



# EDISON



## Edison Healthcare Insight

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**Maxim Jacobs**



Max joined Edison's healthcare team in December 2014. Prior to this he worked as a senior analyst at Guidepoint Global. Max has also previously worked as a senior analyst at Ridgemark Capital, a sector head at Broadfin Capital and as a senior analyst at Mehta Partners. He is a CFA charter holder.

**Dr Nathaniel Calloway**



Nathaniel Calloway joined the healthcare team in December 2015. Before Edison, he performed healthcare investment research for a fund at Bishop Rosen and for Wainscott Capital Partners. Prior to his role as an analyst he performed molecular neuroscience research at Cornell Medical School and holds a PhD in chemistry from Cornell. He has published eight scientific papers on topics ranging from physical chemistry to immunology, and he has been recognised as an American Heart Association fellow and an American Chemical Society Medicinal Chemistry fellow.

**Pooya Hemami**



Pooya is a licensed optometrist with over five years of experience in life sciences equity research. Prior to joining Edison, he covered the Canadian healthcare sector as a research analyst at Desjardins Capital Markets. He holds a doctor of optometry degree from the University of Montreal, and an MBA (finance concentration) from McGill University. He received his CFA charter in 2011.

**Dr John Savin**



John is an analyst working on biotech, pharma, medical device and diagnostics companies. As founder CEO of Physiomics, he devised the strategy, raised funds and took the company to AIM in 2004. At Greig Middleton, John was director in charge of the pharma and biotech analyst team and worked with corporate finance on fund-raising, IPOs and corporate restructuring. He has an industry background in sales and marketing with GE Healthcare and AstraZeneca and is a co-author on a number of scientific publications.

**Sean Conroy**



Sean joined Edison's healthcare team in September 2018. Previously, he worked at Charles River Laboratories performing drug discovery services. He holds a PhD in Medicinal Chemistry from the University of Nottingham.

**Alice Nettleton**



Alice joined Edison's Healthcare team in November 2017. Previously, she worked as a business analyst at PharmaVentures on a variety of consulting projects relating to life science transactions. Alice holds a BSc in Biomedical Sciences from King's College London and an MSc in Business Creation and Innovation in Biomedicine from Gothenburg University, and while studying has completed two internships at IP Pragmatics.

**Dr Jonas Peciulis**



Jonas joined Edison in November 2015. He is a qualified medical doctor with several years of clinical practice. He then moved into equity research as a healthcare analyst at Nornie Securities, focused on Norwegian companies, and received two StarMine awards for stock picking in 2013. Most recently, he worked for a London-based life sciences venture capital company before completing his MBA degree.

**Dr Susie Jana**



Susie joined the team in September 2015 and has 16 years' experience in the healthcare sector. She is a qualified medical doctor, having studied medicine at UCL. She also holds an intercalated BSc in psychology. After a few years working as a junior doctor in the NHS, Susie joined the investment banking industry for six years on the sell-side covering biotechnology stocks, then mid- to large-cap pharmaceuticals at Société Générale. Most recently she worked as a buy-side analyst, covering European biotech, pharma and medtech stocks at F&C Investments for five years.

**Dr Andy Smith**



Andy joined the Healthcare team at Edison in November 2017 after a period as a senior principal in ICON's Pricing & Market Access consultancy. Prior to ICON he was chief investment officer at Mann Bioinvest and managed healthcare and biotech funds at AXA Framlington, SV Life Sciences, Schroders and 3i Group. Andy is a scientist by training and completed his PhD with Glaxochem after working for ICI and in the NHS. Between working as a lecturer at Guy's Medical School, he worked in R&D management at SmithKline Beecham, before moving to the Strategic Product Development group in SB Pharmaceuticals to be a global product manager. Andy also has an MBA from the University of Greenwich and teaches the finance module on the Master's in Bioscience Enterprise course at the University of Cambridge.

**Dr Daniel Wilkinson**



Daniel joined Edison's Healthcare team in January 2016. He spent four years at Imperial College London, where he undertook both a Master's in Chemical Biology of Health & Disease and a PhD in Biosensors and Biotechnology in Diabetes. Before this he worked at eTect, a spin-out company from the University of Leeds that was focused on biosensor technology. He is currently studying for the Investment Management Certificate (IMC).

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Prices at 16 August 2019

Published 22 August 2019

Welcome to the August edition of the Edison Healthcare Insight. In this edition we have profiled 62 of our healthcare companies under coverage.

Readers wishing more detail should visit our website, where reports are freely available for download ([www.edisongroup.com](http://www.edisongroup.com)). All profit and earnings figures shown are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

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We welcome any [comments/suggestions](#) our readers may have.

**Neil Shah & Maxim Jacobs**

**Healthcare Research**

## Company profiles

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Prices at 16 August

*US\$/£ exchange rate: 0.8270*

*€/£ exchange rate: 0.9205*

*C\$/£ exchange rate: 0.6211*

*A\$/£ exchange rate: 0.5604*

*NZ\$/£ exchange rate: 0.5327*

*SEK/£ exchange rate: 0.0859*

*DKK/£ exchange rate: 0.1234*

*NOK/£ exchange rate: 0.0919*

*JPY/£ exchange rate: 0.0078*

*NIS/£ exchange rate: 0.2300*

*CHF/£ exchange rate: 0.8482*

**Sector: Pharma & healthcare**

Price: €1.85  
 Market cap: €99m  
 Market: Euronext Brussels

**Share price graph (€)**

**Company description**

Acacia Pharma is a hospital pharmaceutical company focused on the development and commercialisation of new nausea and vomiting treatments for surgical and cancer patients. Its main product, BARHEMSYS, is for the treatment of PONV and is forecast to launch in 2019.

**Price performance**

%	1m	3m	12m
Actual	(9.8)	6.1	(40.3)
Relative*	(5.9)	7.5	(35.6)

\* % Relative to local index

**Analyst**

Dr Daniel Wilkinson

## Acacia Pharma (ACPH)

**INVESTMENT SUMMARY**

Acacia Pharma is focused on bringing antiemetic drugs to the US hospital setting for unmet needs in post-operative nausea and vomiting (PONV) and chemotherapy-induced nausea and vomiting. Acacia's lead product BARHEMSYS (repurposed amisulpride for the management of PONV) received a second complete response letter (CRL) in May 2019 from the US FDA following receipt of the first CRL in October 2018, both relating to deficiencies at the contract manufacturer. Acacia is qualifying an alternative supplier of amisulpride and is expected to resubmit an NDA in Q319. With the company founder Dr Julian Gilbert stepping down as CEO from 31 July, Michael Bolinder, who has been the group's COO for the past four years, is the chosen successor. As of At 31 May 2019, Acacia had gross cash of £23.9m.

**INDUSTRY OUTLOOK**

Inadequately treated PONV leads to prolonged stays in post-anaesthesia care unit recovery rooms. Use of BARHEMSYS could reduce patient hospitalisation time and the associated costs.

Y/E Dec	Revenue (£m)	EBITDA (£m)	PBT (£m)	EPS (p)	P/E (x)	P/CF (x)
2017	0.0	(3.0)	(6.5)	(2.32)	N/A	N/A
2018	0.0	(15.0)	(16.2)	(0.35)	N/A	N/A
2019e	0.0	(14.6)	(16.8)	(0.30)	N/A	N/A
2020e	1.1	(45.6)	(48.3)	(0.88)	N/A	N/A

**Sector: Pharma & healthcare**

Price: SEK4.67  
 Market cap: SEK108m  
 Market: NASDAQ OMX First North

**Share price graph (SEK)**

**Company description**

Acarix, a Swedish company, sells the CE-marked CADScor to enable about half of chest-pain patients with suspected coronary artery disease to be ruled out from further, expensive testing.

**Price performance**

%	1m	3m	12m
Actual	3.8	4.9	(21.9)
Relative*	10.0	8.8	(20.7)

\* % Relative to local index

**Analyst**

Dr John Savin

## Acarix (ACARIX)

**INVESTMENT SUMMARY**

H119 sales were 10 CadScor units and 2,330 patches generating SEK963k of sales at 81% gross margin. Patch-use rates seem to be rising, which is encouraging. The application for German public reimbursement is underway. Acarix is focused on German private sales (10% of the market) plus public sector sales in Scandinavia. The crucial US strategy is under development.

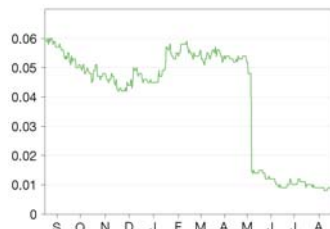
**INDUSTRY OUTLOOK**

Acarix is in a market development phase. The CADScor medical device helps doctors rule out coronary artery disease so avoids complex and costly further testing in 50% of cases. It has been reviewed by the UK NICE clinical technology evaluation system and has positive feedback from German users. A meta-analysis was published in August. In Germany, an alliance with MED will help sales. The Dan-NICAD II study evaluates the test in patients aged 30–39 with suspected stable coronary artery disease to aid key opinion leader acceptance of CADScor. The Seismo study explores the use of CADScor for the early diagnosis of heart failure.

Y/E Dec	Revenue (SEKm)	EBITDA (SEKm)	PBT (SEKm)	EPS (öre)	P/E (x)	P/CF (x)
2017	0.6	(29.5)	(30.7)	(129.31)	N/A	N/A
2018	1.0	(41.0)	(42.3)	(183.48)	N/A	N/A
2019e	2.6	(42.0)	(43.3)	(188.18)	N/A	N/A
2020e	4.1	(43.3)	(44.7)	(194.33)	N/A	N/A

**Sector: Pharma & healthcare**

Price: A\$0.01  
 Market cap: A\$9m  
 Market: ASX

**Share price graph (A\$)**

**Company description**

Actinogen Medical is an ASX-listed Australian biotech developing lead asset Xanamem, a specific 11beta-HSD1 inhibitor designed to treat cognitive impairment that occurs in chronic neurological and metabolic diseases.

**Price performance**

%	1m	3m	12m
Actual	(20.0)	(46.7)	(86.4)
Relative*	(16.9)	(47.2)	(86.6)

\* % Relative to local index

**Analyst**

Dr Jonas Pecilius

## Actinogen Medical (ACW)

**INVESTMENT SUMMARY**

Actinogen announced in May 2019 the initial results from its Phase II clinical trial of Xanamem in patients with mild dementia due to Alzheimer's disease (AD). The safety of the drug was confirmed and the data showed Xanamem was inhibiting cortisol production, as demonstrated by the expected increase in adrenocorticotrophic hormone. However, the 10mg dose of Xanamem was not effective in demonstrating statistical significance on any of the efficacy endpoints. Actinogen indicated it will analyse the data and make a decision on future steps once all analyses are complete and once the results from other supporting trials are available. Specifically, the company indicated that a higher dose and/or longer treatment could potentially be a way forward, given the drug appears safe and pharmacologically active. Our forecasts and valuation are under review.

**INDUSTRY OUTLOOK**

The unmet need in AD is vast and the size of the market has attracted interest from almost every player in CNS drug R&D over the past 30 years with very limited success so far. With so many late-stage failures, we believe, that 'non-mainstream' technologies, like Xanamem, may attract renewed interest from potential partners.

Y/E Jun	Revenue (A\$m)	EBITDA (A\$m)	PBT (A\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	1.3	(3.0)	(2.8)	(0.5)	N/A	N/A
2018	3.3	(6.0)	(5.9)	(0.8)	N/A	N/A
2019e	N/A	N/A	N/A	N/A	N/A	N/A
2020e	N/A	N/A	N/A	N/A	N/A	N/A

**Sector: Pharma & healthcare**

Price: €2.12  
 Market cap: €84m  
 Market: MAB

**Share price graph (€)**

**Company description**

Based in Spain, ADL Bionatur Solutions provides contract manufacturing of fermentation-based biochem products and antibiotics, and develops and licenses its own portfolio of OTC and prescription animal health products, including probiotics and vaccines.

**Price performance**

%	1m	3m	12m
Actual	2.9	(7.8)	1.9
Relative*	11.3	(1.1)	10.8

\* % Relative to local index

**Analyst**

Pooya Hemami

## ADL Bionatur Solutions (BNT)

**INVESTMENT SUMMARY**

ADL Bionatur Solutions (ADL-BS) provides contract manufacturing (CMO) of fermentation-based products and services focused on the health, beauty and wellness sectors. It has established CMO/API (active pharmaceutical ingredient) business lines and its own proprietary development line of novel or innovative products. ADL will have 2,400m3 of total fermentation capacity available by Q419. While this operated at c 40% utilisation in much of 2018, given recent contract wins and the ramping up in 2019 of its two largest contracts (a six-year €146m flucosil-lactose deal and an arrangement with Amryis), ADL expects to have 100% of capacity committed by year end 2019. This should drive it to firmly positive company-wide EBITDA and profitability in 2019.

**INDUSTRY OUTLOOK**

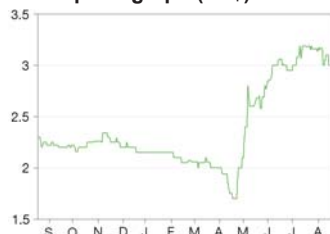
We estimate the ADL unit's solid pipeline of existing CMO contracts will contribute to company-wide generation of at least €60m in 2019 revenue (vs €25m in 2018). We measure ADL 2018 net debt at approximately €40.6m, including a €7.0m loan from its majority shareholder.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (fd) (c)	P/E (x)	P/CF (x)
2017	12.8	(10.4)	(12.7)	(251.65)	N/A	N/A
2018	25.3	(12.5)	(16.3)	(43.16)	N/A	N/A
2019e	60.8	6.1	1.8	4.53	46.8	N/A
2020e	73.5	11.2	6.2	15.82	13.4	8.4



**Sector: Pharma & healthcare**

Price: NZ\$3.00  
 Market cap: NZ\$292m  
 Market: NZSX

**Share price graph (NZ\$)**

**Company description**

AFT Pharmaceuticals is a specialty pharmaceutical company that operates primarily in Australasia but has product distribution agreements across the globe. The company's product portfolio includes prescription and over-the-counter drugs to treat a range of conditions and a proprietary nebuliser.

**Price performance**

%	1m	3m	12m
Actual	(6.0)	13.2	30.4
Relative*	(6.0)	8.5	14.0

\* % Relative to local index

**Analyst**

Maxim Jacobs

## AFT Pharmaceuticals (AFT)

**INVESTMENT SUMMARY**

AFT Pharmaceuticals is a profitable New Zealand-based specialty pharmaceutical company that sells 130 prescription specialty generics and OTC products through its own salesforce in New Zealand, Australia and South-East Asia, and has been expanding its geographic footprint. Maxigesic, its combination acetaminophen/ibuprofen product addressing a \$10.4bn market, is sold and launched in 20 countries with distribution agreements in place in over 125. Additionally, AFT recently received its first approval for Maxigesic IV (which is licensed in 68 countries) in Australia with a filing in the US expected in H120. Also, AFT recently out-licensed Pascomer, a drug for facial angiofibromas in tuberous sclerosis complex, an orphan indication. Clinical trials are expected to start this year with results in 2020.

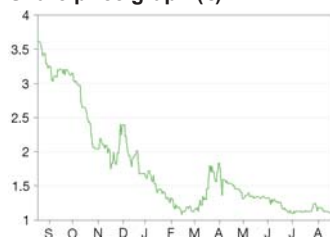
**INDUSTRY OUTLOOK**

AFT is a multi-product company targeting pharmacy prescription, OTC and hospital markets. Data for Maxigesic offer them a competitive advantage in a fragmented industry.

Y/E Mar	Revenue (NZ\$m)	EBITDA (NZ\$m)	PBT (NZ\$m)	EPS (c)	P/E (x)	P/CF (x)
2018	81.2	(10.5)	(12.9)	(13.30)	N/A	N/A
2019	85.1	5.8	(2.5)	(2.70)	N/A	30.4
2020e	99.9	10.3	6.4	6.58	45.6	33.5
2021e	119.5	21.4	17.6	18.05	16.6	15.3

**Sector: Pharma & healthcare**

Price: €1.09  
 Market cap: €23m  
 Market: Euronext Brussels

**Share price graph (€)**

**Company description**

ASIT biotech is a clinical-stage company focused on developing therapies for allergies. It uses its proprietary ASIT+ technology platform to develop products containing highly purified allergen fragments in an adjuvant-free formulation, selected to be safe while maintaining the capacity to stimulate the immune system.

**Price performance**

%	1m	3m	12m
Actual	(4.6)	(17.9)	(70.8)
Relative*	(0.4)	(16.9)	(68.4)

\* % Relative to local index

**Analyst**

Andy Smith

## ASIT biotech (ASIT)

**INVESTMENT SUMMARY**

ASIT biotech's ASIT+ short-course allergy immunotherapy (AIT) platform has generated a Phase III drug for the prevention of grass pollen allergy. Its earlier-stage programmes in house dust mite (hdm-ASIT+) and peanut allergies (pnt-ASIT+) will be developed via partnering. Unlike most other AITs (subcutaneous or sublingual), ASIT's products only require four injections before the allergy season. The second Phase III study for gp-ASIT+ is underway and results are expected after the pollen season of 2019. We expect ASIT biotech to self-market gp-ASIT+ in Europe and out-license all other rights ex-Europe. The recently announced private placement of convertible bonds that fully funds ASIT's clinical programmes until Q320 was completed in July.

**INDUSTRY OUTLOOK**

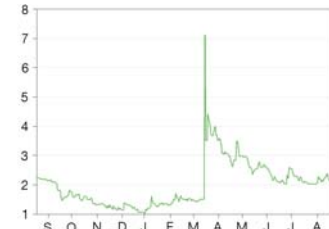
Although grass pollen and house dust mite allergies are not life threatening in most cases, they result in a significant symptom burden for affected patients. With a safe and effective short-course pre-seasonal regimen, ASIT could expect some usage in patients accepting immunotherapy and the 50% of patients who refuse the existing almost year-round immunotherapy.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.0	(12.0)	(12.0)	(93.6)	N/A	N/A
2018	0.0	(12.8)	(14.3)	(85.7)	N/A	N/A
2019e	0.0	(9.9)	(9.7)	(48.1)	N/A	N/A
2020e	0.0	(5.3)	(5.5)	(19.1)	N/A	N/A

**Sector: Pharma & healthcare**

Price: US\$2.18  
 Market cap: US\$20m  
 Market: NASDAQ

**Share price graph (US\$)**



**Company description**

Based in Seattle, WA, Atossa Genetics is focused on the development of locally administered pharmaceuticals for the treatment of pre-cancer and early-stage breast cancer. Lead candidate afimoxigene topical gel is expected to start a Phase II study in 2016 in breast hyperplasia or DCIS.

**Price performance**

%	1m	3m	12m
Actual	3.8	(13.5)	(5.6)
Relative*	8.0	(13.9)	(7.2)

\* % Relative to local index

**Analyst**

Pooya Hemami

## Atossa Genetics (ATOS)

**INVESTMENT SUMMARY**

Atossa is advancing endoxifen, a metabolite of tamoxifen, as a topical treatment for high mammographic breast density (MBD), a condition associated with higher cancer risk, and gynecomastia. Atossa is also developing an oral endoxifen formulation to reduce cancer cell activity in the window of opportunity (WOO) between breast cancer diagnosis and surgery, and in women refractory to tamoxifen.

**INDUSTRY OUTLOOK**

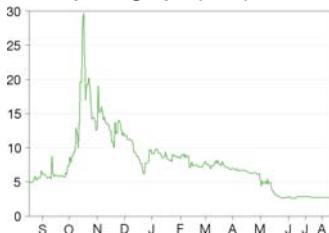
Atossa reported that MBD was reduced by an average of 14.3% in the 20mg daily group (p = 0.02) in its 90-patient Phase II topical endoxifen study in MBD, although 72 patients developed skin rashes/irritation and did not complete a full six months of dosing. Atossa is now also evaluating an oral formulation for MBD. The firm also is advancing a Phase II trial for oral endoxifen (WOO study), and recently started a Phase I study on a modified release oral endoxifen tablet. Atossa reported \$17.1m net cash at 30 June 2019, and we believe these funds can sustain operations into 2021.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.0	(7.1)	(7.2)	(1000.81)	N/A	N/A
2018	0.0	(11.4)	(11.4)	(551.10)	N/A	N/A
2019e	0.0	(11.8)	(11.6)	(127.54)	N/A	N/A
2020e	0.0	(7.1)	(7.0)	(76.82)	N/A	N/A

**Sector: Pharma & healthcare**

Price: US\$2.70  
 Market cap: US\$9m  
 Market: NASDAQ

**Share price graph (US\$)**



**Company description**

Auris Medical is a Swiss biopharmaceutical company developing neurology therapeutics. The company is developing intranasal betahistine in a Phase I trial for mental disorder supportive care and is entering Phase II for vertigo; both are designed to demonstrate proof-of-concept.

**Price performance**

%	1m	3m	12m
Actual	1.9	(15.1)	(43.8)
Relative*	6.0	(15.5)	(44.7)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Auris Medical Holding (EARS)

**INVESTMENT SUMMARY**

Auris Medical is a clinical-stage biopharmaceutical company developing pharmacotherapies for inner ear and CNS disorders. The company's primary focus is on the development of AM-125 (intranasal betahistine) for the treatment of acute vertigo. Oral betahistine dihydrochloride has been prescribed in Europe for decades for all types of vertigo, with an average 26% market share, but is not available in the US. Auris has initiated its Phase II clinical trial in 138 patients with surgically induced acute vertigo, with interim data expected in Q419/Q120. Auris is also developing AM-201, an intranasal betahistine formulation in Phase Ib, for co-administration with olanzapine to counteract adverse effects, especially weight gain. That trial is fully enrolled, with top-line data expected around the end of Q319.

**INDUSTRY OUTLOOK**

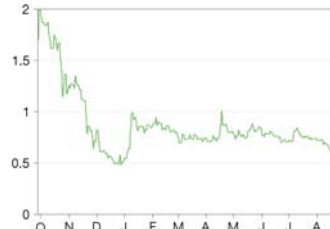
Acute vertigo/dizziness is one of the most common causes of visits to the emergency room with roughly 2.6m visits associated with the condition each year.

Y/E Dec	Revenue (CHFm)	EBITDA (CHFm)	PBT (CHFm)	EPS (CHFc)	P/E (x)	P/CF (x)
2017	0.0	(24.5)	(25.9)	(1072.03)	N/A	N/A
2018	0.0	(11.0)	(12.0)	(1532.81)	N/A	N/A
2019e	0.0	(11.0)	(11.0)	(377.63)	N/A	N/A
2020e	0.0	(17.9)	(18.8)	(426.39)	N/A	N/A



**Sector: Pharma & healthcare**

Price: US\$0.63  
 Market cap: US\$90m  
 Market: CSE

**Share price graph (US\$)**

**Company description**

Australis Capital is a company focused on US cannabis assets. It is acquiring a range of low-valuation cannabis assets that it believes will have staying power in the rapidly developing cannabis market, and has the goal of forming them into a fully operational and integrated US cannabis business.

**Price performance**

%	1m	3m	12m
Actual	(15.1)	(22.0)	N/A
Relative*	(11.7)	(22.4)	N/A

\* % Relative to local index

**Analyst**

Dr Nathaniel Calloway

## Australis Capital (AUSA)

**INVESTMENT SUMMARY**

Australis is in the process of building itself into a fully operational provider of medical and recreational cannabis. Its strategy is to acquire assets such as brands and technology that differentiate it from other players in the space. The recent agreement to acquire Green Therapeutics and to expand its growing operation should provide the production capacity for these brands and establish the company as a cannabis grower in the state of Nevada.

**INDUSTRY OUTLOOK**

The US cannabis industry is expected to grow at a more than 20% annual growth rate in the coming years as more states legalize recreational cannabis and the infrastructure is built in those states that have already legalized it. Moreover, US federal legalization may be a near-term inflection point for the industry, allowing operations to cross state lines and access to traditional sources of capital.

Y/E Mar	Revenue (C\$m)	EBITDA (C\$m)	PBT (C\$m)	EPS (fd) (c)	P/E (x)	P/CF (x)
2018	N/A	N/A	N/A	N/A	N/A	N/A
2019	0.1	(3.6)	(3.5)	(3.70)	N/A	N/A
2020e	0.1	(4.4)	(5.7)	(3.63)	N/A	N/A
2021e	0.1	(4.4)	(5.7)	(3.46)	N/A	N/A

**Sector: Pharma & healthcare**

Price: 22.5p  
 Market cap: £26m  
 Market: AIM

**Share price graph (p)**

**Company description**

Avacta is focused on the development of its Affimer technology for use in therapeutic and diagnostic/reagent applications. Assets include AVA004 (PD-L1), AVA021 (PD-L1/LAG-3) and AVA004/100 (PD-L1/I-DASH).

**Price performance**

%	1m	3m	12m
Actual	(15.9)	(21.1)	0.9
Relative*	(10.8)	(18.3)	7.6

\* % Relative to local index

**Analyst**

Dr Daniel Wilkinson

## Avacta Group (AVCT)

**INVESTMENT SUMMARY**

Avacta is developing its proprietary Affimer platform in therapeutic and diagnostic applications. Affimers have many of the epitope-binding characteristics of antibodies, but with a much smaller molecular size (and cost of goods). In addition, Affimers can be modified as bispecifics, drug-antibody conjugates (DACs) or half-life extenders, or combinations thereof. Avacta's first Affimer product to go into the clinic towards the end of 2020 is AVA004, an anti-PD1-L1 Affimer that is expected to prove safety and efficacy principles for Affimers that contain AVA004 as a component, such as the bispecific PD-L1/LAG3 Affimer, AVA021. Avacta has collaborations with LG Chem and Moderna, while the animal health and diagnostic applications of Affimers provide incremental revenues.

**INDUSTRY OUTLOOK**

The rise of biosimilar drugs, in Europe at least, has highlighted the need for new biological drugs by companies that previously developed protein drugs like monoclonal antibodies. These potential partners, as well as those which already have a branded antibody product, would be keen adopters of the Affimer technology that gives them second-generation bispecifics and DACs.

Y/E Dec	Revenue (£m)	EBITDA (£m)	PBT (£m)	EPS (fd) (p)	P/E (x)	P/CF (x)
2017	2.7	N/A	(7.9)	(9.8)	N/A	N/A
2018	2.8	N/A	(10.4)	(13.5)	N/A	N/A
2019e	3.2	N/A	(12.3)	(9.0)	N/A	N/A
2020e	5.2	N/A	(12.4)	(9.0)	N/A	N/A

**Sector: Pharma & healthcare**

Price: CHF36.14  
 Market cap: CHF429m  
 Market: Swiss Stock Exchange

**Share price graph (CHF)**



**Company description**

Basilea focuses on anti-infectives and oncology. Lead products are Cresemba (an antifungal), which is approved in the US and Europe, and Zevtera (an anti-MRSA broad-spectrum antibiotic), approved in many European and non-European countries for pneumonia.

**Price performance**

%	1m	3m	12m
Actual	(4.8)	(14.8)	(40.5)
Relative*	(3.6)	(15.4)	(44.9)

\* % Relative to local index

**Analyst**

Dr Susie Jana

## Basilea Pharmaceutica (BSLN)

**INVESTMENT SUMMARY**

Basilea has two approved hospital-based products: Cresemba (severe mould infections) and Zevtera (bacterial infections). Multiple licensing/distribution agreements are in place for Cresemba and Zevtera and should drive top-line growth, including Pfizer and Astellas, which market Cresemba in Europe (ex Nordics) and the US, respectively. In August, Basilea reported positive top-line data for Zevtera in the first cross-supportive Phase III study TARGET; top-line data from the ERADICATE study are expected H221, both are required for a US FDA submission. Basilea's oncology pipeline is spearheaded by derazantinib (pan-FGFR inhibitor), which is in a Phase II registration study for intrahepatic cholangiocarcinoma. A Phase I/II study for derazantinib in patients with advanced urothelial cancer has now been initiated, using both a monotherapy and combination approach with Roche's PD-L1 antibody atezolizumab (Tecentriq).

**INDUSTRY OUTLOOK**

There is an ever-increasing need for therapeutic agents that are efficacious against drug-resistant strains of bacteria (eg MRSA), fungus or cancer. Hence, the opportunities for Zevtera, Cresemba and Basilea's oncology pipeline could be significant.

Y/E Dec	Revenue (CHFm)	EBITDA (CHFm)	PBT (CHFm)	EPS (CHFc)	P/E (x)	P/CF (x)
2017	101.5	(15.2)	(18.9)	(178.36)	N/A	20.5
2018	132.6	(22.3)	(31.0)	(289.19)	N/A	N/A
2019e	N/A	N/A	N/A	N/A	N/A	N/A
2020e	N/A	N/A	N/A	N/A	N/A	N/A

**Sector: Pharma & healthcare**

Price: DKK2.67  
 Market cap: DKK467m  
 Market: NASDAQ OMX (CPH)

**Share price graph (DKK)**



**Company description**

BioPorto is a diagnostic company focused on the development and marketing antibodies and other products for research and diagnostics. This includes products marketed for research use and The NGAL Test for the prediction of kidney failure.

**Price performance**

%	1m	3m	12m
Actual	(19.2)	(33.1)	(21.6)
Relative*	(19.6)	(34.5)	(21.1)

\* % Relative to local index

**Analyst**

Dr Nathaniel Calloway

## BioPorto Diagnostics (BIOPOR)

**INVESTMENT SUMMARY**

BioPorto's lead strategic goal is development of a test for acute kidney injury (AKI) using the biomarker NGAL. For adults using plasma NGAL, the pivotal clinical trial is being completed with the 510(k) to be submitted to the FDA for approval in 2019. The company is acquiring new data for the pediatric urine NGAL 510(k), which it hopes to submit in Q419. The NGAL test is commercially available for research purposes in the US and has been CE marked in Europe. BioPorto also sells a series of other antibodies, ELISA kits and related biologics.

**INDUSTRY OUTLOOK**

The current standard of care for detecting AKI is serum creatinine, which can take 24 hours or more to detect AKI and can only do so after significant kidney damage. NGAL promises to provide a quicker and more reliable test, allowing early intervention to preserve kidney function.

Y/E Dec	Revenue (DKKm)	EBITDA (DKKm)	PBT (DKKm)	EPS (ore)	P/E (x)	P/CF (x)
2017	25.2	(33.1)	(34.2)	(20.59)	N/A	N/A
2018	26.0	(42.1)	(42.5)	(24.34)	N/A	N/A
2019e	38.6	(45.9)	(45.9)	(23.70)	N/A	N/A
2020e	53.7	(48.3)	(48.3)	(23.74)	N/A	N/A

**Sector: Pharma & healthcare**

Price: SEK33.50  
 Market cap: SEK1737m  
 Market: OMX

**Share price graph (SEK)**

**Company description**

BONESUPPORT is an orthobiologics company that has commercialised three synthetic bone graft substitutes and has several other projects in R&D. The marketed products, CERAMENT BVF, CERAMENT G (gentamicin) and CERAMENT V (vancomycin), are intended to help orthopaedic surgeons manage bone voids and defects after injuries or diseases affecting bones.

**Price performance**

%	1m	3m	12m
Actual	10.2	35.1	135.9
Relative*	16.8	40.0	139.5

\* % Relative to local index

**Analyst**

Dr Jonas Pecilius

## BONESUPPORT (BONEX)

**INVESTMENT SUMMARY**

BONESUPPORT's investment case rests on three strategic pillars: effective commercial organisation, products backed by clinical data and R&D innovation. The company is selling CERAMENT bone void filler (BVF) in the US and Europe, and two antibiotic-eluting BVF products CERAMENT G/V in Europe. BONESUPPORT terminated its agreement with its exclusive distributor in the US and has since set up a network of its own independent distributors to promote CERAMENT BVF in the US. The company recently signed agreements with MTF Biologics and Collagen Matrix to grow its product offering sold through its US platform, and has recently launched a new DBM product BONIFY.

**INDUSTRY OUTLOOK**

Innovation is one of the key strategic directions for BONESUPPORT to differentiate its products from competitors offering commodity-like bone graft substitutes. The company has gathered data and is undertaking clinical trials to support the claims of its marketed products.

Y/E Dec	Revenue (SEKm)	EBITDA (SEKm)	PBT (SEKm)	EPS (öre)	P/E (x)	P/CF (x)
2017	129.3	(98.1)	(127.1)	(321.63)	N/A	N/A
2018	96.6	(172.8)	(174.1)	(344.64)	N/A	N/A
2019e	199.9	(142.1)	(142.9)	(274.86)	N/A	N/A
2020e	298.9	(76.5)	(81.2)	(153.06)	N/A	N/A

**Sector: Pharma & healthcare**

Price: SEK9.98  
 Market cap: SEK855m  
 Market: NASDAQ OMX First North

**Share price graph (SEK)**

**Company description**

Brighter is a Swedish healthtech company focused on the development and commercialisation of self-monitoring and self-treatment health solutions for diabetes.

**Price performance**

%	1m	3m	12m
Actual	(6.7)	8.5	14.0
Relative*	(1.2)	12.4	15.7

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Brighter (BRIG)

**INVESTMENT SUMMARY**

Brighter is a healthtech company developing solutions for chronic diseases. Its initial strategy is the market introduction of Actiste, a remote monitoring and treatment service for diabetes. The service includes a unique patented device that integrates all the essential features for daily diabetes management, a blood glucose meter, a lancing device, an insulin injection pen, into a single unit with built-in mobile connection, and a digital platform for analysing and sharing data with family & friends, healthcare providers and other relevant stakeholders. The service also includes personalized home deliveries of daily consumables and continuous data-based feedback to motivate the user and stimulate increased treatment adherence. By eliminating thresholds and reducing the number of treatment steps to 9 from 28 in comparison to traditional self-blood glucose (SMBG) meters and insulin injection pens, Brighter's goal is to promote patient behavioral change of daily insulin-dependent diabetes management for better treatment outcome.

**INDUSTRY OUTLOOK**

In 2017, costs attributed to diagnosed diabetes and associated complications, such as cardiovascular disease and nephropathy, totalled \$327bn in the US. Patient opinions of treatment burden are heavily correlated with adherence to self-care.

Y/E Dec	Revenue (SEKm)	EBITDA (SEKm)	PBT (SEKm)	EPS (öre)	P/E (x)	P/CF (x)
2017	1.4	(19.7)	(22.8)	(40.00)	N/A	N/A
2018	1.1	(44.2)	(48.8)	(74.00)	N/A	N/A
2019e	2.5	(50.9)	(63.5)	(78.25)	N/A	N/A
2020e	24.5	(69.6)	(83.0)	(101.17)	N/A	N/A

**Sector: Pharma & healthcare**

Price: SEK15.28  
 Market cap: SEK1112m  
 Market NASDAQ OMX First North

**Share price graph (SEK)**

**Company description**

Cantargia is a clinical stage biotechnology company based in Sweden, established in 2009 and listed on Nasdaq Stockholm main market. It is developing two antibodies against IL1RAP, nidanilimab (CAN04) and CANxx. Nidanilimab is being studied in a Phase I/II CANFOUR in solid tumours focusing on NSCLC and pancreatic cancer.

**Price performance**

%	1m	3m	12m
Actual	(12.7)	(19.2)	(11.9)
Relative*	(7.5)	(16.3)	(10.6)

\* % Relative to local index

**Analyst**

Dr Jonas Peciulis

## Cantargia (CANT)

**INVESTMENT SUMMARY**

Cantargia is developing two antibodies against IL1RAP: Nidanilimab (CAN04) and CANxx. Nidanilimab is currently being studied in a Phase I/II CANFOUR trial where the Phase I part focuses on several solid tumours, and the Phase II part focuses on NSCLC and pancreatic cancer. The Phase I data (n = 22) were presented at ASCO 2019 and demonstrated a good nidanilimab's safety profile and a positive effect on biomarkers. The Phase II part of the study is now enrolling patients. Nidanilimab has a dual mechanism of action: inhibition of IL-1 signaling and antibody-dependent cellular cytotoxicity (ADCC). Novartis is conducting three Phase III trials in NSCLC with canakinumab (IL-1beta antibody) following some intriguing results from its six-year Phase III cardiovascular outcomes study in heart attack patients. Cantargia has recently raised SEK106m (gross) in a directed share issue.

**INDUSTRY OUTLOOK**

Increasing the understanding of inflammation in malignant process now includes findings that cytokines are not only produced by the immune cells, but also cancer itself could produce certain cytokines and the associated receptors to escape from the immune response. Therefore, cytokines represent potentially promising class of targets in cancer management.

Y/E Dec	Revenue (SEKm)	EBITDA (SEKm)	PBT (SEKm)	EPS (öre)	P/E (x)	P/CF (x)
2017	0.0	(60.0)	(60.3)	(186.00)	N/A	N/A
2018	0.0	(93.3)	(91.2)	(137.73)	N/A	N/A
2019e	0.0	(94.9)	(94.6)	(136.07)	N/A	N/A
2020e	0.0	(117.8)	(117.8)	(161.82)	N/A	N/A

**Sector: Pharma & healthcare**

Price: €19.50  
 Market cap: €184m  
 Market Euronext Growth

**Share price graph (€)**

**Company description**

Carmat is developing a biocompatible, artificial heart to satisfy the lack of donor hearts available for terminal heart failure patients. The development process combines the expertise of a wide range of technical and medical experts.

**Price performance**

%	1m	3m	12m
Actual	3.0	(3.5)	(25.0)
Relative*	8.8	(0.8)	(23.2)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Carmat (ALCAR)

**INVESTMENT SUMMARY**

Carmat is enrolling its 20-patient study for its artificial heart in France, Kazakhstan, the Czech Republic and Denmark. Data from the first cohort of 10 patients indicated that 70% of the patients within that cohort reached the primary endpoint of six-month survival with the bioprosthesis or a successful heart transplant within six months of the device implant. Further enrollment was paused in Q418 as the company perfected the manufacturing process. This new process has now been validated and production for the study has resumed.

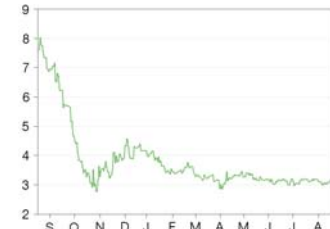
**INDUSTRY OUTLOOK**

The Carmat artificial heart is being developed as a permanent replacement or destination therapy for chronic biventricular heart failure or acute myocardial infarction patients who do not have access to a human donor heart. Despite the high EU and US prevalence of stage IV heart failure (c 500,000 patients), the shortfall in donor hearts is such that only about 3,800 human heart transplants were performed in Europe and the US in 2013.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2016	0.3	(24.1)	(25.7)	(379.73)	N/A	N/A
2017	0.0	(30.3)	(31.5)	(323.54)	N/A	N/A
2018e	0.7	(38.2)	(39.6)	(421.19)	N/A	N/A
2019e	0.0	(24.2)	(28.7)	(311.10)	N/A	N/A

**Sector: Pharma & healthcare**

Price: US\$3.20  
 Market cap: US\$306m  
 Market: NASDAQ

**Share price graph (US\$)**

**Company description**

CASI is a pharmaceutical company building a portfolio of drugs it intends to produce for Chinese and worldwide markets. These include proprietary drugs licensed from Spectrum, a portfolio of ANDAs, and is expanding a preclinical portfolio.

**Price performance**

%	1m	3m	12m
Actual	0.0	(0.6)	(56.7)
Relative*	4.0	(1.0)	(57.4)

\* % Relative to local index

**Analyst**

Dr Nathaniel Calloway

## CASI Pharmaceuticals (CASI)

**INVESTMENT SUMMARY**

CASI has a multipronged approach to the entrance into the Chinese pharmaceutical market. It recently received approval and launched Evomela (melphalan) in China via the priority review pathway because it was the first approval in the country for any melphalan product. It is also expanding its development pipeline through collaborations, with the recent licensing of an anti-CD38 drug (CID-103) and anti-CD19 CAR-T therapy (CNCT19).

**INDUSTRY OUTLOOK**

The Chinese regulatory authorities have made a series of substantial changes to their process for drug approval in recent years to improve the availability of new drugs. The Chinese National Medical Products Administration (NMPA, formerly the CFDA) has established new classes of applications for drugs that are previously approved outside of China. Additionally, there is a set of criteria for priority review, which can significantly reduce review times.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.0	(10.0)	(10.1)	(16.45)	N/A	N/A
2018	0.0	(19.4)	(20.0)	(23.65)	N/A	N/A
2019e	9.0	(16.4)	(16.8)	(17.20)	N/A	N/A
2020e	33.5	1.6	(2.9)	(2.86)	N/A	N/A

**Sector: Pharma & healthcare**

Price: NIS1.58  
 Market cap: NIS255m  
 Market: TASE

**Share price graph (NIS)**

**Company description**

Clal Biotechnology Industries is a healthcare investment company focused on investing in a variety of therapeutic, diagnostic, and medical device companies covering a full range of development phases from preclinical to post-market.

**Price performance**

%	1m	3m	12m
Actual	(25.0)	(37.6)	(50.3)
Relative*	(23.7)	(38.0)	(51.8)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Clal Biotechnology (CBI)

**INVESTMENT SUMMARY**

Clal Biotechnology (CBI) is a healthcare investment company with an extensive portfolio incorporating a diverse range of technologies, indications and stages of development. CBI holds direct investments in 10 companies (nine biotech and one medical device company), most importantly MediWound, a NASDAQ-listed wound care company and Gamida Cell, which is developing a universal bone marrow transplant product and recently listed on the NASDAQ. Also, Anchiano and Biokine have programmes in Phase III or Phase III ready. The year 2019 has already proven to be eventful for CBI's investments with MediWound announcing a successful Phase III study for NexoBrid as well as a license agreement for that product and Anchiano successfully listing on NASDAQ.

**INDUSTRY OUTLOOK**

CBI is invested in a variety of life science companies, including a wide and diverse range of technologies, indications and stages of development, all of which have high potential.

Y/E Dec	Revenue (NISm)	EBITDA (NISm)	PBT (NISm)	EPS (NIS)	P/E (x)	P/CF (x)
2017	73.6	(103.3)	(54.2)	(15.02)	N/A	N/A
2018	85.3	(54.0)	(40.9)	(18.21)	N/A	N/A
2019e	N/A	N/A	N/A	N/A	N/A	N/A
2020e	N/A	N/A	N/A	N/A	N/A	N/A



**Sector: Pharma & healthcare**

Price: €0.85  
 Market cap: €14m  
 Market: Euronext Growth

**Share price graph (€)**

**Company description**

Deinove is a biotechnology company that discovers, develops and produces high value-added compounds using its state-of-the-art bacterial strain selection, banking, fermentation and screening facilities. The most valuable compounds in the pipeline are novel antimicrobials, with lead asset DNV3837 ready for Phase II trial.

**Price performance**

%	1m	3m	12m
Actual	(25.0)	(27.9)	(65.3)
Relative*	(20.8)	(25.9)	(64.5)

\* % Relative to local index

**Analyst**

Dr Jonas Peciulis

## Deinove (ALDEI)

**INVESTMENT SUMMARY**

FY18 has been a pivotal year for Deinove with the launch of two products in its cosmetic division and a number of deals. These include the acquisition of Morphochem's clinical-stage antibiotic DNV3837 (formerly MCB3837) and R&D collaboration agreements with Naicons, bioMérieux and Calibr. More recently, Deinove signed a collaboration agreement with the Institut Pasteur and a product development collaboration with Dow. The launch of a second, internally developed carotenoid product is planned in 2019, while the initiation of the Phase II trial with DNV3837, expected later this year, will be a milestone R&D event. In July 2019, Deinove raised new funds by issuing convertible notes for up to €15m to enable it to launch a Phase II clinical trial for the Morphochem compound and finance its other activities.

**INDUSTRY OUTLOOK**

Environmentalism will underpin growth in green chemistry and growing antimicrobial resistance to current antibiotics will demand the discovery of new antibiotic structures.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.2	(8.5)	(9.7)	(67.69)	N/A	N/A
2018	0.8	(9.4)	(10.5)	(61.25)	N/A	N/A
2019e	1.1	(11.8)	(13.2)	(68.40)	N/A	N/A
2020e	2.9	(11.0)	(12.4)	(63.11)	N/A	N/A

**Sector: Pharma & healthcare**

Price: 39.5p  
 Market cap: £17m  
 Market: AIM

**Share price graph (p)**

**Company description**

Destiny Pharma is dedicated to the discovery, development and commercialisation of new antimicrobial agents that have unique properties to improve outcomes for patients. Destiny's first product, XF-73, is about to start a US Phase IIb clinical study.

**Price performance**

%	1m	3m	12m
Actual	(41.9)	(51.2)	(59.9)
Relative*	(38.4)	(49.6)	(57.2)

\* % Relative to local index

**Analyst**

Andy Smith

## Destiny Pharma (DEST)

**INVESTMENT SUMMARY**

Destiny Pharma is a virtual UK antimicrobial discovery company in Phase II clinical studies in the US. Destiny's XF series of antimicrobial agents are novel, rapidly bactericidal and not associated with bacterial resistance, which typically limits the use of other antimicrobial agents. This makes Destiny's lead product, XF-73, ideal for the prevention of post-operative infections, an indication in which no other drugs have been approved. The activity of the XF-series against resistant bacteria may also have utility in the treatment of infections with a biofilm component like cystic fibrosis. We forecast Destiny's cash reach well into 2020, with Phase IIb results for XF-73 around the end of 2019.

**INDUSTRY OUTLOOK**

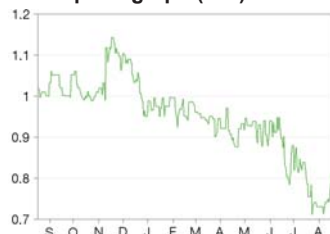
While there are valid commercial criticisms of antibiotic development, the growing problem of antimicrobial resistance is making non-dilutive and alternative funding methods available to make antimicrobial drug development easier on companies. In addition, resistance has not been observed against Destiny's agents and their new preventative indications make antibiotic stewardship less of an issue.

Y/E Dec	Revenue (£m)	EBITDA (£m)	PBT (£m)	EPS (fd) (p)	P/E (x)	P/CF (x)
2017	0.0	(2.5)	(3.2)	(8.45)	N/A	N/A
2018	0.0	(5.3)	(6.0)	(11.86)	N/A	N/A
2019e	0.3	(8.6)	(8.5)	(17.69)	N/A	N/A
2020e	0.0	(4.7)	(4.7)	(7.06)	N/A	N/A



**Sector: Pharma & healthcare**

Price: NIS0.81  
 Market cap: NIS188m  
 Market: TASE

**Share price graph (NIS)**

**Company description**

Elbit Medical Technologies is an Israeli biomedical and healthcare technology group. Its portfolio of two companies is focused on medical devices and therapeutics: InSightec, which develops and markets the ExAblate platform for non-invasive thermal tissue ablation, and Gamida Cell, which is developing a universal bone marrow transplant.

**Price performance**

%	1m	3m	12m
Actual	1.6	(8.6)	(20.6)
Relative*	3.4	(9.2)	(23.0)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Elbit Medical Technologies (EMTC)

**INVESTMENT SUMMARY**

Elbit Medical Technologies is an Israel-based healthcare investment company. The company holds a ~22% (~18.5% fully diluted) stake in InSightec, a commercial-stage medical device company. InSightec's ExAblate uses MRI and high-intensity focused ultrasound to perform precise and incisionless thermal tissue ablation. ExAblate has achieved FDA and CE approval for three distinct indications, with revenues of \$32.1m for FY17. The company is also invested in Gamida Cell (~8%), which is developingomidubical (NiCord), a product derived from umbilical cord blood (UCB) stem cells, for the treatment of high-risk haematological malignancies. Enrolment is underway for a Phase III study with enrolment expected to be complete in H219 with data in H120. Gamida Cell recently went public on the NASDAQ, raising \$53m.

**INDUSTRY OUTLOOK**

Elbit Medical Technologies is invested in the healthcare sector through its holdings in two companies that are developing medical device and therapeutic technologies.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.0	(0.7)	(5.2)	0.0	N/A	N/A
2018	23.0	22.1	3.8	0.12	1.9	0.1
2019e	N/A	N/A	N/A	N/A	N/A	N/A
2020e	N/A	N/A	N/A	N/A	N/A	N/A

**Sector: Pharma & healthcare**

Price: €5.80  
 Market cap: €35m  
 Market: NASDAQ OMX Mid Cap

**Share price graph (€)**

**Company description**

Herantis Pharma is a Finnish innovative biopharmaceutical company focusing on regenerative medicines for unmet needs. Key assets include CDNF for Parkinson's disease and Lymfactivin for breast cancer associated lymphedema.

**Price performance**

%	1m	3m	12m
Actual	(1.7)	8.4	(16.5)
Relative*	3.6	11.8	(7.7)

\* % Relative to local index

**Analyst**

Dr Susie Jana

## Herantis Pharma (HRTS)

**INVESTMENT SUMMARY**

Herantis Pharma's two lead assets are cerebral dopamine neurotrophic factor (CDNF), a potential disease-modifying treatment for Parkinson's disease (PD), and Lymfactivin, the only gene therapy in development for breast cancer-related associated secondary lymphedema (BCAL). The underlying science for both is novel. Top-line data from an ongoing proof-of-concept Phase I/II trial for CDNF in PD can be expected before end-2019, and the Lymfactivin Phase II trial for BCAL (AdeLE) can be expected by end-2020; positive readouts for either would serve as strong validation of the research efforts and could crystallize value through partnering opportunities for these unique assets. €5.8m in funding has been secured to prepare for subsequent clinical development.

**INDUSTRY OUTLOOK**

Herantis Pharma is focused on the development of innovative regenerative medicines targeting unmet needs. Key assets include CDNF for Parkinson's disease and Lymfactivin for breast cancer-associated lymphedema.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.0	N/A	(2.2)	(0.5)	N/A	N/A
2018	0.0	N/A	(4.2)	(0.8)	N/A	N/A
2019e	0.0	N/A	(4.5)	(0.9)	N/A	N/A
2020e	0.0	N/A	(4.2)	(0.9)	N/A	N/A

**Sector: Pharma & healthcare**

Price: 328.5p  
 Market cap: £2190m  
 Market: AIM, NASDAQ

**Share price graph (p)**



**Company description**

Hutchison China MediTech (HCM) is an innovative China-based biopharma company targeting the global market for novel, highly selective oral oncology and immunology drugs. Its established China Healthcare business is growing ahead of the market. HCM is the healthcare arm of CK Hutchison (c 40% listed on AIM and NASDAQ).

**Price performance**

%	1m	3m	12m
Actual	(8.8)	(18.4)	(28.0)
Relative*	(3.2)	(15.6)	(23.2)

\* % Relative to local index

**Analyst**

Dr Susie Jana

## Hutchison China MediTech (HCM)

**INVESTMENT SUMMARY**

Hutchison China MediTech (HCM) has built a substantial pipeline of potentially first- or best-in-class tyrosine kinase inhibitor drugs, some of which are in development with strategic partners. HCM has announced key late-stage asset surufatinib met the primary endpoint of PFS in non-pancreatic NET at the Phase III interim analysis. This translates into an earlier than expected China NDA submission (Q419) and the potential launch of HCM's first unpartnered asset (early 2021). We forecast two further product launches on the horizon in 2021/22 (China launch of fruquintinib in gastric cancer and global launch of savolitinib in NSCLC). Inclusion of fruquintinib to China's NRDL (potentially Q419) presents another near-term inflection, as this would enable automatic stocking in state-funded hospitals (and reimbursement). At 30 June 2019, HCM had net cash of \$237.3m.

**INDUSTRY OUTLOOK**

HCM's profitable Chinese healthcare business continues to benefit from the fast-growing domestic market, while the clinical, regulatory and technological environments are highly conducive to novel drug development. In the longer term, as the oncology pipeline comes to fruition, we expect HCM to become a major oncology company globally.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	241.2	(50.7)	(53.5)	(4.3)	N/A	N/A
2018	214.1	(89.0)	(86.7)	(11.3)	N/A	N/A
2019e	182.9	(144.8)	(147.0)	(17.7)	N/A	N/A
2020e	194.4	(172.4)	(178.2)	(22.1)	N/A	N/A

**Sector: Pharma & healthcare**

Price: SEK13.30  
 Market cap: SEK1227m  
 Market: OMX

**Share price graph (SEK)**



**Company description**

Immunicum is a clinical-stage immuno-oncology company based in Stockholm, Sweden. The company is developing an allogeneic dendritic cell immune primer for use in combination with other anticancer therapies including CPIs in multiple solid tumour indications.

**Price performance**

%	1m	3m	12m
Actual	15.7	68.4	75.2
Relative*	22.5	74.5	77.9

\* % Relative to local index

**Analyst**

Dr Jonas Pecuilis

## Immunicum (IMMU)

**INVESTMENT SUMMARY**

Immunicum is a NASDAQ Sweden-listed, clinical-stage immuno-oncology (IO) company that is developing allogeneic dendritic cell technologies. Its first clinical product, ilixadencel, is in Phase I and II combination studies in several solid tumour indications. The funding of SEK351m gross raised in Q418 extended the cash runway until the end of 2021 and several milestones are achievable before then. These include Phase I/II MERECA trial top-line results in Q319, interim safety data from the Phase I/III ILIAD trial around end 2019 and full safety results in 2020. Although full results from the ILIAD trial are not likely until 2022, safety data are key, as this will be the first time ilixadencel is combined with a checkpoint inhibitor and will allow the company to engage in negotiations with potential partners before the full ILIAD results are available.

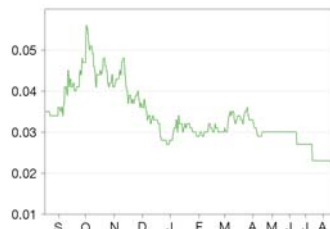
**INDUSTRY OUTLOOK**

IO is a frenetic pharmaceutical development area with many clinical combination studies being conducted by pharmaceutical and biotech companies. Investors should expect relatively rich newsflow from this sub-sector over the next several years.

Y/E Dec	Revenue (SEKm)	EBITDA (SEKm)	PBT (SEKm)	EPS (öre)	P/E (x)	P/CF (x)
2017	0.0	(80.6)	(80.3)	(3.1)	N/A	N/A
2018	0.0	(97.8)	(97.9)	(1.9)	N/A	N/A
2019e	0.0	(119.9)	(119.9)	(1.3)	N/A	N/A
2020e	0.0	(121.6)	(121.6)	(1.3)	N/A	N/A

**Sector: Pharma & healthcare**

Price: A\$0.02  
 Market cap: A\$81m  
 Market: ASX

**Share price graph (A\$)**

**Company description**

Immuteq has a pipeline of four LAG-3 related product candidates: eftilagimod alpha (IMP321) for cancer chemo-immunotherapy and immunotherapy-immunotherapy combinations, two partnered products IMP731 (GSK) and IMP701 (Novartis), as well as IMP761 for autoimmune diseases.

**Price performance**

%	1m	3m	12m
Actual	(8.7)	(27.1)	(37.8)
Relative*	(5.2)	(27.9)	(38.5)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Immuteq (IMM)

**INVESTMENT SUMMARY**

Immuteq has three promising candidates in clinical trials and one preclinical asset, based on Lymphocyte activation gene-3, LAG-3 (two partnered with GSK and Novartis, respectively). Lead in-house product, eftilagimod alpha (efti), is being developed in metastatic breast cancer combined with chemo (227-patient randomised Phase IIb fully recruited in June 2019, topline PFS data due Q120) and in melanoma in combination with Keytruda (61% exploratory response rate from start of Keytruda monotherapy screening in three dose-finding cohorts, 3/6 (50%) responders in an additional cohort). Novartis and GSK are progressing clinical trials of partnered LAG-3 programmes: GSK has announced ulcerative colitis as lead indication; Novartis has five ongoing Phase I/II studies with LAG525.

**INDUSTRY OUTLOOK**

Immunotherapies are among the most promising class of products for cancer and autoimmune diseases. The LAG-3 products are potentially first-in-class, each with distinct mechanisms and applications.

Y/E Jun	Revenue (A\$m)	EBITDA (A\$m)	PBT (A\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	4.1	(7.8)	(8.4)	(0.4)	N/A	N/A
2018	6.9	(11.4)	(10.9)	(0.5)	N/A	N/A
2019e	10.9	(7.6)	(6.9)	(0.2)	N/A	N/A
2020e	2.8	(15.3)	(14.6)	(0.4)	N/A	N/A

**Sector: Pharma & healthcare**

Price: C\$0.26  
 Market cap: C\$45m  
 Market: TSX

**Share price graph (C\$)**

**Company description**

InMed is a biopharmaceutical company focused on manufacturing and developing cannabinoids. Its main pipeline product is INM-755 for epidermolysis bullosa, a serious, debilitating orphan indication.

**Price performance**

%	1m	3m	12m
Actual	(24.6)	(44.1)	(62.3)
Relative*	(23.0)	(43.1)	(62.1)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## InMed Pharmaceuticals (IN)

**INVESTMENT SUMMARY**

InMed is a Canada-based biopharmaceutical company focused on maximizing the therapeutic potential of cannabinoids. Through its biosynthesis platform, the company believes it has distinct advantages over both naturally sourced and chemically synthesized cannabinoids, which could give it access to both the medical and retail markets, although the process is still in development. The company is also developing a proprietary pipeline, including INM-755 for epidermolysis bullosa (EB), a serious orphan indication, and expects to file a CTA for INM-755 in H219 with initiation of a 30 person Phase I by the end of the year.

**INDUSTRY OUTLOOK**

The market for cannabinoids, whether FDA-approved, medical or recreational is growing at a fantastic rate. Legal cannabis sales in the US alone were around \$7.5 billion in 2017 and we expect it to grow to \$28 billion by 2023.

Y/E Jun	Revenue (C\$m)	EBITDA (C\$m)	PBT (C\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.0	(3.3)	(3.2)	(3.27)	N/A	N/A
2018	0.0	(5.5)	(5.3)	(3.74)	N/A	N/A
2019e	0.0	(9.0)	(8.4)	(4.92)	N/A	N/A
2020e	0.0	(14.0)	(13.9)	(7.79)	N/A	N/A

**Sector: Pharma & healthcare**

Price: US\$0.70  
 Market cap: US\$5m  
 Market: OTC

**Share price graph (US\$)**



**Company description**

International Stem Cell is an early-stage biotechnology company developing therapeutic, biomedical and cosmeceutical applications for its proprietary stem form of pluripotent stem cells – human parthenogenetic stem cells (hpSCs). Its lead candidate is a cell therapy treatment for Parkinson’s disease.

**Price performance**

%	1m	3m	12m
Actual	(21.3)	(36.7)	(53.9)
Relative*	(18.2)	(37.0)	(54.7)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## International Stem Cell (ISCO)

**INVESTMENT SUMMARY**

International Stem Cell (ISCO) is in Phase I/IIa clinical trials with its ISC-hpNSC therapy to treat Parkinson’s disease (PD), and recently completed dosing of the third cohort (a total of 12 patients across all three cohorts) with full data in H120. It also has commercial operations to leverage its human parthenogenetic stem cell technology and generate revenues to partially offset R&D spending for therapeutic development. Lifeline Skin Care (LSC) develops and sells skincare products and Lifeline Cell Technology (LCT) produces human cell culture products for testing. Sales in 2018 were up 48.7% compared with 2017, mainly due to LCT revenues which were up 78.4% year-on-year.

**INDUSTRY OUTLOOK**

ISCO’s technology platform is based on human parthenogenetic stem cells (hpSCs). Parthenogenetic stem cells are created from unfertilised human eggs (oocytes) chemically activated to make the cells pluripotent. As hpSCs express fewer parental histocompatibility antigens, they reduce the risk of immune rejection.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	7.5	(4.6)	(4.9)	(118.86)	N/A	N/A
2018	11.1	(3.2)	(3.5)	(54.38)	N/A	N/A
2019e	9.9	(3.6)	(4.1)	(54.10)	N/A	N/A
2020e	10.7	(7.9)	(9.3)	(116.27)	N/A	N/A

**Sector: Pharma & healthcare**

Price: A\$0.35  
 Market cap: A\$22m  
 Market: ASX

**Share price graph (A\$)**



**Company description**

Kazia Therapeutics has two clinical stage anti-cancer drugs: GDC-0084 (targeting glioblastoma) and Cantrixil (targeting ovarian cancer). GDC-0084 was licensed from Genentech, and Kazia is seeking other in-licence opportunities.

**Price performance**

%	1m	3m	12m
Actual	(12.5)	(22.2)	(26.3)
Relative*	(9.1)	(23.0)	(27.1)

\* % Relative to local index

**Analyst**

Dr John Savin

## Kazia Therapeutics (KZA)

**INVESTMENT SUMMARY**

Kazia Therapeutics develops two anti-cancer compounds, GDC-0084 and Cantrixil. GDC-0844 is in four Phase IIa studies to test if it slows glioblastoma progression. A planned Phase IIb efficacy trial will recruit 224 first-line patients. A further Phase I trial led by Memorial Sloan Kettering Cancer Center was announced in July. It combines GDC-0084 with radiotherapy to treat brain metastases that have a specific mutation; data is expected after two years. The ongoing Phase I ovarian cancer trial of Cantrixil showed promising dose-response data in April 2019 and has now completed recruitment of 12 patients in an expansion cohort to test efficacy at the 5mg dose; data is expected by late 2019. Cash (31 Dec 2018) was AU\$5.4m with a AU\$2.9m tax credit due. The H1 operational cash outflow was AU\$4.3m.

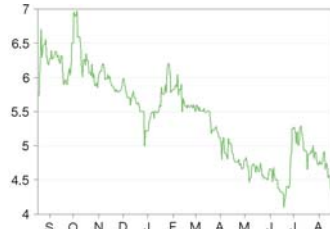
**INDUSTRY OUTLOOK**

Kazia Therapeutics is listed on the ASX and NASDAQ. Its two drug technology platforms are GDC-0084, a PI3K inhibitor licensed from Genentech, and a Cantrixil, a third-generation benzopyrans.

Y/E Jun	Revenue (A\$m)	EBITDA (A\$m)	PBT (A\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	8.6	(10.2)	(10.9)	(22.8)	N/A	N/A
2018	13.0	(4.9)	(6.3)	(12.5)	N/A	N/A
2019e	3.1	(10.5)	(13.9)	(25.1)	N/A	N/A
2020e	3.1	(11.3)	(12.6)	(20.2)	N/A	N/A

**Sector: Pharma & healthcare**

Price: €4.32  
 Market cap: €119m  
 Market Scale

**Share price graph (€)**

**Company description**

MagForce has a European approved nanotechnology-based therapy to treat brain cancer. Nanoparticles are injected into the tumour and activated by an external magnetic field, producing heat and thermally destroying or sensitising the tumour.

**Price performance**

%	1m	3m	12m
Actual	(12.0)	(7.2)	(21.7)
Relative*	(5.4)	(1.2)	(17.1)

\* % Relative to local index

**Analyst**

Dr Susie Jana

## MagForce (MF6)

**INVESTMENT SUMMARY**

MagForce is progressing its strategy to drive uptake and acceptance (in the US and Europe) of its nanoparticle-based therapy for cancer. MagForce has recently expanded from Germany into Poland and will have four centres in Europe that are commercially capable of treating glioblastoma patients by end-2019. A loan of up to €35m from the European Investment Bank and €5m gross proceeds from a recent private placement will continue to fund the roll-out. A pivotal clinical trial for prostate cancer is ongoing in the US, with commercial treatments potentially starting in Q420 following regulatory approval; the opportunity in the US will become a significant driver for growth in the long term.

**INDUSTRY OUTLOOK**

MagForce's NanoTherm therapy is designed to directly target cancerous tissue while sparing surrounding healthy tissue. Magnetic nanoparticles are directly instilled into a tumour or a resection cavity and activated by specialist equipment (NanoActivator). This can either thermally ablate tumours or sensitise them to other treatments (chemotherapy or radiotherapy).

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.7	(8.8)	(9.5)	(36.0)	N/A	N/A
2018	0.1	(7.1)	(8.7)	(32.8)	N/A	N/A
2019e	0.7	(9.6)	(10.5)	(38.7)	N/A	N/A
2020e	2.9	(5.3)	(6.6)	(23.7)	N/A	N/A

**Sector: Pharma & healthcare**

Price: €5.55  
 Market cap: €136m  
 Market FRA

**Share price graph (€)**

**Company description**

Medigene is a German biotech company focusing on cancer immunotherapy. A T cell receptor (TCR) candidate has recently entered the clinic and a dendritic cell (DC) vaccine Phase I/II clinical study is ongoing in Phase II.

**Price performance**

%	1m	3m	12m
Actual	(19.6)	(34.4)	(58.6)
Relative*	(13.6)	(30.1)	(56.2)

\* % Relative to local index

**Analyst**

Dr Daniel Wilkinson

## Medigene (MDG1)

**INVESTMENT SUMMARY**

Medigene is focused on the rapid development of its cancer immunotherapy technology platforms: dendritic cell (DC) cancer vaccines, adoptive T-cell therapy (TCR) and T-cell specific antibodies (TABs). For TCRs, Medigene has initiated its first company-led trial with MDG1011 in patients with PRAME expressing AML, MDS or MM. The partnership with bluebird bio, utilising its TCR technology platform, was expanded in 2018 to include six preclinical candidates. The company has announced a collaboration agreement with Roivant/Cytovant for three TCR projects and a DC vaccine, for Greater China, South Korea, and Japan. Medigene is well-funded to execute its clinical programme. As of 30 June, net cash was €65.3m.

**INDUSTRY OUTLOOK**

Cancer immunotherapy is attracting huge biotech investor interest. Medigene's DC vaccine technology is a new generation, with multiple potential efficacy and manufacturing benefits over the forerunners, eg Provenge. The TCR programme has similarities to CAR-T products, but with potentially significant efficacy and safety advantages.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	8.9	(14.6)	(15.1)	(71.93)	N/A	N/A
2018	7.8	(16.3)	(16.5)	(69.82)	N/A	N/A
2019e	10.7	(27.6)	(25.9)	(105.46)	N/A	N/A
2020e	9.7	(26.4)	(24.7)	(100.88)	N/A	N/A



**Sector: Pharma & healthcare**

Price: A\$1.40  
Market cap: A\$696m  
Market: ASX

**Share price graph (A\$)**

**Company description**

Mesoblast is developing adult stem cell therapies based on its proprietary MPC and culture-expanded MSC platforms. It has six late-stage clinical trials across four areas.

**Price performance**

%	1m	3m	12m
Actual	(7.6)	(5.7)	(13.1)
Relative*	(4.1)	(6.7)	(14.1)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Mesoblast (MSB)

**INVESTMENT SUMMARY**

The potentially pivotal 55 paediatric patient acute graft vs host disease (GvHD) study met its primary endpoint, with a 69% overall response rate vs 45% for historical controls (p=0.0003). Survival at day 180 was 69% compared to historical rates of 10–30% in Grade C/D disease patients. Based on these results, the company initiated a rolling BLA submission in May. Importantly, in February 2019, the company announced that their DREAM HF-1 trial of MPC-150-IM in 566 NYHA Class II-III heart failure patients dosed the last patient with results expected in H120. The company expects to meet with the FDA in the coming months to discuss a regulatory filing in LVAD patients.

**INDUSTRY OUTLOOK**

Mesoblast is a leading mesenchymal stem cell company. It has a manufacturing alliance with Lonza. JCR Pharmaceuticals markets Mesoblast's GvHD therapy in Japan; FY18 royalties were US\$3.6m plus a US\$1.5m milestone.

Y/E Jun	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (fd) (c)	P/E (x)	P/CF (x)
2017	1.9	(82.2)	(83.3)	(17.69)	N/A	N/A
2018	17.0	(66.2)	(68.6)	(8.35)	N/A	N/A
2019e	N/A	N/A	N/A	N/A	N/A	N/A
2020e	N/A	N/A	N/A	N/A	N/A	N/A

**Sector: Pharma & healthcare**

Price: A\$0.05  
Market cap: A\$61m  
Market: ASX

**Share price graph (A\$)**

**Company description**

MGC Pharmaceuticals (ASX: MXC) is an Australia-headquartered specialist medical cannabis biopharma company, which has most of its operations based in Europe. Management has many years of technical, clinical and commercial experience in the medical cannabis industry.

**Price performance**

%	1m	3m	12m
Actual	(9.1)	(20.6)	(12.3)
Relative*	(5.6)	(21.5)	(13.3)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## MGC Pharmaceuticals (MXC)

**INVESTMENT SUMMARY**

MGC Pharmaceuticals is developing cannabis-based pharmaceutical products, initially in Australia and Europe. It is already growing medicinal cannabis crops in the Czech Republic and in Slovenia has established one of the few fully GMP-certified resin extraction and separation plants in Europe. It plans to establish larger-scale operations in Malta. It imported the first shipments of GMP-certified CannEpiL into Australia and the UK in December 2018 and May 2019 respectively, for prescription by specialist doctors. The company intends to develop CannEpiL and CogniCann as registered pharmaceutical treatments for refractory epilepsy and to improve quality of life in dementia patients. A Phase II study of CogniCann is underway in Australia.

**INDUSTRY OUTLOOK**

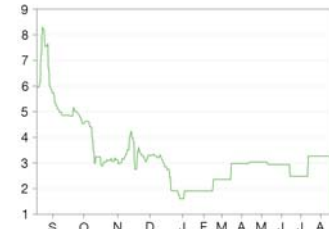
Increasing acceptance and regulatory approvals in many countries have made medicinal cannabis a fast-growing industry. Cannabinoids have generated promising data in many indications and are attracting considerable interest.

Y/E Jun	Revenue (A\$m)	EBITDA (A\$m)	PBT (A\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.1	(8.5)	(8.5)	(0.9)	N/A	N/A
2018	0.3	(8.9)	(9.0)	(0.8)	N/A	N/A
2019e	1.2	(6.8)	(6.8)	(0.6)	N/A	N/A
2020e	2.4	(7.6)	(7.7)	(0.6)	N/A	N/A



**Sector: Pharma & healthcare**

Price: €1.21  
Market cap: €15m  
Market: FRA

**Share price graph (€)**

**Company description**

MOLOGEN is a German biotech company developing cancer immunotherapies. The lead product is lefitolimod (MGN1703) for metastatic colorectal cancer maintenance, SCLC and HIV. Development of MGN1601, a therapeutic renal cell vaccine, would be reinitiated on successful out-licensing of lefitolimod.

**Price performance**

%	1m	3m	12m
Actual	(68.7)	(58.0)	(78.1)
Relative*	(66.4)	(55.3)	(76.8)

\* % Relative to local index

**Analyst**

Dr Susie Jana

## MOLOGEN (MGN)

**INVESTMENT SUMMARY**

Molgen is developing novel immunotherapies for use in the post-chemo maintenance setting (in cancer) and for the treatment of infectious diseases. The company has announced that its pivotal Phase III IMPALA trial testing lefitolimod as a maintenance therapy in patients with metastatic colorectal cancer has missed its primary endpoint of overall survival. In April Molgen completed a capital increase, raising gross proceeds of €4.2m, providing funding until end-2019. The deputy chairman of the Supervisory Board, Dr Stefan M Manth, has succeeded the outgoing CEO (Dr Faus) in addition to assuming the outgoing CFO's (Walter Miller) functions from 1 May 2019. Our forecasts and valuation are under review.

**INDUSTRY OUTLOOK**

Immunotherapies are among the most promising class of products for cancer. Molgen's lead asset lefitolimod is an immunotherapy in development for both cancer maintenance and combination therapies.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.0	(18.7)	(19.3)	(2.81)	N/A	N/A
2018	3.0	(11.3)	(11.9)	(1.28)	N/A	N/A
2019e	N/A	N/A	N/A	N/A	N/A	N/A
2020e	N/A	N/A	N/A	N/A	N/A	N/A

**Sector: Pcare & household prd**

Price: 7.0p  
Market cap: £6m  
Market: AIM

**Share price graph (p)**

**Company description**

NetScientific is a transatlantic biomedical and healthcare technology group. Its portfolio of five core investments and one material investment is focused on three main sectors: digital health (Wanda), diagnostics (Vortex, ProAxis, Glycotest) and therapeutics (PDS Biotech).

**Price performance**

%	1m	3m	12m
Actual	(9.7)	(20.0)	(80.3)
Relative*	(6.0)	(18.2)	(79.3)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## NetScientific (NSCI)

**INVESTMENT SUMMARY**

NetScientific has a focused portfolio of potentially disruptive biomedical and healthcare technology investments. Following a review of strategic alternatives, NetScientific has decided to de-list from the AIM and be a private company going forward. They also sold off their interests in core portfolio holdings Wanda and Vortex.

**INDUSTRY OUTLOOK**

NetScientific remains focused on sourcing, funding and building early- to mid-stage US and UK companies that are developing potentially breakthrough technologies in growing markets with unmet needs.

Y/E Dec	Revenue (£m)	EBITDA (£m)	PBT (£m)	EPS (p)	P/E (x)	P/CF (x)
2016	0.5	(12.6)	(12.3)	(20.6)	N/A	N/A
2017	0.4	(10.8)	(9.5)	(13.6)	N/A	N/A
2018e	N/A	N/A	N/A	N/A	N/A	N/A
2019e	N/A	N/A	N/A	N/A	N/A	N/A

**Sector: Pharma & healthcare**

Price: SEK1.79  
 Market cap: SEK333m  
 Market: NASDAQ OTCQX

**Share price graph (SEK)**

**Company description**

NeuroVive Pharmaceutical is a Swedish biopharmaceutical company with deep expertise in mitochondrial medicine. It has a diversified portfolio in terms of indications and employs a dual strategy: it develops a core portfolio of assets for orphan diseases and seeks to out-license proprietary products for non-orphan indications.

**Price performance**

%	1m	3m	12m
Actual	43.2	39.8	(60.9)
Relative*	51.7	45.0	(60.3)

\* % Relative to local index

**Analyst**

Dr Jonas Peciulis

## NeuroVive Pharmaceutical (NVP)

**INVESTMENT SUMMARY**

NeuroVive Pharmaceutical is a mitochondrial medicine specialist. The company's core portfolio targets orphan indications: various genetic mitochondrial diseases with KL1333 and NVP015, mitochondrial myopathy with NVP025 and traumatic brain injury (TBI) with NeuroSTAT. The KL1333 project, in-licensed from Yungjin Pharm in May 2017, demonstrated positive results in the first Phase I trial in South Korea. In July 2019, NeuroVive initiated the second part of its ongoing second Phase la/b clinical study with KL1333. NeuroVive's IND for clinical development of NeuroSTAT in TBI has been approved by the FDA and preparations for the Phase II efficacy study are ongoing. So far in 2019 NeuroVive has raised SEK108m net, licensed two research compounds from NVP015 programme to Oroboros, initiated the second part in its ongoing Phase la/b clinical study with KL1333 and received FDA IND and Fast Track designation for NeuroSTAT in TBI.

**INDUSTRY OUTLOOK**

NeuroVive has a diversified portfolio with all assets aimed at improving mitochondrial metabolism and function. We feel this puts NeuroVive among the very few experts in mitochondrial medicine.

Y/E Dec	Revenue (SEKm)	EBITDA (SEKm)	PBT (SEKm)	EPS (fd) (öre)	P/E (x)	P/CF (x)
2017	0.6	(67.9)	(70.1)	(149.31)	N/A	N/A
2018	2.5	(66.7)	(68.8)	(94.07)	N/A	N/A
2019e	1.5	(91.8)	(92.0)	(63.56)	N/A	N/A
2020e	1.5	(114.9)	(115.0)	(64.60)	N/A	N/A

**Sector: Pharma & healthcare**

Price: CHF5.90  
 Market cap: CHF105m  
 Market: Swiss Stock Exchange

**Share price graph (CHF)**

**Company description**

Newron is a CNS-focused biotech. Xadago (partnered with Zambon, US WorldMeds, Meiji Seika, Sequirus) for PD has been launched in Europe and the US. Other pipeline assets include Sarizotan (Phase III for RS) and Evenamide (Phase II for schizophrenia).

**Price performance**

%	1m	3m	12m
Actual	(7.1)	(27.8)	(44.7)
Relative*	(5.9)	(28.3)	(48.8)

\* % Relative to local index

**Analyst**

Dr Susie Jana

## Newron Pharmaceuticals (NWRN)

**INVESTMENT SUMMARY**

Newron's lead product, Xadago (safinamide) for Parkinson's disease (PD) has been launched in 14 European countries through commercial partner Zambon, in the US by sublicensee US WorldMeds and in July partner Valeo launched the drug in Canada. Newron will continue to participate in sale through royalty income. The pivotal Phase II/III trial (STARS), investigating sarizotan for awake breathing disorders associated with Rett syndrome, is expected to report top-line data in Q419. Further preclinical/Phase I data are required before Newron can start the two Phase II/III studies for Evenamide (as an add-on to atypical antipsychotics for schizophrenia). As of 31 December 2018, Newron had net cash and short-term investments of €43.9m and can access an additional €40m in loan facilities from the European Investment Bank, the first tranche of which was drawn down in June.

**INDUSTRY OUTLOOK**

The market for treating CNS disorders is substantial and growing. Xadago has a unique position as an add-on to levodopa therapy in Parkinson's disease, with its once-a-day dosing and a clean safety profile.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	13.4	(4.3)	(5.3)	(32.32)	N/A	N/A
2018	4.0	(14.9)	(15.0)	(84.20)	N/A	N/A
2019e	8.6	(14.3)	(14.2)	(79.39)	N/A	N/A
2020e	21.7	(3.6)	(3.5)	(19.80)	N/A	N/A

**Sector: Pharma & healthcare**

Price: SEK5.12  
 Market cap: SEK361m  
 Market: NASDAQ OMX First North

**Share price graph (SEK)**

**Company description**

Oncology Venture is a biopharmaceutical company with a patent-protected mRNA-based drug response predictor platform that identifies patients highly likely to respond to treatment. The company is entering Phase II with six in-licensed drugs.

**Price performance**

%	1m	3m	12m
Actual	51.5	25.8	(36.0)
Relative*	60.5	30.4	(35.0)

\* % Relative to local index

**Analyst**

Dr Nathaniel Calloway

## Oncology Venture (ov.ST)

**INVESTMENT SUMMARY**

Oncology Venture holds the worldwide drug development rights to the drug response predictor (DRP), a microarray technology that examines the expression of a panel of genes to identify potential responders to different cancer therapies. The company's goal is to then develop its portfolio of drugs that are active within populations that the DRP can identify. To date, the company has in-licensed six drugs and has an option to a seventh drug and is in the early stages of validating the platform in prospective trials in the clinic.

**INDUSTRY OUTLOOK**

Oncology Venture and the DRP system have the potential to identify the value in drug assets that have otherwise been discontinued by identifying patient populations where these drugs are active. This allows the company to in-license these assets at low cost, which the company may then out-license after clinical validation.

Y/E Dec	Revenue (DKKm)	EBITDA (DKKm)	PBT (DKKm)	EPS (ore)	P/E (x)	P/CF (x)
2017	5.1	(23.8)	(31.0)	(127.00)	N/A	N/A
2018	2.1	(32.3)	(22.5)	(44.00)	N/A	N/A
2019e	3.6	(210.6)	(211.1)	(264.34)	N/A	N/A
2020e	3.6	(96.9)	(96.0)	(124.58)	N/A	N/A

**Sector: Pharma & healthcare**

Price: €0.68  
 Market cap: €37m  
 Market: Euronext Paris

**Share price graph (€)**

**Company description**

Onxeo is developing innovative oncology drugs based on DNA-targeting and epigenetics. The lead compound, AsiDNA, is a first-in-class DNA break repair inhibitor based on a unique decoy mechanism and currently evaluated in a phase I trial (DRIV-1) for systemic administration in solid tumors.

**Price performance**

%	1m	3m	12m
Actual	(11.9)	(18.6)	(42.8)
Relative*	(6.9)	(16.3)	(41.4)

\* % Relative to local index

**Analyst**

Dr Jonas Pecuilis

## Onxeo (ONXEO)

**INVESTMENT SUMMARY**

Onxeo's lead asset AsiDNA, a first-in-class DNA break repair inhibitor, is now being tested in the Phase Ib part of the DRIV-1 trial at the Institut Curie in Paris in patients with advanced solid tumours in combination with chemotherapy. AsiDNA has already generated supportive data from a Phase I trial in melanoma using intratumoural injection, but is now being tested via systemic administration. Onxeo is conducting a broad preclinical programme that explores AsiDNA in various settings and combinations with other drugs. AsiDNA is part of the proprietary, novel platON platform and is based on decoy oligonucleotides. The platON platform belongs to the so-called DNA damage response (DDR) technology, a domain to which recently marketed PARP inhibitors also belong. After receiving \$7.5m from the sale of rights to royalties from Beleodaq and a €5.4m equity financing line, cash reach will extend into Q320 past the AsiDNA Phase I results.

**INDUSTRY OUTLOOK**

The approval of the first PARP inhibitor (olaparib) has kick started the interest of both the scientific community and large pharma in the DNA Damage Response (DDR) field. Few biotechs are already positioned in this emerging field which may be the successor to immuno-oncology.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (fd) (c)	P/E (x)	P/CF (x)
2017	9.5	(17.4)	(19.7)	(23.58)	N/A	N/A
2018	6.1	(3.0)	(4.2)	5.09	13.4	N/A
2019e	N/A	N/A	N/A	N/A	N/A	N/A
2020e	N/A	N/A	N/A	N/A	N/A	N/A

**Sector: Pharma & healthcare**

Price: US\$0.26  
 Market cap: US\$5m  
 Market: NASDAQ

**Share price graph (US\$)**



**Company description**

OpGen is a diagnostic company focused on revolutionizing the identification and treatment of bacterial infections. The Acuitas AMR Gene Panel molecular test, in combination with the Acuitas Lighthouse bioinformatics product, detects multiple pathogens and predicts antibiotic resistance in less than three hours.

**Price performance**

%	1m	3m	12m
Actual	(20.6)	(37.1)	(85.3)
Relative*	(17.4)	(37.4)	(85.5)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## OpGen (OPGN)

**INVESTMENT SUMMARY**

OpGen is a diagnostic company focused on revolutionizing the identification and treatment of bacterial infections. The Acuitas AMR Gene Panel molecular test, in combination with the Acuitas Lighthouse bioinformatics product, allows for the detection of five pathogens as well as 47 resistance genes and mutations, while also predicting the resistance for 14 antibiotics in less than three hours, a major improvement over the two to three days current methods require. OpGen announced that it has filed for 510(k) clearance of its Acuitas AMR Gene Panel test in bacterial isolates in May.

**INDUSTRY OUTLOOK**

It currently takes days to test a patient sample to find out if they have an infection, what they are infected with and to which drugs that infection might be susceptible. This can lead to a delay in treatment or the wrong treatment being prescribed. According to the Centers for Disease Control and Prevention (CDC), there are over two million cases of drug-resistant bacterial infections every year.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	3.2	(15.3)	(15.6)	(981.24)	N/A	N/A
2018	2.9	(13.2)	(13.4)	(167.56)	N/A	N/A
2019e	4.0	(13.3)	(13.6)	(87.05)	N/A	N/A
2020e	5.0	(15.3)	(15.5)	(86.63)	N/A	N/A

**Sector: Pharma & healthcare**

Price: SEK59.30  
 Market cap: SEK2058m  
 Market: NASDAQ OMX Mid Cap

**Share price graph (SEK)**



**Company description**

Orexo is a Swedish speciality pharma company, with expertise in drug delivery/reformulation technologies (in particular sublingual formulations) and a US commercial infrastructure for opioid dependence therapy Zubsolv (also filed in Europe). Orexo also has two clinical assets and three preclinical programmes.

**Price performance**

%	1m	3m	12m
Actual	(14.6)	(19.2)	35.5
Relative*	(9.5)	(16.3)	37.6

\* % Relative to local index

**Analyst**

Andy Smith

## Orexo (ORX)

**INVESTMENT SUMMARY**

Orexo generated positive EBITDA and operating cash flow in FY16, FY17 and FY18. US commercial and public formulary coverage is dynamic but exclusive contracts among private insurers and state Medicaid are having a positive impact on US Zubsolv volumes and sales. The IP infringement appeal on the US Zubsolv IP was resolved in Orexo's favor without recourse. Zubsolv generics are precluded before September 2032 and the other patent cases against Actavis are subject to Orexo's appeal. Zubsolv was approved in Europe in 2018 and is being partnered in the EU. Orexo's focus now shifts to business development, M&A and sales force leverage while its CoGS reduction is expected to result in a material improvement in profitability. We are cautious on the effect of multiple generic Suboxone film entries on Zubsolv's US market share but Zubsolv was robust in Q219 and we can point to many other sources of upside in 2019.

**INDUSTRY OUTLOOK**

Opioid dependence diagnosis/treatment rates are low due to social stigma, limited access to therapy in parts of the US and affordability. Competition includes Suboxone film (Indivior), Bunavail (BDSI) and six generic bup/nal tablets.

Y/E Dec	Revenue (SEKm)	EBITDA (SEKm)	PBT (SEKm)	EPS (öre)	P/E (x)	P/CF (x)
2017	643.7	57.4	29.7	67.00	88.5	13.3
2018	783.1	95.8	92.2	399.01	14.9	14.0
2019e	879.4	215.5	220.6	611.84	9.7	11.4
2020e	852.3	204.9	187.1	491.13	12.1	19.1

**Sector: Pharma & healthcare**

Price: €2.73  
 Market cap: €125m  
 Market Madrid Stock Exchange

**Share price graph (€)**

**Company description**

Oryzon Genomics is a Spanish biotech focused on epigenetics. Iadademstat (Phase IIa) is being explored for acute leukaemias and SCLC; vafidemstat, its CNS product, is in Phase IIa trials in MS, AD and aggression. Newer asset ORY-3001 is being developed for certain orphan indications.

**Price performance**

%	1m	3m	12m
Actual	(27.7)	(33.8)	(25.3)
Relative*	(21.9)	(28.9)	(18.7)

\* % Relative to local index

**Analyst**

Dr Jonas Peciulis

## Oryzon Genomics (ORY)

**INVESTMENT SUMMARY**

Oryzon's expertise lies in developing small molecule inhibitors for epigenetic targets. The company has a total of five Phase II studies ongoing with its two lead assets iadademstat (a specific LSD1 inhibitor) and vafidemstat (a dual LSD1/MAOB inhibitor). In April 2019, the first efficacy data were published from a Phase IIa REIMAGINE trial with vafidemstat in aggressiveness (BPD and adult ADHD cohorts) and showed that all primary and secondary endpoints were met. Further data (in additional psychiatric patients and in AD) will be published in coming months. In June 2019, Oryzon published the first positive data (dose-finding, initial efficacy) from a Phase IIa ALICE trial with iadademstat in AML, while in July 2019 the interim data was presented from the Phase IIa ETHERAL trial with vafidemstat in AD. Two other Phase IIa trials with vafidemstat in MS and iadademstat in SCLC are also expected to deliver data in coming months.

**INDUSTRY OUTLOOK**

Epigenetics is a relatively young field in terms of drug development. Oryzon is among the leading clinical-stage drug developers with a second generation of epigenetic therapeutics, which have greater selectivity and potentially a favourable safety/efficacy profile than the first generation HDAC inhibitors.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	4.3	(3.5)	(4.6)	(14.29)	N/A	N/A
2018	6.8	(2.8)	(3.7)	(3.37)	N/A	N/A
2019e	6.1	(6.0)	(6.8)	(17.31)	N/A	N/A
2020e	6.1	(6.2)	(6.8)	(17.35)	N/A	N/A

**Sector: Pharma & healthcare**

Price: €3.48  
 Market cap: €52m  
 Market Euronext Paris

**Share price graph (€)**

**Company description**

OSE Immunotherapeutics is an immunotherapy company based in Nantes and Paris, France and listed on the Euronext Paris exchange. OSE is currently developing immunotherapies for the treatment of solid tumours and autoimmune diseases and has established several partnerships with large pharma companies.

**Price performance**

%	1m	3m	12m
Actual	(7.9)	(9.4)	(7.2)
Relative*	(2.7)	(6.9)	(4.9)

\* % Relative to local index

**Analyst**

Dr Jonas Peciulis

## OSE Immunotherapeutics (OSE)

**INVESTMENT SUMMARY**

OSE Immunotherapeutics is a drug developer that focuses on both oncology and immune disorders, with an R&D pipeline diversified across different indications and mechanisms of action. Long-term collaborations with top research institutions enable the company to identify novel targets in a cost-effective and time-efficient manner, and develop products for R&D and out-licensing. The success of this model is demonstrated by several commercial partnerships, including a deal with Boehringer Ingelheim (BI) in April 2018 for a total value of €1.1bn plus royalties. OSE's most advanced internal programme is Tedopi for NSCLC (Phase III), with first results from 100 patients expected Q419/Q120. In February 2019, a milestone payment was triggered from Servier of €10m and a €15m milestone was triggered from BI in June 2019. OSE recently launched a new bispecific platform BiCKI which is in preclinical stage.

**INDUSTRY OUTLOOK**

OSE operates within the field of immunotherapy, and has products in development for both immunological diseases and cancer indications. We expect OSE's strong relationships with research institutions and internal expertise to be a significant advantage in continuing to develop pipeline products with partnering potential.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	6.7	(12.5)	(12.6)	(72.0)	N/A	N/A
2018	24.5	5.0	4.8	38.0	9.2	27.3
2019e	27.0	7.5	7.4	50.0	7.0	6.1
2020e	0.0	(19.6)	(19.7)	(133.0)	N/A	N/A



**Sector: Pharma & healthcare**

Price: 645.0p  
Market cap: £495m  
Market: LSE

**Share price graph (p)**

**Company description**

Oxford Biomedica's (OXB) LentiVector technology underpins the company's strategy. OXB generates significant revenue from partners that utilise its technology, notably Novartis, Bioverativ, Orchard Therapeutics and Immune Design. OXB is in partnering discussions about internally developed assets.

**Price performance**

%	1m	3m	12m
Actual	(6.4)	(6.5)	(27.5)
Relative*	(0.7)	(3.3)	(22.7)

\* % Relative to local index

**Analyst**

Dr Daniel Wilkinson

## Oxford Biomedica (OXB)

**INVESTMENT SUMMARY**

Oxford BioMedica (OXB) is a global leader in lentiviral development and manufacturing. Maiden profits last year are evidence of strong operational momentum and ongoing validation of its business model. OXB is expanding its manufacturing facilities, more than doubling its current capacity by 2020 to match the increasing demand and to continue growing its platform revenues. In the near term, revenue will continue to be driven by the Novartis partnership for CAR-T Kymriah as the commercial roll-out continues. OXB has several established development and manufacturing partnerships including Sanofi, Orchard Therapeutics, Axovant and Boehringer Ingelheim and is continually looking to spin-out its internally developed assets. OXB recently announced a new collaboration with Santen to develop gene therapies for inherited retinal disorders. As of 31 December, OXB had gross cash of £32.2m.

**INDUSTRY OUTLOOK**

Cell- and gene-therapy is the focus of much industry attention as it can dramatically alter the outcomes of many diseases. OXB's proprietary lentivector platform has demonstrated promise in many indications.

Y/E Dec	Revenue (£m)	EBITDA (£m)	PBT (£m)	EPS (p)	P/E (x)	P/CF (x)
2017	37.6	(2.6)	(13.1)	(16.7)	N/A	134.0
2018	66.8	13.5	0.3	4.3	150.0	32.7
2019e	75.8	15.3	5.5	11.4	56.6	32.8
2020e	88.6	17.6	12.5	19.9	32.4	32.6

**Sector: Pharma & healthcare**

Price: NZ\$0.24  
Market cap: NZ\$120m  
Market: NZSX

**Share price graph (NZ\$)**

**Company description**

Pacific Edge develops and sells a portfolio of molecular diagnostic tests based on biomarkers for the early detection and management of cancer. Tests utilising its Cxbladder technology for detecting and monitoring bladder cancer are sold in the US, New Zealand and Australia.

**Price performance**

%	1m	3m	12m
Actual	11.9	(4.1)	(28.8)
Relative*	11.9	(8.0)	(37.7)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Pacific Edge (PEB)

**INVESTMENT SUMMARY**

Pacific Edge develops and sells a portfolio of molecular diagnostic tests based on biomarkers for the early detection and management of cancer. Tests using its Cxbladder technology for detecting and monitoring bladder cancer are sold in the US, New Zealand, Australia and Singapore. The company recently announced results for 2019, including 12.3% growth in Cxbladder sales compared to 2018. Pacific Edge is in the process of gaining inclusion in the CMS's local coverage determination (LCD), which would enable reimbursement and negotiation for payment of more than 17,015 tests previously performed on patients covered by CMS as of the end of FY19. The company has completed two of the three components necessary for national reimbursement in the US, namely CPT codes and a national price of US\$760 per test.

**INDUSTRY OUTLOOK**

Molecular diagnostics is a growing, but increasingly competitive field. Lead times from the initiation of user programmes to payment can be long.

Y/E Mar	Revenue (NZ\$m)	EBITDA (NZ\$m)	PBT (NZ\$m)	EPS (c)	P/E (x)	P/CF (x)
2018	4.6	(19.5)	(19.6)	(4.5)	N/A	N/A
2019	4.8	(17.8)	(17.8)	(3.7)	N/A	N/A
2020e	5.9	(17.5)	(17.4)	(3.4)	N/A	N/A
2021e	24.5	0.0	(0.2)	0.0	N/A	153.1



**Sector: Pharma & healthcare**

Price: €2.21  
 Market cap: €141m  
 Market: FRA

**Share price graph (€)**

**Company description**

PAION is a specialty pharma company developing anaesthesia products. Its lead product, remimazolam, is partnered with Mundipharma in Japan, Yichang in China, Hana Pharma in S Korea, Cosmo in the US, Pendopharm in Canada and R-Pharm in CIS, Turkey and MENA.

**Price performance**

%	1m	3m	12m
Actual	(12.0)	0.5	(4.5)
Relative*	(5.3)	7.0	1.0

\* % Relative to local index

**Analyst**

Dr John Savin

## Paion (PA8)

**INVESTMENT SUMMARY**

Assuming a successful FDA review of remimazolam for procedural sedation (PS), due by 5 April 2020, Paion is set for 20–25% royalties from US sales made by Cosmo. A European regulatory filing for PS will now be made in H219 allowing a possible European launch in 2021, an abbreviated EMA filing for general anaesthesia (GA) might be made by late 2020. Paion had €19.2m June 19 cash and with expected 2020 milestones, Paion is funded into H220. Paion has a European Investment Bank loan facility of €20m available until June 2021; €5m will be drawn in H219. Paion intends to market remimazolam directly in some countries in Europe but this will need investment.

**INDUSTRY OUTLOOK**

Remimazolam is an ultra-short-acting sedative/anaesthetic and its profile should drive US market uptake for short procedures such as colonoscopy. Remimazolam has important advantages over competing products (midazolam and propofol), including fast onset and offset of action with excellent safety and a reversal agent.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	5.8	(15.9)	(15.9)	(20.5)	N/A	N/A
2018	2.8	(12.5)	(12.4)	(15.9)	N/A	N/A
2019e	8.0	(11.1)	(11.1)	(14.2)	N/A	N/A
2020e	25.0	10.8	10.8	19.6	11.3	13.1

**Sector: Pharma & healthcare**

Price: US\$2.56  
 Market cap: US\$292m  
 Market: NASDAQ

**Share price graph (US\$)**

**Company description**

PDL has reinvented itself through a three-pronged strategy: investing in royalty streams of marketed and development-stage therapeutics and providing high-yield debt financing to device & diagnostic companies with near-term product launches.

**Price performance**

%	1m	3m	12m
Actual	(19.2)	(15.5)	9.9
Relative*	(16.0)	(15.9)	8.0

\* % Relative to local index

**Analyst**

Maxim Jacobs

## PDL BioPharma (PDLI)

**INVESTMENT SUMMARY**

PDL BioPharma is a healthcare-focused company with a three-pronged strategy: investing in royalty streams, providing high-yield financing to life science companies with near-term product launches as well as purchasing all or part of commercial or near-commercial pharmaceutical companies. This strategy allows investors to gain exposure in healthcare through a relatively low-risk, diversified vehicle. PDL recently invested \$60m in two tranches of \$30m each in Evofem, a women's health company that is preparing to submit an NDA for Amphora, a non-hormonal female contraceptive, in Q419 with approval expected in Q220. According to the CDC, 61.7% of the 60.9 million women aged 15–44 use contraception and according to Evaluate Pharma, \$6.5bn worth of hormonal contraceptives were sold in 2018.

**INDUSTRY OUTLOOK**

PDL BioPharma is one of the only companies that will give broad exposure to diverse royalty streams as well as corporate debt and high margin approved products.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	320.1	218.8	200.3	81.33	3.1	9.8
2018	198.1	84.1	78.8	45.22	5.7	N/A
2019e	91.3	(10.8)	(15.9)	(19.48)	N/A	N/A
2020e	123.6	16.0	11.6	8.44	30.3	N/A

**Sector: Pharma & healthcare**

Price: NOK52.10  
 Market cap: NOK1136m  
 Market: Oslo

**Share price graph (NOK)**

**Company description**

Photocure specialises in photodynamic therapy. Its bladder cancer imaging product is sold as Hexvix in Europe and Cysview in the US. Photocure handles the marketing in Nordic countries and the US, while Ipsen is its marketing partner in the EU.

**Price performance**

%	1m	3m	12m
Actual	(11.4)	13.3	21.3
Relative*	(6.1)	21.4	36.7

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Photocure (PHO)

**INVESTMENT SUMMARY**

Photocure is a commercial-stage Norwegian specialty pharmaceutical company that currently markets Hexvix/Cysview for diagnosing and managing bladder cancer. Recently, the US Centers for Medicare & Medicaid Services (CMS) issued a final rule that would improve reimbursement for a large number of procedures. Also, following positive Phase III results in the surveillance setting, the company received FDA approval for that indication and launched the product in May 2018. Sales may have significant upside if the product successfully expands into the US bladder cancer surveillance market, which has 1.2m-1.4m procedures per year, compared to its original market of 325,000 transurethral resection of the bladder (TURB) procedures.

**INDUSTRY OUTLOOK**

Photocure is a photodynamic therapy company focused on bladder cancer. As its products typically are a combination of a drug and a device, hurdles for generics are typically higher than with other therapeutics.

Y/E Dec	Revenue (NOKm)	EBITDA (NOKm)	PBT (NOKm)	EPS (öre)	P/E (x)	P/CF (x)
2017	150.9	(33.1)	(41.6)	(161.0)	N/A	N/A
2018	181.5	(10.5)	(22.5)	(104.0)	N/A	N/A
2019e	260.9	38.6	21.8	69.0	75.5	81.4
2020e	289.5	55.9	49.3	163.0	32.0	52.5

**Sector: Pharma & healthcare**

Price: €1.26  
 Market cap: €26m  
 Market: Euronext Paris

**Share price graph (€)**

**Company description**

Pixium Vision develops retinal implants for patients with severe vision loss. PRIMA, a wireless sub-retinal implant, designed for Dry-ARMD patients, is in a human clinical stage in Europe and is recruiting patients in its US feasibility study.

**Price performance**

%	1m	3m	12m
Actual	(14.7)	(21.3)	(24.6)
Relative*	(9.9)	(19.2)	(22.7)

\* % Relative to local index

**Analyst**

Pooya Hemami

## Pixium Vision (PIX)

**INVESTMENT SUMMARY**

Pixium Vision is developing the Prima wireless photovoltaic sub-retinal implant, which transforms images into electrical signals to elicit a form of central visual perception in patients with severe retinal disease. Positive data from its EU Prima feasibility study in patients with atrophic dry age-related macular degeneration were reported in Q119. All five implantations were followed by successful activations and reported light perception in areas where there had been none prior to implantation. Pixium plans to start implantations in a US Prima feasibility study in H219 and to start an EU pivotal study by mid-2020 that we expect will incorporate improved augmented reality glasses within the Prima system.

**INDUSTRY OUTLOOK**

Pixium held €10.2m in gross cash at 30 June 2019, which we estimate will fund operations into Q220. Prima has been designed and being evaluated in clinical studies as a potential treatment option for dry AMD, a common disease in aging population and a significant unmet medical need.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (fd) (c)	P/E (x)	P/CF (x)
2017	2.5	(11.7)	(13.5)	(102.07)	N/A	N/A
2018	1.6	(6.1)	(8.1)	(43.67)	N/A	N/A
2019e	1.9	(9.4)	(11.3)	(50.49)	N/A	N/A
2020e	0.0	(15.9)	(20.9)	(92.99)	N/A	N/A

**Sector: Pharma & healthcare**

Price: €4.85  
 Market cap: €82m  
 Market: Euronext Paris

**Share price graph (€)**

**Company description**

Quantum Genomics is a biopharmaceutical company developing QGC001, a brain aminopeptidase A inhibitor for the treatment of hypertension and heart failure. Its mechanism is implicated in the 25% of patients resistant to treatment.

**Price performance**

%	1m	3m	12m
Actual	(12.6)	(3.4)	156.3
Relative*	(7.7)	(0.7)	162.6

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Quantum Genomics (ALQGC)

**INVESTMENT SUMMARY**

Quantum Genomics is investigating brain aminopeptidase A inhibitors, a new class of drug, for the treatment of hypertension and heart failure. The company recently released data from the Phase IIb NEW-HOPE trial, which strongly suggests that firibastat is an efficacious, safe drug. After eight weeks of treatment, patients saw a statistically significant reduction from baseline ( $p < 0.0001$ ) in systolic blood pressure of 9.7mmHg. A pivotal Phase III in resistant hypertension patients is expected to begin in H219. The company recently initiated their Phase IIb of firibastat in heart failure patients, with results expected in H220.

**INDUSTRY OUTLOOK**

The angiotensin pathway is one of the primary methods of modulating blood pressure and is the target of many anti-hypertensive drugs, including ACE's and ARB's. However, there is a parallel pathway in the brain responsible for the secretion of vasopressin and heart rate that is unaddressed by current drugs and that is being targeted by Quantum Genomics.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.0	(10.3)	(10.3)	(93.45)	N/A	N/A
2018	0.0	(13.6)	(13.6)	(93.94)	N/A	N/A
2019e	0.0	(16.8)	(17.6)	(88.49)	N/A	N/A
2020e	0.0	(20.9)	(23.1)	(111.62)	N/A	N/A

**Sector: Pharma & healthcare**

Price: US\$6.87  
 Market cap: US\$195m  
 Market: NASDAQ, TASE

**Share price graph (US\$)**

**Company description**

RedHill Biopharma is a specialty pharma company with a broad R&D pipeline focusing on gastrointestinal and inflammatory diseases and also promotes several GI products in the US. The most advanced programs are TALICIA for H. pylori infection, RHB-104 for Crohn's disease, BEKINDA for gastroenteritis and IBS-D, and RHB-204 for NTM.

**Price performance**

%	1m	3m	12m
Actual	(17.9)	(9.6)	11.7
Relative*	(14.6)	(10.0)	9.9

\* % Relative to local index

**Analyst**

Dr Jonas Peculius

## RedHill Biopharma (RDHL)

**INVESTMENT SUMMARY**

RedHill has a broad R&D pipeline and is focusing on GI and inflammatory diseases. The most advanced assets are TALICIA (RHB-105) for Helicobacter pylori infection (PDUFA date 2 November 2019); RHB-104 for Crohn's disease (positive top-line results from first Phase III announced July 2018); BEKINDA for both gastroenteritis (positive results from first Phase III announced June 2017) and IBS-D (positive final Phase II results announced January 2018); and RHB-204 for pulmonary non-tuberculous mycobacteria infections (pivotal Phase III trial to start in Q419). RedHill promotes several GI products in the US (Donnatal, EnteraGam and Mytesi). The company raised \$20m gross from its recent offering in December 2018.

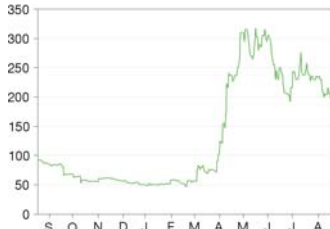
**INDUSTRY OUTLOOK**

RedHill's main focus on GI and inflammation include a range of conditions, which although can be treated with a variety of innovative and established products, there is still an unmet need in each of the diseases. In our view, carefully positioned, innovative solutions for the patients will attract attention.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (fd) (c)	P/E (x)	P/CF (x)
2017	4.0	(51.9)	(45.5)	(25.79)	N/A	N/A
2018	8.4	(39.2)	(38.8)	(16.79)	N/A	N/A
2019e	10.0	(39.5)	(39.5)	(13.93)	N/A	N/A
2020e	13.0	(36.7)	(36.8)	(12.97)	N/A	N/A

**Sector: Pharma & healthcare**

Price: 201.0p  
 Market cap: £64m  
 Market: LSE

**Share price graph (p)**

**Company description**

ReNeuron is a UK biotech company developing allogeneic cell therapies: CTX neural stem cell products for stroke disability (Phase IIb) and human retinal progenitor cells for retinitis pigmentosa (Phase I/II).

**Price performance**

%	1m	3m	12m
Actual	(18.0)	(36.6)	116.1
Relative*	(13.0)	(34.4)	130.5

\* % Relative to local index

**Analyst**

Andy Smith

## ReNeuron Group (RENE)

**INVESTMENT SUMMARY**

ReNeuron is focused on three cell therapy-based programs. The CTX neural stem cell program demonstrated positive response rates in key measures that were sustained after extended follow-up. ReNeuron has started the placebo-controlled pivotal Phase IIb trial in chronic stroke disability with data expected in H2 2020. ReNeuron also has the hRPC (human retinal progenitor cells) program for retinitis pigmentosa (currently in a Phase I/IIb study). Interim and follow-up data on the RP Phase I/II study was announced in H119 and early efficacy was striking with more data in H219. Both CTX and hRPC products have been partnered with Fosun in China. The exosome platform (generated from the CTX cell line) is a further source of drug-delivery business development for ReNeuron.

**INDUSTRY OUTLOOK**

Limited drug development has targeted chronic stroke to date, which is the area in which ReNeuron is attempting to demonstrate a meaningful reduction in disability. If shown, it would offer a compelling case for further development and/or partnering. The recent striking RP data makes a partnering transaction more likely and has become the focus for investors.

Y/E Mar	Revenue (£m)	EBITDA (£m)	PBT (£m)	EPS (p)	P/E (x)	P/CF (x)
2018	0.9	(20.2)	(21.0)	(55.66)	N/A	N/A
2019	2.7	(18.0)	(17.2)	(45.16)	N/A	N/A
2020e	0.0	(24.1)	(24.1)	(63.67)	N/A	N/A
2021e	0.0	(27.9)	(27.9)	(73.74)	N/A	N/A

**Sector: Pharma & healthcare**

Price: SEK16.30  
 Market cap: SEK310m  
 Market: SE

**Share price graph (SEK)**

**Company description**

RhoVac is an immunotherapy company listed on the Spotlight Stock Market in Sweden, with a 100%-owned subsidiary in Denmark. It is currently developing a peptide-based immunotherapy, RV001, which aims to train the immune system to specifically target cancer cells with metastatic potential.

**Price performance**

%	1m	3m	12m
Actual	(8.1)	(10.9)	(65.2)
Relative*	(2.6)	(4.5)	(60.8)

\* % Relative to local index

**Analyst**

Dr Jonas Pecuilis

## RhoVac (RHOVAC)

**INVESTMENT SUMMARY**

RhoVac is developing RV001, a cancer immunotherapy designed to prevent or limit metastasis by activating T-cells against cells with metastatic potential. The therapy contains fragments of the protein RhoC, which is overexpressed in cells with metastatic potential across a range of cancers. The recently raised SEK154m net will be used for a Phase IIb study in prostate cancer (results in H221) and a potential Phase II combination study with a checkpoint inhibitor in a different solid tumour indication. RhoVac will require a partner following positive Phase IIb results.

**INDUSTRY OUTLOOK**

Metastatic cancer is the most advanced stage of cancer and is terminal. Unfortunately, a large proportion of patients who are diagnosed with cancer already have metastases. Preventing or halting metastasis through inhibiting the metastatic cascade or selectively killing cells with metastatic potential could help to improve survival.

Y/E Dec	Revenue (SEKm)	EBITDA (SEKm)	PBT (SEKm)	EPS (öre)	P/E (x)	P/CF (x)
2017	0.0	(12.9)	(12.9)	(134.0)	N/A	N/A
2018	0.0	(20.1)	(20.2)	(195.0)	N/A	N/A
2019e	0.0	(37.0)	(36.6)	(256.0)	N/A	N/A
2020e	0.0	(50.0)	(49.4)	(259.0)	N/A	N/A

**Sector: Pharma & healthcare**

Price: €22.80  
 Market cap: €1278m  
 Market Madrid Stock Exchange

**Share price graph (€)**

**Company description**

Laboratorios Farmacéuticos ROVI is a fully integrated Spanish speciality pharmaceutical company involved in the development, in-licensing, manufacture and marketing of small molecule and speciality biologic drugs with a particular expertise in low molecular weight heparin (LMWH).

**Price performance**

%	1m	3m	12m
Actual	14.9	27.0	35.3
Relative*	24.2	36.3	47.1

\* % Relative to local index

**Analyst**

Dr Susie Jana

## ROVI Laboratorios Farmaceuticos (ROVI)

**INVESTMENT SUMMARY**

ROVI is a profitable speciality healthcare company that markets ~40 proprietary and in-licensed products across nine core franchises, mainly in its domestic Spanish market. ROVI is at a major inflection point since obtaining market authorisation for its internally developed enoxaparin biosimilar (Becat) in multiple countries. ROVI has commenced marketing in several European countries and has signed out-licensing agreements that cover 91 countries globally - key drivers for sales and operating growth in the medium term. R&D progress continues with its proprietary ISM technology. Notably, its risperidone ISM (DORIA), a long-acting injectable for schizophrenia, has recently completed a Phase III study, meeting its pre-specified primary endpoint; NDA filings can be expected by 2019/2020.

**INDUSTRY OUTLOOK**

ROVI has a strong presence in the Spanish heparin market (and select international markets through partners), where it has been manufacturing and marketing its flagship product, Hibor (second-generation LMWH), since 1998.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	277.4	29.9	20.3	39.99	57.0	63.3
2018	304.8	29.5	19.3	38.76	58.8	134.3
2019e	364.6	45.0	31.6	53.95	42.3	67.3
2020e	391.0	54.2	36.6	62.17	36.7	75.2

**Sector: Pharma & healthcare**

Price: 57.80PLN  
 Market cap: PLN923m  
 Market Warsaw Stock Exchange

**Share price graph (PLN)**

**Company description**

Selvita is an R&D and drug discovery services company. It operates three business segments: Innovations Platform (internal R&D pipeline), Research Services (medicinal chemistry/biology, biochemistry) and Ardigen (a spin-out bioinformatics company, 52% owned).

**Price performance**

%	1m	3m	12m
Actual	(5.3)	(3.7)	4.9
Relative*	6.6	2.1	15.0

\* % Relative to local index

**Analyst**

Dr Jonas Peculis

## Selvita (SLV)

**INVESTMENT SUMMARY**

Selvita's ongoing split into two separate companies will be the hallmark event in 2019. By the end of this year, the drug discovery services and oncology R&D will be split into separate listed entities (subject to financial authority and shareholder approval). We believe both businesses have sufficient momentum to sustain such a split. The profitable Services segment again delivered substantial sales growth of 34% in 2018 followed by 29% q-o-q growth in Q119. The R&D pipeline is progressing according to plan and two clinical trials with SEL24 and SEL120 could deliver data over 2019-20. The lead product is SEL120, a CDK8 inhibitor, partnered with the Leukemia & Lymphoma Society for AML. Recently the FDA cleared an IND application to conduct a Phase I trial. SEL24 is a dual PIM/FLT3 inhibitor in Phase I/II for AML out-licensed to Menarini in March 2017.

**INDUSTRY OUTLOOK**

The profiles of SEL24 and SEL120 are potentially unique compared to existing clinical-stage competitors and both candidates may offer efficacy advantages. Contract research is a fiercely competitive, but still rapidly growing market and we believe Selvita's geographical location and lower cost benefits make it well placed to compete.

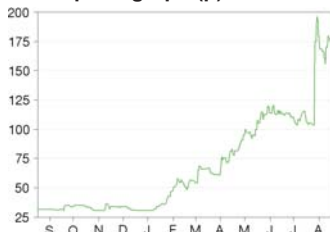
Y/E Dec	Revenue (PLNm)	EBITDA (PLNm)	PBT (PLNm)	EPS (gr)	P/E (x)	P/CF (x)
2017	105.9	18.5	10.2	50.76	113.9	77.7
2018	110.1	(5.4)	9.0	(0.68)	N/A	N/A
2019e	130.7	(7.8)	(13.1)	(88.05)	N/A	N/A
2020e	153.1	(1.7)	(10.7)	(73.04)	N/A	N/A



**Sector: Pharma & healthcare**

Price: 178.5p  
 Market cap: £209m  
 Market: AIM

**Share price graph (p)**



**Company description**

Shield Therapeutics is a commercial-stage pharmaceutical company. Its proprietary product, Feraccru, is approved by the EMA for iron deficiency and is undergoing review with the US FDA. Feraccru is currently marketed through partners Norgine, AOP Orphan and Ewopharma.

**Price performance**

%	1m	3m	12m
Actual	67.6	66.1	466.7
Relative*	77.8	71.8	504.4

\* % Relative to local index

**Analyst**

Dr Susie Jana

## Shield Therapeutics (STX)

**INVESTMENT SUMMARY**

Shield Therapeutics is a commercial-stage speciality pharmaceutical company based in the UK. Its primary focus is the commercialisation of Feraccru/Accrufer, approved by the EMA and FDA for the treatment of iron deficiency in adults, with or without anaemia. The commercialisation of Feraccru in Europe, Australia and New Zealand is in the hands of distribution partners Norgine, AOP Orphan and Ewopharma. Positive top-line data from a Phase IIIb marketing study (AEGIS-H2H) should drive clinical uptake and aid top-line growth; the complete clinical dataset will be presented at UEG 2019 (19 October 2019). With FDA approval of the drug now obtained (to be marketed as Accrufer), Shield will now seek a commercial partner for the US. Management anticipates signing a deal before end-2019.

**INDUSTRY OUTLOOK**

The market for iron deficiency is substantial and Feraccru is a unique oral formulation of iron developed to overcome the side-effect profile of salt-based oral iron therapies and provides an alternative treatment to intravenously administered iron.

Y/E Dec	Revenue (£m)	EBITDA (£m)	PBT (£m)	EPS (p)	P/E (x)	P/CF (x)
2017	0.6	(18.5)	(18.4)	(15.2)	N/A	N/A
2018	11.9	(2.8)	(5.2)	(1.5)	N/A	N/A
2019e	3.1	(5.4)	(7.7)	(5.1)	N/A	N/A
2020e	3.2	(6.1)	(8.5)	(6.3)	N/A	N/A

**Sector: Pharma & healthcare**

Price: US\$0.83  
 Market cap: US\$92m  
 Market: NASDAQ

**Share price graph (US\$)**



**Company description**

Sunesis Pharmaceuticals is a pharmaceutical company focused on oncology. The company has developed vecabrutinib, a BTK inhibitor for CLL for Imbruvica refractory patients currently in Phase I/II.

**Price performance**

%	1m	3m	12m
Actual	(2.9)	(30.8)	(59.7)
Relative*	1.0	(31.1)	(60.4)

\* % Relative to local index

**Analyst**

Dr Nathaniel Calloway

## Sunesis Pharmaceuticals (SNSS)

**INVESTMENT SUMMARY**

Sunesis is a pharmaceutical company developing small molecule oncology drugs. Its lead programme is vecabrutinib, a novel non-covalent, oral BTK inhibitor that may work in Imbruvica relapsed and refractory patients. Data from a Phase Ia study in healthy volunteers were recently presented and indicated an attractive PK/PD profile with twice-a-day dosing. The programme is in a dose-escalation Phase Ib/II trial. It has also developed TAK-580 with partner Takeda, and the preclinical PDK1 inhibitor SNS-510.

**INDUSTRY OUTLOOK**

Sunesis is an oncology company with an early-stage asset with a validated target for the treatment of B-cell malignancies.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.7	(34.4)	(35.5)	(144.63)	N/A	N/A
2018	0.2	(25.7)	(26.6)	(74.80)	N/A	N/A
2019e	0.0	(28.1)	(28.6)	(38.67)	N/A	N/A
2020e	0.0	(29.3)	(33.2)	(42.91)	N/A	N/A



**Sector: Pharma & healthcare**

Price: ¥569.00  
 Market cap: ¥13862m  
 Market: Tokyo

**Share price graph (¥)**

**Company description**

Symbio is a Japanese specialty pharma company with a focus on oncology and haematology. Treakisym is Symbio's branded formulation of bendamustine HCl. Rigosertib was in-licensed from Onconova.

**Price performance**

%	1m	3m	12m
Actual	(14.6)	(22.3)	21.6
Relative*	(9.8)	(19.5)	38.1

\* % Relative to local index

**Analyst**

Dr Nathaniel Calloway

## Symbio Pharmaceuticals (4582)

**INVESTMENT SUMMARY**

Symbio is a speciality pharma focused on Asia-Pacific markets and has in-licensed two orphan blood cancer products. Treakisym iv was approved for r/r low-grade NHL/MCL in 2010 and in 2016 for CLL and first-line low-grade NHL/MCL; the additional approvals saw in-market Treakisym sales increase 11% in Q119, following 12% growth in 2018 and 61% growth in 2017 (NHI price basis). Symbio has in-licensed liquid formulations for injection that will give Treakisym patent protection to 2031; a clinical trial is underway of the rapid-infusion liquid formulation, which would reduce Treakisym infusion time from 60 minutes to 10. A Phase III trial of Treakisym in r/r diffuse large B-cell lymphoma completed enrolment in April. Rigosertib iv is in development for r/r HR-MDS and is in a pivotal Phase III global study in 360 patients; Symbio is enrolling patients in Japan and aims for potential filing in 2021. Symbio intends to participate in a planned global trial of high-dose oral rigosertib in untreated HR-MDS.

**INDUSTRY OUTLOOK**

Symbio is focused on in-licensing niche opportunities in hard-to-treat indications often overlooked by big pharma. An in-house screening process to select additional pipeline candidates for development and commercialisation will be key to driving operating leverage.

Y/E Dec	Revenue (¥m)	EBITDA (¥m)	PBT (¥m)	EPS (fd) (¥)	P/E (x)	P/CF (x)
2017	3444.0	(3917.0)	(3977.0)	(79.8)	N/A	N/A
2018	3836.0	(2621.0)	(2749.0)	(41.4)	N/A	N/A
2019e	4109.0	(3664.0)	(3679.0)	(41.0)	N/A	N/A
2020e	3293.0	(5273.0)	(5303.0)	(54.5)	N/A	N/A

**Sector: Pharma & healthcare**

Price: NOK5.30  
 Market cap: NOK336m  
 Market: Oslo

**Share price graph (NOK)**

**Company description**

Targovax is an immuno-oncology company headquartered in Oslo, Norway, with two technology platforms: ONCOS-102 and TG. ONCOS-102 is currently prioritised and is an oncolytic virus technology being developed in several indications. The TG therapeutic cancer vaccine platform has been deprioritised.

**Price performance**

%	1m	3m	12m
Actual	(21.5)	(23.1)	(52.3)
Relative*	(16.8)	(17.5)	(46.3)

\* % Relative to local index

**Analyst**

Dr Jonas Pecuilis

## Targovax (TRVX)

**INVESTMENT SUMMARY**

Targovax is an immuno-oncology (IO) company specialising in oncolytic viruses. ONCOS-102 is a genetically engineered adenovirus being tested in advanced melanoma, mesothelioma, peritoneal malignancies and prostate cancer. In July 2019, Targovax announced ORR and immune activation data from the Part 1 of the ONCOS-102 Phase I study with patients with advanced, unresectable melanoma. The patients, who were treated with checkpoint inhibitors (CPIs) before and then relapsed, were given three intratumoural injections of ONCOS-102 and then received up to eight infusions of Keytruda. The rationale of the study was to prime the immune system with a virus to generate a cancer-specific response and then 'release the brakes' with checkpoint inhibitors. The initial data showed 33% ORR, which is promising in this setting. The next ONCOS-102 data are due around New Year (Phase I/II mesothelioma). In H119, Targovax raised NOK88m (gross).

**INDUSTRY OUTLOOK**

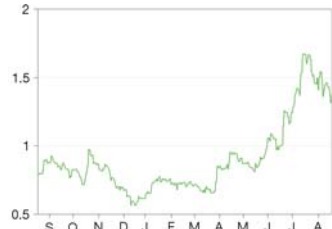
CPIs have gained popularity over the past several years, however, a large proportion of patients do not respond to them. Targovax's oncolytic virus technology is designed to prime immune response to cancers, which offers synergies for use in combination with other immuno-oncology therapies.

Y/E Dec	Revenue (NOKm)	EBITDA (NOKm)	PBT (NOKm)	EPS (öre)	P/E (x)	P/CF (x)
2017	0.0	(119.6)	(122.3)	(258.06)	N/A	N/A
2018	0.0	(145.8)	(147.3)	(279.43)	N/A	N/A
2019e	0.0	(139.9)	(140.2)	(241.84)	N/A	N/A
2020e	0.0	(136.9)	(137.2)	(216.82)	N/A	N/A

**Sector: Pharma & healthcare**

Price: A\$1.37  
 Market cap: A\$249m  
 Market: ASX

**Share price graph (A\$)**



**Company description**

Telix Pharmaceuticals is a Melbourne-headquartered global biopharmaceutical company focused on the development of diagnostic and therapeutic products based on targeted radiopharmaceuticals or molecularly targeted radiation.

**Price performance**

%	1m	3m	12m
Actual	(18.0)	57.5	85.1
Relative*	(14.8)	55.8	83.0

\* % Relative to local index

**Analyst**

Dr Nathaniel Calloway

## Telix Pharmaceuticals (TLX)

**INVESTMENT SUMMARY**

Telix is developing diagnostic and therapeutic radiopharmaceuticals for kidney, prostate and brain cancers. It acquired full global rights to the investigational TLX591-CDx prostate cancer imaging kit in December. It is commercialising TLX591-CDx (illumet) in the US and Europe, and anticipates filing for FDA approval in 2019 (pre-NDA meeting request submitted). Telix expects to fully enroll the ZIRCON Phase III for kidney cancer imaging agent TLX250-CDx by end 2019/early 2020. Preliminary data from the IPAX-1 Phase I/II study of TLX101 therapy in brain cancer are expected in Q319. Telix plans to progress TLX591 therapy into Phase III in chemo-naive prostate cancer in Q319. Two TLX250/I-O combo studies in kidney cancer are planned for mid-2019.

**INDUSTRY OUTLOOK**

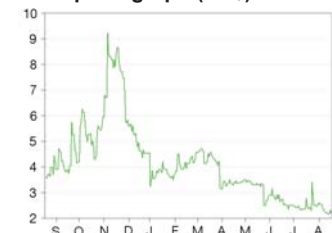
Big pharma has shown keen interest in MTR products. In 2017 Novartis acquired Advanced Accelerator Applications, the developer of the MTR therapeutic Lutathera, for US\$3.9bn. In 2014 Bayer acquired Algeta for ~US\$2.6bn; Algeta had developed Xofigo, a therapeutic radiopharmaceutical for prostate cancer. In December Novartis acquired prostate cancer radiopharmaceutical developer Endocyte for US\$2.1bn.

Y/E Dec	Revenue (A\$m)	EBITDA (A\$m)	PBT (A\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.4	(6.4)	(6.4)	(4.98)	N/A	N/A
2018	10.3	(17.5)	(15.7)	(6.84)	N/A	N/A
2019e	14.2	(16.7)	(20.8)	(9.53)	N/A	N/A
2020e	14.4	(15.8)	(19.8)	(9.06)	N/A	N/A

**Sector: Pharma & healthcare**

Price: US\$2.34  
 Market cap: US\$2m  
 Market: NASDAQ, TASE

**Share price graph (US\$)**



**Company description**

Therapix Biosciences is an Israeli pharmaceutical company developing two cannabinoids to treat Tourette syndrome and mild cognitive impairment. It is currently in Phase IIa and soon to begin Phase I, respectively, and owns or licenses several IPs for cannabinoid nasal and sublingual administration.

**Price performance**

%	1m	3m	12m
Actual	(15.7)	(28.7)	(39.2)
Relative*	(12.3)	(29.0)	(40.2)

\* % Relative to local index

**Analyst**

Maxim Jacobs

## Therapix Biosciences (TRPX)

**INVESTMENT SUMMARY**

Therapix is investigating the potential of new formulations of cannabinoids to address underserved diseases of the brain. Therapix recently announced the results of its Phase IIa study of THX-110 for the treatment of Tourette syndrome. The study showed a statistically significant (p=0.002) reduction in tic severity of 21%. The company also recently announced interim data of THX-110 in obstructive sleep apnea. Of the seven patients who completed the study, four exhibited significant improvements in endpoints such as reduction in Apnea-Hypopnea Index scale and the oxygen desaturation index, with one patient showing mild improvement. In July, the company announced a letter of intent to merge with Destiny Biosciences Global.

**INDUSTRY OUTLOOK**

Diseases of the brain are a major unmet medical need with few effective or approved therapies for a host of diseases. Cannabinoids have had promising data in many indications in the area and is a class that has received a lot of interest.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2015	N/A	N/A	N/A	N/A	N/A	N/A
2016	0.0	(1.7)	(1.7)	(179.9)	N/A	N/A
2017e	0.0	(4.0)	(4.3)	(118.4)	N/A	N/A
2018e	0.0	(7.7)	(7.7)	(200.1)	N/A	N/A

**Sector: Pharma & healthcare**

Price: €1.68  
 Market cap: €140m  
 Market: Euronext Paris

**Share price graph (€)**

**Company description**

Transgene is a French company developing immunotherapy agents for cancer and infectious diseases. Oncolytic virus Pexa-Vec (Phase III for HCC) and cancer vaccine TG4010 (Phase II for NSCLC) are the lead clinical candidates.

**Price performance**

%	1m	3m	12m
Actual	(30.3)	(41.9)	(43.3)
Relative*	(26.4)	(40.3)	(41.9)

\* % Relative to local index

**Analyst**

Dr Daniel Wilkinson

## Transgene (TNG)

**INVESTMENT SUMMARY**

Transgene is developing viral vector-based immunotherapies for combination therapies in oncology and infectious diseases. The company is running multiple clinical trials, including a Phase 2 trial combining TG4010 with Opdivo and chemotherapy in 1L NSCLC, and a Phase 1b/2 trial with Pexa-Vec+Opdivo in 1L advanced liver cancer. Transgene and partner SillaJen have announced the termination of its global 600-patient Phase 3 study (PHOCUS) for Pexa-Vec+sorafenib in advanced liver cancer. Next-generation platforms Invir.IO and myvac continue to progress, with new myvac asset TG4040 expected to enter the clinic in H219. Transgene announced a new collaboration/licensing agreement with AstraZeneca for its Invir.IO platform; Transgene received €10m on signing. Gross cash and short-term investments at 31st March 2019 (not including AZN upfront) were €9.1m. Transgene additionally recently raised gross €48.7m in a rights issue. Our forecasts and valuation are under review.

**INDUSTRY OUTLOOK**

Immunotherapies are among the most promising class of products for cancer. Increased attention is now being paid to the use of combination therapy approaches to improve cancer response rates further.

Y/E Dec	Revenue (€m)	EBITDA (€m)	PBT (€m)	EPS (c)	P/E (x)	P/CF (x)
2017	8.1	(26.4)	(35.0)	(53.1)	N/A	N/A
2018	42.9	9.1	(36.8)	(44.7)	N/A	N/A
2019e	N/A	N/A	N/A	N/A	N/A	N/A
2020e	N/A	N/A	N/A	N/A	N/A	N/A

**Sector: Pharma & healthcare**

Price: US\$4.23  
 Market cap: US\$174m  
 Market: NYSE MKT

**Share price graph (US\$)**

**Company description**

VolitionRx is a life sciences company developing novel, simple-to-use, blood-based tests to diagnose a broad range of cancers and other conditions by identifying and measuring nucleosomes in the blood stream. The primary focus is to develop the Nu.Q family of blood-based diagnostics tests for colorectal cancer.

**Price performance**

%	1m	3m	12m
Actual	23.0	24.4	144.5
Relative*	27.9	23.9	140.4

\* % Relative to local index

**Analyst**

Dr Jonas Pecuilis

## VolitionRx (VNRX)

**INVESTMENT SUMMARY**

VolitionRx's proprietary Nu.Q technology detects the level and structure of nucleosomes in the blood using one drop of blood. It is currently focused on colorectal (CRC) and lung cancers based on the most recent published proof of concept data from studies with clinical-grade Nu.Q assays. Following the proof of concept data, Volition together with the National Taiwan University will conduct a large-scale lung cancer study. During its recent capital markets day, Volition also provided more details about the most recent expansion into veterinary space (MoU signed with the Texas A&M University) and development of the so-called Nu.Q Capture technology, which investigates the use of Nu.Q to purify or enrich tumour-associated nucleosomes. As of end-Q219, Volition has \$18.5m in cash, and post-period has benefited from the exercise of warrants totaling \$4.8m.

**INDUSTRY OUTLOOK**

The blood-based cancer screening market is in its nascent stages with great potential and serves an unmet medical need. Currently there are few, if any, non-invasive screening methods for the vast majority of cancers.

Y/E Dec	Revenue (US\$m)	EBITDA (US\$m)	PBT (US\$m)	EPS (c)	P/E (x)	P/CF (x)
2017	0.0	(15.0)	(15.1)	(57.29)	N/A	N/A
2018	0.0	(17.9)	(18.0)	(48.67)	N/A	N/A
2019e	0.1	(18.2)	(18.3)	(46.40)	N/A	N/A
2020e	0.1	(19.6)	(19.7)	(47.94)	N/A	N/A

## Company coverage

Company	Note	Date published
<a href="#">Acacia Pharma</a>	Update; Flash	11/07/2019; 18/07/2019
<a href="#">Acarix</a>	Update; Update	14/03/2019; 22/05/2019
<a href="#">Actinogen Medical</a>	Initiation; Flash	18/03/2019; 08/05/2019
<a href="#">ADL Bionatur Solutions</a>	Flash; Flash	08/08/2019; 14/08/2019
<a href="#">AFT Pharmaceuticals</a>	Update; Update	28/05/2019; 10/07/2019
<a href="#">ASIT biotech</a>	Update; Update	03/04/2019; 17/05/2019
<a href="#">Atossa Genetics</a>	Outlook; Update	07/12/2018; 09/05/2019
<a href="#">Auris Medical Holding</a>	Update; Update	04/06/2019; 20/08/2019
<a href="#">Australis Capital</a>	Initiation; Update	31/05/2019; 07/08/2019
<a href="#">Avacta Group</a>	Initiation	13/06/2019
<a href="#">Basilea Pharmaceutica</a>	Update; Update	06/03/2019; 06/08/2019
<a href="#">BioPorto Diagnostics</a>	Update; Update	20/05/2019; 19/07/2019
<a href="#">BONESUPPORT</a>	Update; Update	14/06/2019; 01/08/2019
<a href="#">Brighter</a>	Update; Update	05/03/2019; 13/06/2019
<a href="#">Cantargia</a>	Update; Update	08/03/2019; 13/06/2019
<a href="#">Carmat</a>	Update; Update	21/12/2017; 26/10/2018
<a href="#">CASI Pharmaceuticals</a>	Update; Update	03/04/2019; 26/04/2019
<a href="#">Clal Biotechnology Industries</a>	Update; Update	15/04/2019; 19/06/2019
<a href="#">Deinove</a>	Outlook; Update	14/03/2019; 25/04/2019
<a href="#">Destiny Pharma</a>	Update; Update	25/02/2019; 11/04/2019
<a href="#">Elbit Medical Technologies</a>	Update; Update	06/12/2018; 30/04/2019
<a href="#">Herantis Pharma</a>	Initiation; Update	20/09/2018; 06/03/2019
<a href="#">Hutchison China Meditech</a>	Update; ADR Update	14/08/2019; 14/08/2019
<a href="#">Immunicum</a>	Update; Outlook	19/11/2018; 27/06/2019
<a href="#">Immutep</a>	Update; ADR Update	02/07/2019; 02/07/2019
<a href="#">InMed Pharmaceuticals</a>	Update; Update	14/02/2019; 22/05/2019
<a href="#">International Stem Cell</a>	Update; Update	01/05/2019; 05/06/2019
<a href="#">Kazia Therapeutics</a>	ADR Outlook; Outlook	21/06/2019; 23/06/2019
<a href="#">MagForce</a>	Update; Outlook	03/07/2019; 09/07/2019
<a href="#">Medigene</a>	Outlook; Update	19/06/2019; 07/08/2019
<a href="#">Mesoblast</a>	Update; Update	07/06/2017; 07/11/2017
<a href="#">MGC Pharmaceuticals</a>	Update; Update	01/03/2019; 10/07/2019
<a href="#">Mologen</a>	Outlook; Update	21/09/2018; 04/01/2019
<a href="#">NetScientific</a>	Update; Update	24/10/2018; 30/11/2018
<a href="#">NeuroVive Pharmaceutical</a>	Update; Update	04/04/2019; 12/06/2019
<a href="#">Newron Pharmaceuticals</a>	Outlook; Update	14/03/2019; 31/05/2019
<a href="#">Oncology Venture</a>	Update; Outlook	09/04/2019; 12/06/2019
<a href="#">Onxeo</a>	Update; Update	27/04/2018; 27/11/2018
<a href="#">OpGen</a>	Initiation; Update	15/04/2019; 20/05/2019
<a href="#">Orexo</a>	Update; Flash	15/07/2019; 21/08/2019
<a href="#">Oryzon Genomics</a>	Update; Update	18/06/2019; 18/07/2019
<a href="#">OSE Immunotherapeutics</a>	Initiation; Update	06/12/2018; 17/04/2019
<a href="#">Oxford BioMedica</a>	Outlook; Flash	04/06/2019; 26/06/2019
<a href="#">Pacific Edge</a>	Update; Update	07/01/2019; 10/06/2019
<a href="#">Paion</a>	Outlook; Update	14/05/2019; 15/08/2019
<a href="#">PDL BioPharma</a>	Update; Update	15/05/2019; 15/08/2019

<a href="#">Photocure</a>	Update; Update	08/07/2019; 12/08/2019
<a href="#">Pixium Vision</a>	Flash; Update	02/05/2019; 06/08/2019
<a href="#">Quantum Genomics</a>	Update; Update	01/04/2019; 13/06/2019
<a href="#">RedHill BioPharma</a>	Update; Update	11/07/2019; 30/07/2019
<a href="#">ReNeuron Group</a>	Update; Update	20/05/2019; 17/07/2019
<a href="#">RhoVac</a>	Initiation	28/05/2019
<a href="#">ROVI Laboratorios Farmaceuticos</a>	Update; Update	10/05/2019; 01/08/2019
<a href="#">Selvita</a>	Outlook; Update	17/01/2019; 08/04/2019
<a href="#">Shield Therapeutics</a>	Update; Update	26/07/2019; 08/08/2019
<a href="#">Sunesis Pharmaceuticals</a>	Outlook; Update	22/03/2019; 24/06/2019
<a href="#">SymBio Pharmaceuticals</a>	Outlook; ADR Outlook	17/04/2019; 18/04/2019
<a href="#">Targovax</a>	Update; Update	12/03/2019; 11/07/2019
<a href="#">Telix Pharmaceuticals</a>	Outlook; Update	03/04/2019; 05/08/2019
<a href="#">Therapix Biosciences</a>	Update; Update	18/08/2017; 17/11/2017
<a href="#">Transgene</a>	Update; Update	30/11/2018; 27/03/2019
<a href="#">VolitionRx</a>	Outlook; Update	14/05/2019; 21/08/2019



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