosciences and biomaterials. In particular, they have been studying the freezing and thawing of biological materials. Having discovered a material that improves the ability of cells to survive freezing and thawing, Cryologyx was created. Tom Congdon who worked in this group, did an ICURe programme which involves a lot of interaction with industry and helped focus their plan. He is joined by an experienced Chairman, Paul Garman.

Cells are normally frozen using a material called DMSO, which stops big ice crystals from forming and destroying cells, but which is also toxic to cells in the concentrations required. By using the Cryologyx materials, it is possible to reduce the concentration of DMSO used to levels which are not toxic to cells. This opens up many opportunities.

One of the pharma industry problems Cryologyx is addressing is that of having to re-culture cells after freezing before being able to use them in experiments. This typically takes up to three days. With Cryologyx technology it is possible to prepare the cells for experiments, typically in Multi Well Plates, then freeze them. At this point they can be shipped, stored almost indefinitely at - 80 degrees and then taken out of the freezer and be ready to use within a few hours - with no additional culturing required.

Cryologyx has a DASA contract project to develop a functional prototype of a rapid-deployment frozen blood bank for defence. If all goes well, blood would be held frozen in bags and could be kept almost indefinitely in this way. When needed the blood could be thawed and ready for us within 15 minutes. This would have many applications and would save many lives in Ukraine, for example. The project has a value of £350k and the company expanded its business development operations, retaining Dr Gavin Bowyer (Lt Col, RAMC, ret.), to ensure there is a strong commercial outlook for this technology in the future.

### Recent Developments

The new production facility is now up and running and plates of cells in Cryologyx format are now being shipped to the first customers. The task now is to grow sales.

Work on the frozen blood bank is also progressing well.





[Zayndu.com](http://Zayndu.com)

<b>Company Valuation</b>	<b>Valuation Share Price</b>	<b>Fund Holding</b>
£3.84m	£0.106**	8.4%**

### 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. In Q3 22, Andrew Neil who had previously been in charge of a 150 strong engineering team at Jaguar Land Rover joined and the engineering function has since become much more robust.

Zayndu has attracted much interest from indoor growers, particularly from 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.

### Recent Developments

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 is that Zayndu became short of cash and is likely to accept an offer of investment at a significantly reduced effective share price.



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

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

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

### Description of Business

Machine Discovery (MD) is an ambitious early-stage software company developing machine learning technology to simplify, automate and accelerate simulation tasks. The company is a spin-out of the University of Oxford. Its founders are highly regarded in their respective fields. Prof. Gianluca Gregori, Prof. Sam Vinko, Dr. Muhammad Kasim, and Dr. Brett Larder are experts in laser and plasma physics and ML. They co-invented the concepts behind the company’s software technology during their academic research at the University. As an example, the team was able to predict how the atmospheric smoke from the fires in Australia would disperse globally. They reached the same conclusions as NASA using the same publicly available datasets with 99.9% accuracy but achieved the result with 1 billionth of computing power.

In Q1 2020, Bijan Kiani, an executive who has spent over 30 years in the enterprise software and simulation business and runs Oxford Technology’s office in San Francisco, joined Machine Discovery as CEO. Bijan previously led the product marketing team at Synopsys, an industry-leading Electronic Design Automation (“EDA”) software company, and previously founded and successfully exited his electronics design start-up in which Oxford Technology had invested. Several large investors have become involved in Machine Discovery and the initial capital raised was £1.6m. But because OTM initiated the investment, and introduced Bijan, etc, all our £75,000 was a SEIS investment. The company had already secured its first sales contracts with several companies on Fusion technology and is expanding its offerings into the semiconductor market.

### Progress since Investment

Following the initial investment, MD hired additional research, software development, and business expertise as part of its expansion plan. The company has grown to more than 12 employees. The company has already demonstrated its ability to sell and support its solution to multiple Fusion companies while expanding into the semiconductor market.

Machine Discovery operated in stealth mode until October 2022 when it launched its website and followed this with a steady stream of customer adoption news, a program which will be continued. On January 30th, 2023 the company announced First Light Fusion has adopted the Discovery Platform to address complex multi-physics computational tasks (details <https://machine-discovery.com/resource-fff.html>).

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 £12 million grant award from UK Research and Innovation’s Prosperity Partnership program (details <https://machine-discovery.com/resource-grant.html>). Machine Discovery's solution is being selected to support the above consortium.

For more than a year Machine Discovery has been working closely with one of the top 10 semiconductor companies as a teaching partner to model chip design and predict their performance using the company's AI-powered solution. Based on encouraging early results the company is now in the process of expanding its business development and technical support in this space for wider availability of its solution.

### Recent Developments

Machine Discovery closed a funding round of £4.5m at a slightly increased share price during the quarter, almost all of which came from its existing investors. The focus remains of fusion and chip design and MD continues to work with several global companies in these fields.



[HydregenOxford.com](http://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 (adding hydrogen atoms to a compound) 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 are CEO Holly Reeve, scientific founder Kylie Vincent and Sarah Cleary, with the support of experienced chairman Will Barton.

HydRegen was set up with £200k in funding of which half came from OTSEIS, to support an Innovate 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.

### Recent developments

HydRegen has announced the successful transfer of its technology into the hands of Almac, a large specialty chemical manufacturer. By this we mean that Almac has been able to produce their target product at very high yield in their kilo-lab facility. The reaction used Hydregen's technology in conjunction with Almac's enzyme. The reactions took place in a batch reactor under mild conditions as might be expected for enzymatic reactions. The next step will be to use it under flow conditions so that the enzyme's performance can be further exploited.

As previously mentioned, HydRegen's technologies are starting to get a lot of traction as it becomes clear that the cost (financial and environmental) of certain key chemicals can be reduced significantly.



[OxVent.org](http://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

OxVent has decided to proceed with the OxVent P as it is the device that has the greatest advantages with respect to existing devices. The design has great simplicity and very few moving parts so that it will be very easy to maintain and service. The next step is to conduct more sophisticated testing to determine whether any applications cannot be pursued.



[OxCan.org](http://OxCan.org)

Company Valuation	Valuation Share Price	Fund Holding
£16.56m	£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.

### Recent Updates

OXcan has launched its Series A fundraise and it is seeking to raise \$15m.

The company continues to collect data and progress its regulatory pathway. The trials for certification are the biggest cost driver at this stage of development.

Recent results on a large 600 patient cohort show 86% sensitivity and 99% specificity for early stage lung cancer detection.

OXcan has started to establish a network of leading laboratories and is working with colleagues from the NHS to help launch the product.

### Summary

Progress at OXcan is very good and funds are being raised to continue the product development and regulatory pathway.



[MitoRxTherapeutics.com](http://MitoRxTherapeutics.com)

Company Valuation	Valuation Share Price	Fund Holding
£8.21m	£1.2411	3.7%

### MitoRx Investment History

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	£44,102	£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 no oxygen in the atmosphere and bacteria developed using chemistry based on sulphur. Later, when cells developed, they hijacked the sulfur-based energy-producing bacteria and incorporated this into the mitochondria, the part of all our cells where energy is produced to drive all the thousands of processes which go on inside cells. Sulphur is still required for the mitochondria to work, and if anything goes wrong with the sulphur-based chemistry, then the cells cannot function properly. MitoRx believes that this is the fundamental cause of many diseases, and that by fixing this fundamental problem, lasting cures can be found.

MitoRx was founded by Prof Matt Whiteman (CSO), Jon Rees (CEO), Norman Law (CTO / Head of IP). Oxford technology invested £75,000.

The list of diseases which may be treated by targeted sulfide delivery (it has worked in nematode and mouse models) is very long, including inflammatory diseases, genetic diseases and neurodegenerative diseases. The initial focus will be on Duchenne Muscular Dystrophy (DMD) and Huntington's disease, but it could also help in Alzheimer's disease, Parkinson's disease, sarcopenia, cancer cachexia, COPD, and IPF.

### 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 has 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.

### Recent Developments

Long term DMD dosing has shown good early results. This means not only that the distribution in the tissues is good and clear improvements are seen in some key measurements, but also that we can start narrowing down the choice between different compounds for this particular application





## OVO BIOMANUFACTURING

[OVOBiomufacturing.com](http://OVOBiomufacturing.com)

Company Valuation	Valuation Share Price	Fund Holding
£2.06m	£15.00	14.6%

## 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 University 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, with strong data being generated from trialling the platform internally. OVO is in the process of beginning to finalise the technology and expects to complete the technology within the next 6-9 months. The company is now also showcasing the technology to two global household name producers of vaccines. These are at the beginning stages of trialling the technology in preparation for implementation. For the antiviral platform, OVO has continued to generate positive data within cell culture. It managed to reduce toxicity and improve stability of the compound whilst maintaining the efficacy of the treatment. OVO has also built further data on the mechanism of action. Having secured a new grant, it is working with the Medical Research Council (MRC) in Glasgow to test its platform in SARS-CoV-2. Once this data has been generated, OVO will begin early-stage animal testing. OVO is also looking at options on whether to spin out the antiviral platform into a separate company or to keep development in house.



[Digilab.co.uk](http://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 distill 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 has won a number of large contracts in aerospace, water and nuclear. It has also released an Excel tool which enables companies to use Excel to enter and export data to digiLab uncertainty quantification tool. A video pre-view can be seen at <https://www.digilab.co.uk/products/twinlab#demo>. The possibility of accessing the power of the digiLabs tools without needing to code is very exciting, for all the scientist and engineers who are more interested in their field than in computing. A good example is using the tool to optimise the choice of experimental variables on the fly. Temperature gradients, pressure, rate of stirring, time, etc. as soon as data and settings from previous experiments is added the system can give an estimate of the best combination of conditions and say which new set of experiment will give the most information.

The company has passed the £2m turnover mark and has plenty of items in the pipeline.



[Neuroute.co](https://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	Valuation Share Price	Fund Holding
£3.21m	£1.89	2.5%

### 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

Neuroute closed a £1.1m funding round which included Swiss pharma company Debiopharm and a number of funds. The company continues to develop its AI clinical research tools.



### 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.

### Recent Developments

Theraport unfortunately just missed out on a more recent grant application. Travis and Anna are pressing ahead with work and will use the new results to strengthen the next applications. The work is currently focused on understanding better the characteristics of molecules that are or are not taken up into the exosomes and how the systems can be adapted to improve uptake.



Date	Amount	Share Price	Type
Oct 2022	£100,002	£7.00	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£1.03m	£7.00	9.8%

**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 Scintam machine has a hand-held erosion head, which fits inside a purpose-made fixture, 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 believe that using their 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.

**Recent Developments**

Scintam presented at the CMTS (Canadian Manufacturing Technology Show) and is heading to MRO Europe the big show for Maintenance, Repair and Overhaul in the aviation industry.

Several customers have completed their technical assessments and are moving forwards.

On the right-hand side is a picture of the hand held kit on the control unit. The system is also used in a robotised arrangement where multiple parts are treated in between user intervention.





[Genevation.co.uk](http://Genevation.co.uk)

## Genevation Investment History

Date	Amount	Share Price	Type
Jan 2023	£100,000	£0.40	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£0.40m	£0.40	25.0%

### 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 is 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 Bioscience Catalyst.

### Recent Developments

Apart from the fact that various grant applications have so far not been successful, good progress is being made and the crucial experiment to design and produce an mRNA vaccine for a particular mouse which will target and hopefully cure or reduce the tumour size of three cancers (lung, skin and colorectal) remains on track. The tumours from the mice, as well as samples of healthy tissue, have arrived and should have been sequenced before the end of September. (so by the time you are reading this). All being well, the vaccine should be designed by the end of November.

The vaccine will then be made and injected into 33 mice, 10 of each type of cancer and three controls. It is hoped the results will be obtained by the end of January.

If this can be achieved, Genevation should be able to secure additional funds to go forward.





Date	Amount	Share Price	Type
Mar 2023	£100,000	£0.25	SEIS
Sep 2023	£75,000	TBD	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£1.2m	£0.50*	21.6%

\*While the latest investment is under ASA and the share price TBD, we use £0.50/share for the current valuation.

**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 that 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 have been generated and the company will be 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.

**Recent Developments**

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



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

## Chambertech Investment History

Date	Amount	Share Price	Type
Mar 2023	£80,000	£0.42	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£0.85m	£0.71	16.0%

### Description of the business

Richard Chambers studied exercise physiology in Oxford and has worked in industry as a specialist in the measurement of the electrical signals that cause atrial fibrillation. While assisting over 3000 cases he saw that the current methods for treating arrhythmia either required a very long and open heart operation which has risk of complications or a long and frequently unsuccessful process of cardiac ablation. He has invented a new process (and associated device) for carrying out atrial ablation that it is hoped will reduce the duration by more than half and increase the success rate. There are roughly 1m AF (Atrial Fibrillation) procedures carried out each year in the US and Europe.

### Recent Developments

Prototype devices were made and a trial on two pigs was conducted at NAMSA in the US in late September. The trial was successful in that the devices performed as intended, although a problem with one aspect of the device was also revealed. Potential solutions have been identified and will be tested during the next design phase.

The plan is now to do detailed design of what is hoped will become the final product and then to conduct a further animal study before a first-in-man trial. The company will also be applying for a grant.

A follow-on investment in Chambertech is being prepared at 71p share price.



## SurreyH2 Investment History

Date	Amount	Share Price	Type
Mar 2023	£75,000	£1.26	SEIS
Apr 2023	£25,000	£1.26	SEIS

Company Valuation	Valuation Share Price	Fund Holding
£1.45m	£1.26	6.9%

### 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). 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 is variable availability of cheap or excess electrical energy from renewable sources such as wind or solar.

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

### Recent Developments

Hasan Ozcan has joined as CTO of the company. His speciality is the modelling of the interaction of the parts that make up the system.

SurreyH2 is applying for grants and seeking investment to take the next steps, which will include the manufacture of a larger prototype and design of subsystems.



<b>RCL Investment History</b>			
<b>Date</b>	<b>Amount</b>	<b>Share Price</b>	<b>Type</b>
May 2023	£60,000	£0.34	SEIS

<b>Company Valuation</b>	<b>Valuation Share Price</b>	<b>Fund Holding</b>
£0.4m	£0.34	15.0%

## Description of the business

On the date on which this investment was made, Gas Boilers were to be outlawed in new build houses in the UK from 2025. This is no longer the case after the Govt change of policy in Q3 23, but the need for efficient heating without producing CO2 remains. Water heating can be provided by an electric boiler but one gets out only the heat one puts in, so that it is not sensible to provide space heating in this way. 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.

## Progress since Investment

Since the investment, Will has been working on the details of the design, and the hope was to have a working prototype, using 3D printed metal parts by autumn..This would then be extensively tested to calculate its actual performance and efficiency.

Will Spain also has ideas for improved and more efficient designs of compressors and energy recovery expanders, and will work on this when time allows.

## Recent Developments

The design is complete and parts have been manufactured (some 3D printed) and have begun to arrive and be assembled. The plan is to complete and test the prototype in Q4.

# 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)
<b>Full Exits</b>										
Ducentis Biotherapeutics	Immune modulation therapeutics	Jul 2015	£339,409	£117,823	£221,586	Sep 2022	£1,100,903	£879,317	£3,491,415 (5)	20.73
Dark Beam	Web data security	Oct 2017	£153,200	£62,960	£90,240	Oct 2023	£157,175	£66,935	£54,048 (6)	2.34
Lightpoint	Real-time imaging for cancer surgery	Jun 2013	£470,650	£156,195	£314,455	<i>In process</i>	£723,516 (7)	£409,061	£631,153 (7)	4.31
<b>Partial Exits</b>										
Animal Dynamics	Animal-inspired drones/robots	Jun 2015	£35,168	£17,584	£17,584	Mar 2019	£243,662	£226,078	-	13.86
Refeyn	Imaging Biomolecular Interactions	Jun 2018	£127,560	£46,954	£80,606	Sep 2022	£893,203	£812,597	-	11.08
Covatic	Personalised media feed	Feb 2017	£8,672	£2,602	£6,070	Sep 2022	£17,856	£11,786	-	2.94
Oxwash	Hyper-sustainable laundry	Mar 2019	£13,419	£8,403	£5,016	Oct 2023	£56,126	£51,110	-	6.68
<b>Gains Realised so far (8)</b>								£2,047,823		

(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. 8% 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 and Future Milestone payments 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).

(8) Gains Realised so far do not include the £409,061 gain for the Lightpoint exit that is in process.

## Investee companies no longer in the portfolio

Name of Company	Description of Business	Date of initial investment	Initial investment	Follow-on Investment	Total Investment	Date of closure	Net loss after tax relief (1)
Message Missile	Mobile phone app	May 2013	£16,000	£25,000	\$41,000	Jan 2016	£12,300
Ibexis	Remote data loggers	May 2013	£50,000		£50,000	Feb 2017	£21,000
Abgentis	Improved antibiotics	Mar2014	£42,000		£42,000	Jul 2019	£12,600 (2)
Power OLEDs	Improved OLED technology	Dec 2013	£75,000	£178,397	£253,397	Dec 2020	£97,427 (2)
Animal Dynamics	Animal-inspired drones/robots	Jun 2015	£75,000	£52,611	£127,611	Sep 2023	£44,597 (3)
Lupe Technology	Better vacuum cleaner	Feb 2017	£51,000	£344,825	£395,825	Sep 2023	£160,127
Electrowinning Technologies	Electrical metals capture	Feb 2017	£25,000	£35,000	£60,000	Sep 2023	£18,000
Asymmetric Suzuki Reactions	Synthesising chiral molecules	Mar 2019	£65,040		£65,040	Sep 2023	£19,512
<b>Net Loss (after tax relief) so far</b>							<b>£385,563</b>

(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 Abgentis and Power OLEDs 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.








# OT(S)EIS Fund Portfolio

30<sup>th</sup> September 2023

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	£300,000	6.00	Latest Share Price
			£15,000	18/10/2013	SEIS	£7,500	£45,000	6.00	
			£10,000	18/10/2013	Non SEIS/EIS	£10,000	£30,000	3.00	
			£3,000	10/11/2017	EIS	£2,100	£4,500	2.14	
			£10,206	29/03/2019	EIS	£7,100	£10,200	1.43	
BioMoti		Improved Cancer Drugs	£74,998	08/01/2013	SEIS	£37,500	£76,593	2.04	Latest Share Price
			£40,000	28/05/2014	EIS	£28,000	£40,850	1.46	
			£74,661	31/03/2021	EIS	£52,300	£39,571	0.76	
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	£37,500	£740,532	19.75	Share Price Equivalent to Exit**
		£75,000	10/03/2014	EIS	£52,500	£184,169	3.51	
		£9,991	07/11/2014	EIS	£7,000	£19,731	2.82	
		£124,895	04/12/2014	EIS	£87,400	£246,641	2.82	
		£100,000	10/03/2016	EIS	£70,000	£92,338	1.32	
		£20,000	24/03/2016	EIS	£14,000	£18,467	1.32	
		£26,941	27/03/2019	EIS	£18,900	£19,364	1.03	
£38,825	25/03/2020	EIS	£27,200	£27,906	1.03			
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	£2,250,000	60.00	Latest Share Price
		£17,338	09/02/2017	EIS	£12,100	£42,800	3.53	
		£3,000	04/12/2017	EIS	£2,100	£2,800	1.34	
		£13,000	28/08/2018	EIS	£9,100	£19,500	2.14	
		£30,719	29/03/2019	EIS	£21,500	£46,100	2.14	
		£29,300	25/03/2020	EIS	£20,500	£44,000	2.14	
Molecular Warehouse	 Proteins for Diagnostics and Therapeutics	£75,000	21/04/2015	SEIS	£37,500	£22,500	0.60	Latest Share Price
		£75,000	02/02/2016	EIS	£52,500	£26,600	0.51	
		£20,000	24/03/2016	EIS	£14,000	£7,100	0.51	
		£52,005	14/09/2016	EIS	£36,400	£17,800	0.49	
		£20,000	22/09/2017	EIS	£14,000	£6,200	0.44	
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	£1,422,061	56.88	Proceeds From Sale & Fair Future Milestones**
		£30,000	14/12/2015	SEIS	£15,000	£663,625	44.24	
		£160,275	30/03/2017	EIS	£112,200	£1,772,719	15.80	
		£45,314	29/03/2018	EIS	£31,700	£451,071	14.22	
		£53,820	13/03/2019	EIS	£37,700	£306,142	8.13	
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	£18,800	£10,875	0.58	Latest Share Price
			£62,500	20/10/2016	EIS	£43,800	£23,125	0.53	
			£25,000	13/09/2017	EIS	£17,500	£9,250	0.53	
			£65,329	06/03/2023	EIS	£45,731	£65,329	1.43	
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	£42,743	2.15	Latest Share Price
			£60,224	06/02/2017	EIS	£42,157	£65,001	1.54	
			£30,000	05/02/2018	EIS	£21,000	£17,890	0.85	
			£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	
Gripable		Mobile Rehab Technologies	£49,999	15/09/2017	SEIS	£25,000	£120,300	4.81	Latest Share Price
			£106,934	27/02/2019	EIS	£74,900	£138,900	1.86	
			£33,219	15/12/2020	EIS	£23,300	£33,200	1.43	
			£69,682	02/03/2022	EIS	£48,800	£69,700	1.43	
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
LRESytem	 Lateral Resurfacing Elbow Replacement	£50,000	12/01/2018	SEIS	£25,000	£112,600	4.51	Latest Share Price
		£75,050	21/01/2019	EIS	£52,500	£75,000	1.43	
Atelerix	 Transport of Viable Cells	£50,000	22/01/2018	SEIS	£25,000	£55,000	2.20	Latest Share Price
		£133,186	03/04/2019	EIS	£93,200	£79,600	0.85	
		£196,851	30/03/2020	EIS	£137,800	£109,600	0.80	
		£44,767	04/06/2021	EIS	£31,300	£50,400	1.61	
		£11,100	29/11/2022	EIS	£7,800	£11,100	1.43	
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	£144,500	2.88	Latest Share Price
		£55,000	27/11/2019	EIS	£38,500	£79,100	2.06	
		£84,021	04/12/2020	EIS	£58,800	£120,900	2.06	
		£53,986	31/03/2021	EIS	£37,800	£54,000	1.43	
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	£295,500	11.82	Latest Share Price
			£50,000	22/03/2019	EIS	£35,000	£295,500	8.44	
			£54,679	07/11/2019	EIS	£38,300	£149,300	3.90	
			£36,069	12/05/2021	EIS	£25,200	£67,400	2.67	
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	£24,900	£49,700	3.16	Latest Share Price
			£16,152	24/02/2020	SEIS	£8,100	£16,200	3.16	
			£77,886	16/10/2020	EIS	£54,500	£77,900	2.26	
			£44,987	29/11/2021	EIS	£31,500	£45,000	2.26	
			£60,276	23/02/2023	EIS	£42,193	£60,276	1.43	








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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	£224,550	5.99	Latest Share Price
			£86,336	29/03/2023	EIS	£60,435	£107,920	1.79	
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	






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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
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	1.65	
		£9,750	24/01/2022	EIS	£6,825	£16,134	2.36	
		£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	23/02/2022	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	£27,900	£55,800	2.00	Latest Share Price
		£24,185	02/02/2022	EIS	£16,900	£24,200	1.43	
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	
Theraport 	Spark erosion tooling	£100,002	07/10/2022	SEIS	£50,001	£100,002	2.00	Latest Share Price

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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	£100,000	2.00	Latest Share Price
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	
Chambertech	 Improving the treatment of heart arrhythmia	£80,000	15/08/2022	SEIS	£40,000	£135,239	3.38	Latest Share Price
SurreyH2	 Cost efficient green hydrogen	£74,999	30/03/2023	SEIS	£37,500	£74,998	2.00	Latest Share Price
		£25,001	12/04/2023	SEIS	£12,500	£25,001	2.00	
RCL	 Revolutionary Concepts Novel compressor heat pumps	£60,000	12/05/2023	SEIS	£30,000	£60,000	2.00	Latest Share Price

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