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In this edition...
Investing is a forward-looking activity and investors are on the constant look-out for signs that a company's sales and profit or enterprise value are on the up and up. One stock sending out growth signals is disinfection technology company Nanosonics. This company has begun to see growth in sales, and orders from its North American distributor, GE Healthcare, should be closely monitored. Phylogica is making solid progess on its peptide technology evaluation partnerships with a bevy of Big Pharma clients. Phylogica has reached the stage where it would like to write co-development deals with its partners. Bluechiip has signed on a second key manufacturer and cardiac monitor company Uscom is looking to raise funds.
The Editor
Companies Covered: BCT, NAN, PYC, UCM

	Bioshares Portfolio
Year 1 (May '01 - May '02)	21.2%
Year 2 (May '02 - May '03)	-9.4%
Year 3 (May '03 - May '04)	70.6%
Year 4 (May '04 - May '05)	-16.3%
Year 5 (May '05 - May '06)	77.8%
Year 6 (May '06 - May '07)	17.4%
Year 7 (May '07 - May '08)	-36%
Year 8 (May '08 - May '09)	-7.4%
Year 9 (May '09 - May '10)	50.2%
Year 10 (May '10 - May'11)	45.4%
Year 11 (May '11 - May '12)	-18.0%
Year 12 (May '12 - current)	-5.9%
Cumulative Gain	**225%**
Av. annual gain (11 yrs)	**17.8%**

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Bioshares

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Delivering independent investment research to investors on Australian biotech, pharma and healthcare companies.

Nanosonics – Sales Begin to Bud

Nanosonics (NAN: 49.5 cents) manufactures and markets the Trophon EPR unit, a device which is used to disinfect ultrasound probes. The product is an application of a technology that has the potential to be applied to other equipment or facilities that require disinfection, for example, medical device equipment reprocessing. At this stage, the Trophon EPR sits as the company's proof-of-platform, proof-of-commerciality product. To date, 500 units have been sold in Australia, which is a positive beginning in Nanosonics' home market.

The product has several features which give it a competitive advantage to existing disinfection materials and methods (e.g. aldehyde). The system uses aerosolised hydrogen peroxide as the disinfection agent. The unit is small enough to be located in a physician's office and can be either wall mounted or trolley mounted. The disinfection process is fully contained within the unit limiting operator exposure to the chemicals involved. The process does not generate any toxic or harmful products that require additional costly steps for disposal, with the hydrogen peroxide breaking down into water and oxygen.

The Market Opportunity

According to Nanosonics, the North American market opportunity is based on more than 200 million ultrasound procedures performed each year. The global market comprises 600 million procedures per annum, and globally there is an installed base of greater than 500,000 ultrasound machines.

Nanosonics has modelled the total global revenue opportunity that it can access to be worth approximately $300 million in obstetrics/gynaecology (Ob/Gyn) sub-market, and $1,500 million for all ultrasound intracavity probes. The North American Ob/Gyn sub-market would be worth $100 million if the Nanosonics modelling using the territorial figures mentioned above is extended.

The company signed a Memorandum of Understanding covering an exclusive North American distribution agreement with GE Healthcare (GHEC) in September 2010, which formalised in May 2011. GEHC commands between 25%-30% of the ultrasound probes market and dominates the women's health market, with a 60% share.

GEHC's US list price for the Trophon EPR is US$12,495 and a pack of six Sonex cartridges is listed at US$690, which equates to US$115 per cartridge. The number of cycles per cartridge is specified at 40, implying a cost per cycle of US$2.90.

Cont'd over

We estimate a 60% share of the North American women's health market crudely puts Nanosonics potential supply into that market through GEHC at 5,000 units a year.

The agreement also gives GEHC non-exclusive OEM rights to other territories where Nanosonics has gained regulatory approval. Nanosonics has also allowed GEHC to bundle Trophon EPR with other products it sells in European markets.

Capital Raising

Nanosonics recently completed a funding round which saw the company raise $15.5 million (at 53 cents per share) through a share placement. Allan Gray (formerly Orbis Funds Management Australia) invested $10.6 million through the placement. A share purchase plan has been put in place to allow other shareholders to participate at the same price.

History

Nanosonics was founded in 2001 and listed in 2007. Following the departure of David Radford, in May 2011, Nanosonics is now led by Dr Ron Weinberger, who is a co-inventor or several of the Nanosonics technologies.

Nanosonics sourced many skills from external parties in its early years. As the company has matured over time, it has progressively brought more skills in-house, or added these skills in house, including engineering, clinical and regulatory, sales and marketing and most recently product servicing. The advantage of managing product servicing allows the company to capture knowledge and information from the company's customer base, which can then be included in product improvement and refinement.

Sales Record – Growth Buds Appearing

Revenues from Trophon EPR sales began to flow in FY2010, with Nanosonics posting revenues of $0.76 million, followed by $2.2 million in FY2011.

The key to the growth in Trophon EPR sales was the receipt of FDA approval in February 2011, followed by the US launch of Trophon EPR by GEHC in July 2011.

On a cash basis, for the nine months ending March 31, 2012, sales receipts totalled $7.925 million.

The company's revenue model is based on sales of units, which become a capital equipment expenditure of the acquirer (or leasing cost of the lessee) and recurring sales of the solution and chemical indicator used in the disinfection process. Units are returned to Nanosonics for servicing after 5,000 disinfection cycles have been completed, generating service fee income.

The revenue model articulated by Nanosonics breaks down revenues such that 41% stem from Trophon sales, consumables 52%, accessories 2% and service contracts 4%.

Risks and Challenges Ahead

An investment in a company such as Nanosonics must properly weigh distributor risk, which is high. GEHC is a large business unit (2011 sales - US$18 billion) in a very large company with global operations (2011 revenues - US$150 billion). GEHC sells hundreds of products and has numerous product and technology agreements. Nanosonics' business, in the context of the GEHC business, is exceedingly small.

Sales in North America are controlled by GEHC with GEHC also being influential in rest-of-world markets where it is a non-exclusive distributor. However, it would appear that Trophon has met with strong buy-in by GEHC, which has placed the product as a showcase product for 2012 in its current catalogue.

Nanosonics's Trophon has also been accredited in GEHC's Healthyimagination program. This banner initiative by GE is designed to create more affordable and simple products, expands the company's focus to reach beyond first world economies and also increase its commitment to the preventive side of healthcare. Nanosonics understands it is one of the few non-GEHC products to receive this accreditation.

The next major challenge for Nanosonics is to expand its manufacturing capacity. Currently, it has a single shift capacity of approximately 6,000 units per annum. The company is spread across several units of an industrial estate in Alexandria in Sydney. Accommodation issues that relate to capacity expansion will and are being addressed. However, capacity expansion is also tied to staff availability and training.

While both challenges are surmountable, they are growth challenges that have to be addressed so that quality is maintained. The company is currently placing a higher priority on quality management instead of focusing on margin improvement. It intends to focus on margin improvement at a later stage of the manufacturing growth curve.

Summary

There are least three reasons to acquire Nanosonics stock. Product sales are beginning to develop the first signs of growth, although profitability is probably more than a year away. However, the point is that the company has moved on from being an R&D firm (although that continues), to being a sales generating, customer focused business.

A depreciating Australian dollar, against the US dollar, will positively impact on Nanosonics earnings, whose GEHC contracts are denominated in USD.

The company's relationship with GEHC offers the possibility that GEHC could at some stage acquire Nanosonics.

Nanosonics is capitalised at $129 million and holds estimated cash of $20 million.

Bioshares recommendation: **Speculative Buy Class A**

(Nanosonics has been added to the Bioshares Model Portfolio)

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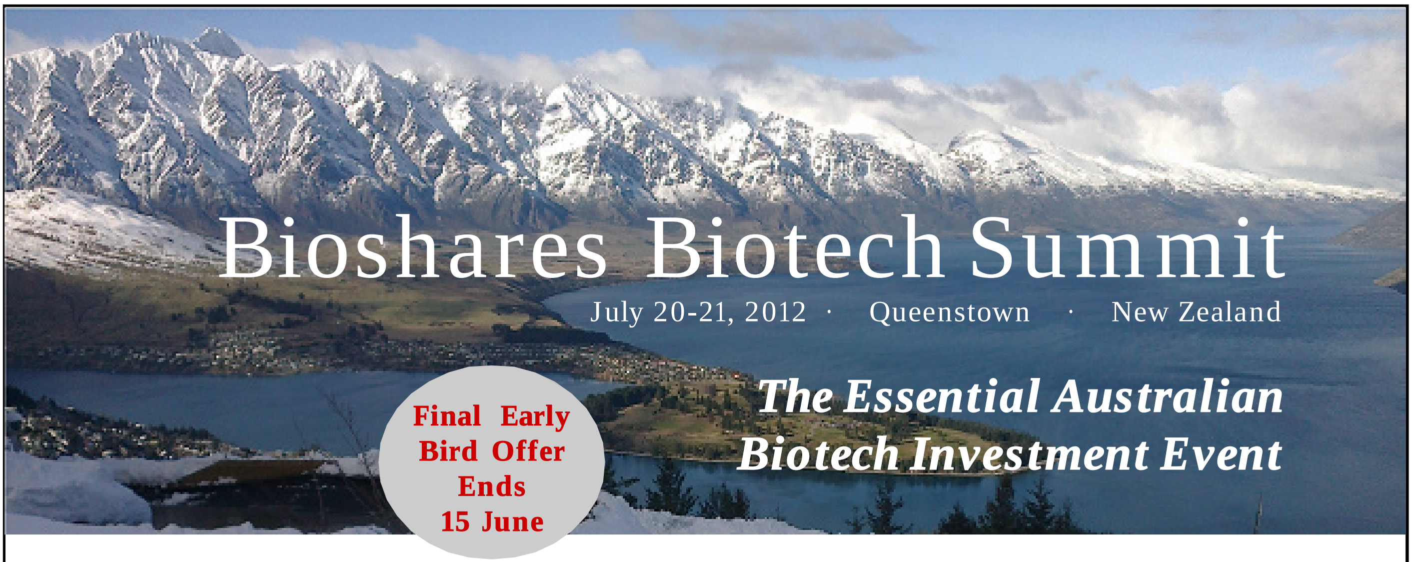

Program available Tuesday 5 June!

Visit our website for full details: http://www.bioshares.com.au/qtown2012program.htm

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2012 Speakers

This year's speaker line up includes:

Silviu Itescu (CEO Mesoblast), **Alan Roberston** (CEO Pharmaxis), **Dave Darling** (CEO Pacific Edge, NZ), **Edward Rudnic** (COO QRxPharma), **Peter Smith** (CEO Alchemia), **Martin Rogers** (CEO Prima Biomed), **Graeme McRae** (CEO Bioniche), **Mike McCormick** (CEO Osprey Medical), **Lisa Springer** (Head-Bus. Ops. Nanosonics) and **Hugh Alsop** (VP-O&BD Phosphagenics).

A program will be available on the Bioshares website on Tuesday 5 June.

We are also delighted to welcome CSL as a Session Sponsor to this year's event, joining our other sponsors Wilson HTM, Nexia ASR, Piper Alderman and QRxPharma.

We would also like to thank New Zealand Trade and Enterprise for its support of this event in New Zealand for a second year.

Phylogica – Progress with Pfizer

Phylogica (PYC: 4.3 cents) is working with Pfizer on a therapeutic vaccine, using it peptide library.

This week the company announced it had successfully achieved a significant milestone with that program.

The Pfizer collaboration started in December 2010, with Phylogica receiving a $0.5 million sign-on fee. The first stage of the deal was reached in December last year, when Phylogica identified around 30 vaccine peptides and delivered them to Pfizer. Pfizer has since tested those peptides and found, in *in vitro* studies, are doing what has been asked of them, according to Nick Woolf, CFO and VP of Corporate Development for Phylogica.

Phylogica is now eligible for a milestone payment, which will be in the hundreds of thousands of dollars. The next milestone is for the peptides to be tested *in vivo*, which should occur this year. If successful, Pfizer may elect to take out an option to commercialise the technology. That could result in a payment of several millions dollars.

Woolf said the collaboration with Pfizer is progressing exceptionally well. Not only has the work reached each milestone successfully, but Phylogica is now talking to Pfizer about a second, larger deal, that would be a multi-target deal. The current collaboration is for a single-target.

Other R&D deals

Phylogica is working with MedImmune (AstraZeneca) to develop a novel antimicrobial agent against *pseudomonas aeruginosa*. In November last year the company announced it had received US$1.5 million from the collaboration, when the company said it had progressed to the final stage of the research collaboration. The data being generated is being very well received by MedImmune according to Woolf.

In January this year Phylogica started working with Janssen Biotech (Johnson & Johnson), focusing on cell penetrating peptides. The deal involved a US$1.2 million up front payment and Phylogica has since received a further $0.5 million.

The Roche collaboration is 'going fine' said Woolf. Phylogica has attached fluorescent markers to its peptides to observe how the peptides are penetrating cells. Woolf says the company's penetrating peptides can carry a big cargo, including monoclonal antibodies. Genentech is now working with Phylogica.

Next Pharmaceutical Deal

Woolf is aiming to secure the company's next collaborative deal by mid year, although the company is limited to the machinations of major pharmaceutical companies. Whether it's a small deal or a large deal, it still takes the same time to negotiate according to Woolf, which is one reason the company will be looking to secure larger deals.

Phylogica has reached the stage where it will intends to strike more co-development deals to gain more upside. These types of deals are structured according to an input/profit matrix, where the partners elect which part of the development they will fund and which corresponds to proportional commercial product rights.

Phylogica is capitalised at $19 million.

Bioshares recommendation: **Speculative Buy Class A**

Changes At Bioshares

As of next week, there will be some changes at Bioshares. David Blake will assume the role of Editor of Bioshares (current role Co-Editor). Mark Pachacz will be taking on the role of Chief Investment Officer of the Biotech Select Fund, an investment fund for wholesale investors, run by Canterbury Funds Management.

Mark will continue to contribute research to Bioshares but he will not be providing investment advice in Bioshares. This is an important point because the advice and actions of Blake Industry and Market Analysis and Canterbury Funds Management may and will at times differ.

The two businesses operate under separate Australian Financial Services licenses: Blake Industry & Market Analysis Pty Ltd AFS Licence number 258032; Canterbury Funds Management Pty Ltd AFS License number 411 842.

Mark continues as a director and part owner of Blake Industry and Market Analysis.

David has no financial or other interest in Canterbury Funds Management, nor does Blake Industry and Market Analysis.

Mailing and administrative functions for Canterbury Funds Management is initially based, for an interim period, at the Bioshares West Melbourne office.

Canterbury Funds Management anticipates the Biotech Select Fund will be operational in the second half of 2012.

Please don't hesitate to contact either of us if you wish to discuss these changes.

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Mark Pachacz: mark@canterburyfunds.com.au

Contributed Discussion

Schemes of Arrangement v Takeovers – Biota's Options

by Viktoriia Hristova, Law Graduate, Nicholas Weston Lawyers & Trade Marks Attorneys

A press release issued by Biota Holdings (ASX: BTA) on 23 April 2012, announced the signing of a Merger Implementation agreement with US Biopharmaceutical company Nabi (NASDAQ: NABI), to create Biota Pharmaceuticals to be listed on NASDAQ and based in the US. The intent of the merger is to achieve greater value recognition for Biota

The proposed merger will be via a Scheme of Arrangement (SoA). A court approved SoA, under the proviso that the company has received an appropriate number of creditor and shareholder consents, allows the Biota to effectively reconstruct its capital, transfer its assets or liabilities without winding up the transferring corporation.

SoAs are legal processes now familiar to investors in the Australian biotech Industry and unlike takeovers, which require more than 90% of shareholder votes to agree to the takeover, a SoA requires only 75% of shareholder votes to agree to the merger.

However certain properties of SoAs, like implementation agreements with exclusivity and break free agreements, are being enforced in takeover settlements, making a SoA the more prominent takeover procedure.

Requirement for an Independent Expert's Report

As identified by the Biota press release the resultant merged company once approved by shareholders, ASIC and the Courts, will have common directors (six ex-Biota Directors and two ex-Nabi Directors). The legislation governing SoA requires an explanatory statement be accompanied by an independent expert report where there are common directors in the entities involved in the scheme of arrangement (reg 5.1.01 and Sch 8 cl 8303, 8306 of the Corporations Regulations).

According to the regulations, the expert must:

(a) state whether or not, in their opinion, the proposed scheme is in the best interests of the members of the scheme company; and

(b) set out their reasons for that opinion.

They cannot be an associate of the other party to the scheme and if the report contains any insider information in respect to the profits, profitability of the company or any information relating to the market value of the assets that vary to those identified in the company books, the report cannot accompany the statement.
Advantages and Disadvantages of a SoA

With the Australian courts specifically prohibiting the use of SoAs to avoid a Takeover (section 411 (17), Part 5.1 of the Corporations Act 2001) there has been a long debate over the use of schemes to effect takeovers, one clear advantage being the lower threshold for shareholder consent, and as many shareholders either do not vote, or are based overseas, this results in a much higher success rate of passing the vote for a SoA.

Another advantage of a SoA is with its "all or nothing" outcome it may be used to effect a wide range of corporate restructures, including transfers of all or a specified proportion of each shareholder's securities to a bidder, cancellations of existing securities or issues of new securities to a bidder, or nothing if the bid is not successful at all.

A minor disadvantage to a SoA is the Court's ability to exercise its general discretion to approve or refuse the scheme. The risk that the Court will refuse a scheme, whilst rare, is dependent on the arrangement itself and whether it believes that the shareholders would ultimately be disadvantaged by the arrangement, even if majority shareholder approval has been obtained. But the courts have generally supported the use of schemes in the use of mergers, often finding more than one useful purpose for the scheme.

Advantages and Disadvantages of a Takeover

A takeover bid under the Corporations Act is a formal procedure whereby the bidder makes a binding offer to acquire all or part of a designated class of securities from all of the holders usually by way of contract. The legislation provides certain conditions to the process of a takeover to ensure that shareholders of the target company are given an equal opportunity in the takeover process. A takeover bid entrusts control in the bidder. It allows the bidder to instigate the events and carry the process through with its statement issued to the target. The result is an inflexible process for the target company and leaves the commercial bargaining power in the hands of the bidder, and this is needed as the approval threshold for a takeover is much higher than for a SoA.

Bidders in a takeover bid may compulsory acquire any remaining securities in the bid class. A notice of compulsory acquisition must be lodged with ASIC and ASX and be given to all remaining holders of securities in the bid class during or within one month after the end of the offer period.

The bidder is then entitled to acquire the outstanding securities on the terms applicable under the bid. Dissenting security holders may contest the compulsory acquisition by court application.

Under Australian law a company is prohibited from adopting strategies designed to prevent a bid being made, or to frustrate a bid once it has been made, without the approval of the shareholders.

Company directors should proceed with caution when considering whether a merger has the potential to frustrate any future or pending offers. They must take care that they act in the best interest of the company, and must also ensure that material provided to the shareholders is current, correct and complies with the disclosure regulations provided in the Corporations Act.

Conclusion

A SoA may be the better option for Biota than a takeover. By using a scheme, Nabi would acquire 100% of the shares of Biota by a simple and direct procedure, which would then become binding if approved by a court order and agreed to by a majority (75%) of Biota's shareholders.

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Bioshares Model Portfolio (1 June 2012)

Company	Price (current)	Price added to portfolio	Date added
Nanosonics	$0.495	$0.495	June 2012
Osprey Medical	$0.38	$0.40	April 2012
QRxPharma	$1.82	$1.66	October 2011
Mayne Pharma Group	$0.350	$0.435	September 2011
Somnomed	$0.82	$0.94	January 2011
Phylogica	$0.043	$0.053	September 2010
Biota Holdings	$0.76	$1.09	May 2010
Tissue Therapies	$0.51	$0.21	January 2010
Atcor Medical	$0.08	$0.10	October 2008
Bionomics	$0.35	$0.42	December 2007
Cogstate	$0.280	$0.13	November 2007
Sirtex Medical	$5.82	$3.90	October 2007
Clinuvel Pharmaceuticals	$1.75	$6.60	September 2007
Pharmaxis	$1.06	$3.15	August 2007
Universal Biosensors	$0.62	$1.23	June 2007
Alchemia	$0.435	$0.67	May 2004

Portfolio Changes – 1 June 2012

IN:
Nanosonics has been added to the Bioshares Model Portfolio at 49.5 cents

OUT:
No changes

Uscom Seeks More Funding

Uscom (UCM: 9 cents) is commercialising a non-invasive instrument that accurately measures blood flow from the heart. The technology has been well validated with 253 publications covering the technology. The company has raised around $20 million in the last 10 years and is now seeking further funds, with only $763,000 in the bank at the end of March.

To date there are more than 500 of the company's cardiac output monitors in use worldwide. The Uscom cardiac monitor saves lives and appears to be a very useful instrument in the hospital setting. The difficulty in this space is to get hospitals to make capital purchases, in the order of $25,000, which is the end user price. Uscom receives around $15,000 for each device.

What has disrupted the company over the last three years was a proposed private equity buyout of the company which did not eventuate. This process affected relationships with its distributors and resulted in a detrimental impact on sales. In the last financial year, the company generated sales of only $880,000, down 54% from its high in 2009 when sales reached $1.9 million.

The path to greater utility in the hospital setting is to have its device incorporated into other hospital instruments such as a critical care monitoring modules. For that to occur, Uscom would need to partner with a major instrumentation company. The company is currently working on a major collaborative deal although this will take around 12 months to secure, according to CEO Rob Phillips.

At the moment the company sells its products through distributors into the US, Canada, South America, Europe and Asia.

Uscom is capitalised at $5 million.

Bioshares recommendation: **Speculative Hold Class C**

Bioshares

Bluechiip Update

Bluechiip (BCT: 20 cents) has now signed on groups to manufacture two key parts of its Bluechiip tracking technology. In January 2011 it signed on STMicroelectronics to make its tracking chips. And last month is signed on Plexus to make its reader systems for the chips.

Plexus has a manufacturing facility in Malaysia, which makes products for major instrumentation groups, including GE and also Universal Biosensors. Bluechiip uses acoustics to identify storage samples. The technology offers an improvement on bar coding and also has broader applications than established RFID technologies.

Last month Bluechiip announced the Australian Synchrotron facility in Melbourne would start using Bluechiip's technology to identify samples in the physically harsh synchrotron setting. Although it is likely only to be a small initial order, worth $50,000, it's an example of an application area where the existing identification systems present inadequacies.

Bluechiip CEO, Brett Schwarz said the company is now getting very close to getting commercial orders for its product.

Bluechiip is capitalised at $17 million.

Bioshares recommendation: **Speculative Buy Class B**

Bioshares

How Bioshares Rates Stocks

For the purpose of valuation, Bioshares divides biotech stocks into two categories. The first group are stocks with existing positive cash flows or close to producing positive cash flows. The second group are stocks without near term positive cash flows, history of losses, or at early stages of commercialisation. In this second group, which are essentially speculative propositions, Bioshares grades them according to relative risk within that group, to better reflect the very large spread of risk within those stocks. For both groups, the rating "Take Profits" means that investors may re-weight their holding by selling between 25%-75% of a stock.

Group A

Stocks with existing positive cash flows or close to producing positive cash flows.

Buy	CMP is 20% < Fair Value
Accumulate	CMP is 10% < Fair Value
Hold	Value = CMP
Lighten	CMP is 10% > Fair Value
Sell	CMP is 20% > Fair Value

(CMP–Current Market Price)

Group B

Stocks without near term positive cash flows, history of losses, or at early stages commercialisation.

Speculative Buy – Class A

These stocks will have more than one technology, product or investment in development, with perhaps those same technologies offering multiple opportunities. These features, coupled to the presence of alliances, partnerships and scientific advisory boards, indicate the stock is relative less risky than other biotech stocks.

Speculative Buy – Class B

These stocks may have more than one product or opportunity, and may even be close to market. However, they are likely to be lacking in several key areas. For example, their cash position is weak, or management or board may need strengthening.

Speculative Buy – Class C

These stocks generally have one product in development and lack many external validation features.

Speculative Hold – Class A or B or C

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