ISSN 1443-850X

In this edition...
It's not all one-way traffic for the Australian biotech and pharmaceutical sector. Although Arana Therapeutics has been acquired this year and Peplin is in the process of the same, some local companies are doing the opposit. Earlier this month Sigma announced it was acquiring certain product assets from Bristol-Myers Squibb, and this week Halcygen announced it was 'sizing-up' through an acquisition of the Mayne Pharma business in Adelaide.
QRxPharma faces an important period with some key milestones to be passed to allow it to comfortably progress its final Phase III studies.
Finally, Michael Johnson from Cogentum, who chaired our Thredbo strategy sessions, gives his take on the progress of the Australian biotech sector.

The Editors
Companies Covered: HGN, QRX

	Bioshares Portfolio
Year 1 (May '01 - May '02)	21.2%
Year 2 (May '02 - May '03)	-9.4%
Year 3 (May '03 - May '04)	70.0%
Year 4 (May '04 - May '05)	-16.3%
Year 5 (May '05 - May '06)	77.8%
Year 6 (May '06 - May '07)	17.3%
Year 7 (May '07 - May '08)	-36%
Year 8 (May '08 - May '09)	-7.3%
Year 9 (May '09 - Current)	48.9%
Cumulative Gain	**189%**
Av Annual Gain (9 yrs)	**18.5%**

Bioshares is published by Blake Industry & Market Analysis Pty Ltd.

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Individual Subscriptions (48 issues/year)
$320 (Inc.GST)
Edition Number 330 (25 September 2009)
ISSN 1443-850X

Bioshares

25 September 2009
Edition 330

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

Halcygen Up-Sizes With Strategic Acquisition Of Mayne Pharma Business

Halcygen Pharmaceuticals has surprised the market with an agreement to acquire the pharmaceutical manufacturing business **Mayne Pharma International** from US group **Hospira Inc**. The business was formerly the **FH Faulding** business based in Adelaide and employs around 130 people. Halcygen will pay up to $59 million, which equates to around one times current sales.

Halcygen listed in 2007 (at 50 cents a share) and was formed to commercialise two assets that were partly developed at Mayne Pharma. Mayne Pharma manufactures oral pharmaceuticals, and its expertise is in developing improved oral formulations of existing drugs, called super generics, which provide functions such as sustained release, delayed release, taste-masking and increased bioavailabilty. Halcgygen's lead product, which it expects to file for approval in Europe in 2010, is an improved version of the generic antifungal agent, itraconazole. Its version, called SUBA-Itraconazole, has a bioavailability of about twice that of the standard itraconazole. This has the potential to reduce the side effects associted with this drug and create points of difference to competing products. Itraconazole drugs generate sales of around US$600 million a year.

The Acquisition

Halcygen is to acquire the Mayne Pharma pharmaceutical manufacturing business in Adelaide. The plant products oral pharmaceuticals and creams. The company is acquiring a 30 acre site in Salisbury, including all buildings and equipment, which has been valued at $12.7 million. The company makes six major drugs, for which it owns all the trademarks aside from one (Doryx), owns all the drug dossiers, and manufactures these drugs for international marketing groups. These include **GlaxoSmithKline**, **Sanofi-Aventis**, **Pfizer**, **Abbott Laboratories**, **Cephalon** and **Warner Chilcott**.

The business also conducts contract manufacturing of products such as Betadine, Epsom salts, nasal saline and Painstop.

The business is expected to generate sales this year of around $60 million and Halcygen expects to deliver a normalized net profit of around $11 million for this financial year (actual net profit is forecast to be $5.2 million with the acquisition date being 1 November). This assumes an annual capital expenditure of $3 million, which is unlikely to be exceeded. The running net profit for Halcygen does not take into account the $10 million of losses Halcygen has accumulated that may be offset against future profits.

Capital Raising

The company will fund the acquisition through a bank loan and a capital raising. A US$10 million bank loan from NAB has been approved, and $13.5 million will be raised through a fully underwritten placement and Share Purchase Plan (by **Patersons Securities**).

Cont'd over

Shareholders who own more than $500 worth of shares at 7 October can subscribe for up to $15,000 of shares at 20 cents a share, a significant discount to the current trading price.

Reason for Hospira Divestment

Hospira is divesting the Mayne Pharma asset because it does not fit Hospira's core business, that of manufacturing and selling injectable pharmaceuticals, for which it is the global market leader. Hospira acquired Mayne Pharma for its injectables business. The remaining oral pharmaceutical unit in Adelaide has never fit into the Hospira portfolio.

For this reason, the Mayne Pharma oral pharmaceutical group has become a low growth business, where profits have not been reinvested to grow the business. Paying a one times sales multiple for such a mature business is a reasonable purchase price.

Terms of Sale

Halcygen will pay up to $59 million for the business. This will comprise of US$15 million up front, then an annual payout over six years, capped at $7.8 million for the first two years then $6.5 million for the next four years, based on achievement of sales milestones.

These milestones are based on sales being maintained around current levels. If sales fall to below a certain level, then no payout is applicable for that year. The payouts are based on calendar year performance and paid in mid February.

Upside for Halcygen

There is significant upside for Halcygen from this transaction. Since the acquisition of Mayne by Hospira in 2005, it would appear that the Adelaide oral pharmaceutical asset has been underutilised with minimal re-investment for development growth. In fact the initial relationship with Halcygen was formed for Halcygen to become a quasi commercialisation arm for Mayne Pharma; Mayne Pharma had the assets, IP and know-how, and Halygen could access the funding and manage the commercial projects.

Halcygen will re-invest some of the cashflow back into the business to grow it in three key areas. These are, and in order of action:

(1) Increase marketing activities in certain areas which should almost immediately translate into an increased bottom line above forecast.
(2) Start selling some of the existing product range into Asia and launch the Doryx product in Europe. Mayne Pharma owns all of product dossiers and all but one (Doryx) of the trademarks for the products it current manufactures.
(3) Progress new pipeline products. These include the two programs Halcygen has licensed from Mayne, and there are a further four advanced products within Mayne that may eventuate into new super generic type products.

A significant further upside for Halcygen is that it removes the need to pay Mayne Pharma the 30% royalty stream obligation from any future revenue streams it receives from SUBA-Itraconazole sales. Taking this into account, it would appear that Halcygen looks to have negotiated a very beneficial agreement for its shareholders.

There is also the opportunity to increase output manufacturing at the Adelaide facility, which is currently underutilised, through further contract manufacturing.

Risks for Halcygen

A risk with this acquisition is from the product that generates the majority of sales for Mayne Pharma, called Doryx. Doryx is sold by **Warner Chilcott** and the product accounts for about 60% of Mayne's sales. Halcygen owns the dossier for this product, which means that if Warner Chilcott was going to change manufacturers, it would need to resubmit the drug for approval with regulators. Warner Chilcott owns the Doryx trademark. However, if its contract with Warner Chilcott was terminated, then it is likely that performance milestones under the sale agreement to Hospira would not be met and the annual payouts would cease.

Introduction of generic versions of Doryx

A further risk is that the introduction of generic versions of Doryx could impact on manufacturing revenues.

In 2008, Warner Chilcott generated sales from Doryx of US$159 million, up 37% over the previous year. The patent covering Doryx expires in 2022. However, there are five generics companies that have filed their generic versions of Doryx for approval in the US. Warner Chilcott and Mayne filed law suits against each of the potential generic competitors in December 2008 and January this year charging each with infringement of its Doryx '161' patent. The case is pending. It appears that these competitors can proceed with filing their generics for approval whilst the litigation continues for two of the three dose forms of Doryx.

If sales fall as a result of generic competition to Doryx, Halcygen may not be required to fulfil its payout obligation to Hospira. This payout structure appears to sufficiently attend to this risk. In the most recent quarter, Doryx sales continued to increase, generating sales of US$45 million.

Summary

Following the capital raising, Halcygen will have just under 144 million shares on issue. At its closing share price on Friday of 39.5 cents, the company will have a capitalization post transaction of $57 million. Based on future net profit of $11.3 million, it translates to a PE of only 5.0.

The acquisition of Mayne Pharma brings with it complementary operations that should transform Halcygen into a profitable, integrated pharmaceutical business. It's an attractive transaction that also delivers considerable upside through more aggressive management of the business.

Bioshares recommendation: **Acquire shares to participate in SPP by 7 October**

Bioshares

Don't Worry About Your Technology, Show Me The Strategy

By Michael Johnson, Cogentum Pty Ltd

The 2009 Thredbo summit graphically illustrated why strategy is becoming increasingly more valuable to Australian biotechs than the technology upon which these firms were based. This takeout from the weekend's stimulating conversations and presentations gives us great heart that the sector has never been stronger or better positioned for a period of sustained growth.

Further, despite the growing weight of clinical evidence that continues to support the technology diligently developed over the last decade, shareholders should take great comfort that the management teams, more than the technology, more than the strength of the IP, more than the depth of the capital backing, can be the major reason for a growing sense of confidence in the Australian biotech industry.

The Altitude with Attitude

So hold on, you say, strategy more valuable than technology? Did Thredbo's altitude impair my thinking?

Ultimately, a technology is only really monetised when you place it in the hands of a customer. It's only then that you work out whether or not it's worth anything. Sure, you can do some wonderfully clever things by monetising your efforts in developing it to a certain stage. But it all hinges on the notion that someone, somewhere, will generate a massive return when it is placed in the customer's hands. And that assumes a couple of things, that, a) you have customers, and b) you can put your technology in their hands.

Companies must actively engage with these potential customers, be they patients, physicians or even the big pharma a company intends licensing to. By this we mean you must assess and validate whether or not these same customers want the product, will use it, will continue to use it and will pay for it. Only by doing so and providing convincing evidence to support this can you reasonably claim a value for your technology.

Often the market hears spurious claims about the potential market share a new technology will grab when it enters a market. Just because a market exists, does not mean you can access it. An existing market exists only for existing technology. An existing market is also owned by someone who has invested heavily to create and grow it, and will invest heavily to protect it. Claiming that your technology has a potential market share in someone else's market without engaging with the end users is like claiming a clinical outcome without undertaking any clinical work.

The Exubera Lesson

What became extremely clear in the clean mountain air of Thredbo is that Australia's leading organisations are increasingly engaging with their end users and value chains to better understand the critical issues that drive acceptance and adoption of their technology. In other words, whether or not their technology has real value. However, just asking patients whether they want a new technology is never enough.

Gary Phillips of **Pharmaxis** took us through the well publicised Exubera case study. Exubera was **Pfizer**'s attempt to fill the blockbuster hole in their portfolio with an inhaled insulin product. As was pointed out, Pfizer more than likely undertook extensive research of the market to understand whether or not their technology would be accepted. However, as in any clinical setting, it is the question which is all important not necessarily the answer.

In hindsight, Pfizer realised that the reason for the lack of acceptance had more to do with the way the product would be used and how this impacted the physicians' business rather than the technology itself. An issue highlighted by Pfizer Vice President Ian Read in 2007 was that *"the resistance from physicians and patients to going on to insulin any earlier than they might have done previously was seen as a particular hindrance to the uptake of Exubera, coupled with the burden the Exubera technology represented to the practice, in terms of lung function testing, training with the device as well as the size of the inhaler itself."*

This understanding of how your technology impacts the other 'jobs' both the physician and the patients are trying to get done is what **Pharmaxis** with their cystic fibrosis product Bronchitol and **Acrux** with their testosterone replacement device Axiron have sought to understand.

More importantly, it is how these two companies have responded to this that should provide investors with great confidence in the respective management teams and the strategies they are employing.

By ensuring a strong market orientation, both organisations have been able to add a powerful strategic element to their clinical development, product and device design and create compelling 'Go-to-market' strategies. In other words, market orientation has allowed both businesses to create powerful propositions to their markets and mitigate their market risk. By doing so, they have gone some way to avoiding the problems Pfizer encountered.

The Value is in the Problem, not the Solution

Josh Hofheimer from **Hexima** and Jackie Fairley from **Starpharma** illustrated that market orientation does not only mean a focus on the end user, but includes strong appreciation of the needs of the marketing partner. This direction has the potential to be a huge boon for the biotech sector.

StarPharma identified that **SSL** – one of the world's largest manufacturers of condoms – would be able to create a long term competitive advantage by coating their condoms with the VivaGel product. The job – of active product/brand portfolio management – is a critical issue facing all large consumer facing companies. Starpharma was able to provide a patented point of difference. In the world of Fast Moving Consumer Goods, that is as rare as hens teeth, and the subsequent value created has the potential to be significant for both partners.

Hexima , too, has focused on developing a deeper understanding of the challenges, or important jobs, their marketing partner, **Dupont**,

– 'Show Me The Strategy' cont'd

faces. This focus on developing technologies that address some of Dupont's high value important 'jobs' – dealing with margin control and yield - has not only resulted in some exciting revenue opportunities but also created a licensing outcome that many biotech's can only dream of. Not only has Hexima dropped the traditional 'transactional' licensing model of 'here's my product, where's my cheque', they have created a scenario where they are now an integral partner in Dupont's agribusiness offering.

Innovation in a time of crisis

Mark Morrison from **Universal Biosensors**, in a confronting and challenging session, raised the topic of the rising cost by the US health system, and indeed, health systems across the globe. The implications for the entire sector are immense. What happens when societies and economies can no longer afford to continue to subsidise the pharmaceutical sector? What then?

While this crisis will threaten the viability of many biotechs and pharmas globally, it is also opening the door for organisations with disruptive strategies. These are companies that not only develop breakthrough technology, but whose technology allow them to rip cost and time out of existing processes within the health system – from patients, right back through to the lab.

Labtech's Lusia Guthrie illustrated just how compelling this opportunity can be. Labtech's strategy of identifying processes with the pathology lab environment that are time consuming, costly and cumbersome and responding to this with an automated solution illustrated the power of market orientation. Not only is Labtech providing a compelling solution to a problem the lab technician experiences, more importantly, they provide a compelling solution to a laboratory's Chief Financial Officer (the buyer) who is seeking ways to improve productivity and protect margins in a sector under increasing price pressure.

As a result of this focus, Labtech has now built a unique capability in solving problems within a defined market – a market that will continue to look to it for solutions to its key problems.

Welcome to the Renaissance

Thredbo 2009 illustrated that the Australian biotech sector has reached a fascinating inflection point. By building a capability in understanding the needs of their markets and bringing to bear the right technical and scientific expertise, Australian biotechs are building a truly sustainable and compelling story for investors, for customers, and for those who continue to sink their hearts and souls into this industry.

One of the more interesting comments we heard over the course of the weekend occurred right at the very end. A well respected and experienced delegate commented, *"You know I used to think we were a bunch of very bright people who were so obsessed by how brilliant we were that we were all doomed to fail; but over this weekend I've heard some of the most amazing stories, not about how smart we are, but about how good we are at listening to what the problems are."*

If nothing else, market orientation ensures you listen. More importantly, it has the potential to then describe that problem with a common language; one that the customer defines, the investor understands and which can guide the strategies and activities of all those seeking to solve it.

Cont'd bottom of next page

Bioshares Model Portfolio (25 September 2009)

Company	Price (current)	Price added to portfolio	Date added
QRxPharma	$0.80	$0.25	December 2008
Hexima	$0.58	$0.60	October 2008
Atcor Medical	$0.18	$0.10	October 2008
CathRx	$0.40	$0.70	October 2008
Impedimed	$0.70	$0.70	August 2008
Mesoblast	$1.04	$1.25	August 2008
Cellestis	$3.37	$2.27	April 2008
Circadian Technologies	$0.75	$1.03	February 2008
Patrys	$0.14	$0.50	December 2007
Bionomics	$0.26	$0.42	December 2007
Cogstate	$0.24	$0.13	November 2007
Sirtex Medical	$5.11	$3.90	October 2007
Clinuvel Pharmaceuticals	$0.34	$0.66	September 2007
Starpharma Holdings	$0.54	$0.37	August 2007
Pharmaxis	$2.38	$3.15	August 2007
Universal Biosensors	$1.36	$1.23	June 2007
Biota Holdings	$2.51	$1.55	March 2007
Probiotec	$2.58	$1.12	February 2007
Chemgenex Pharma.	$0.76	$0.38	June 2006
Cytopia	$0.12	$0.46	June 2005
Acrux	$1.51	$0.83	November 2004
Alchemia	$0.58	$0.67	May 2004

Portfolio Changes – 25 September 2009

IN:
No changes

OUT:
No changes

QRxPharma – Update

QRxPharma has formed a strategic alliance to commercialise non-core assets in its Venomics program. **Venomics Pty Ltd**, of which QRxPharma owns around 80%, has IP relating to snake venom compounds with potential use as blood coagulation products.

Under the deal, Chinese biopharmaceutical company **Liaoning Nuokang Medicines** will invest US$5 million into a Hong Kong based company to commercialise the assets. Venomics will own only a minority interest in the new venture.

This is a legacy asset for QRxPharma for work that originated at the **University of Queensland** and the **Queensland Institute of Medical Research**. QRxPharma is focused on the Mox Duo suite of opioid combination products. The alliance allows the technology development to progress and there will be no significant change in QRxPharma's R&D expenditure. Nuokong has an interest in this space, selling snake venom products derived from Brazil into China.

Core Technology Progress

The core technology for QRxPharma is a morphine/oxycodone program, with the immediate release form expected to move into phase III trials shortly. QRxPharma is seeking a Special Protocol Assessment certification from the FDA for this Phase III program, which if granted, gives the company greater certainty that its product will be approved by the FDA if it meets clinical milestones.

We expect the company will receive its SPA approval in coming months. Under the proposed SPA, the company will need to conduct two further Phase III studies. The planning for execution of these studies is in place. However, the company is seeking to form a partnership to augment its cash position and to help fund the Phase III studies. We expect this partnership to be a precursor to a major US licensing deal for the technology.

Phase III Clinical Studies Design

(a) One of the Phase III clinical studies will involve 530 patients who have undergone a bunionectomy procedure. This type of pain control is a preferred measure for regulators such as the FDA because of the intense and consistent pain experienced following such procedures.

The trial will be a 'Combination Rule' study, whereby the 12mg of morphine and 8mg of oxycodone dose that makes up QRxPharma's MoxDuo IR, is compared with the individual parts alone i.e. compared against 12mg of morphine then against 8mg of oxycodone. It's a peculiar test but one that presumable seeks to assess the relative side effect and efficacy profile.

(b) The second proposed Phase III study will be in a different pain model, in around 150 patients undergoing total knee replacement. In this study, the 12mg morphine/8mg oxycodone combination with be compared with a 'relative placebo'. Because it is unethical to deliver patients a placebo in such a study, this control arm will be a lower dose of MoxDuo, of 3mg morphine with 2mg of oxycodone.

Timeline

The timeline for the company is to receive its SPA agreement from the FDA by year's end and form a first partnership to help fund the final Phase III studies. The studies are expected to be completed by the end of 2010 and expected approval by the end of 2011 if all goes well, and a major US licensing deal in that period.

2009 Trial Results

While QRxPharma has been negotiating its SPA with the FDA, it has been conducting further studies with its MoxDuo dual opioid. Information from these studies have helped structure the final Phase III studies.

(a) In April this year the company revealed its 6mg/4mg MoxDuo delivered a similar analgesic effect to 12mg of morphine or 8mg of oxycodone, but delivered considerably fewer side effects as measured by vomiting (emesis) and dizziness. There was a slight increase in headaches from the 6mg/4mg MoxDuo arm although this is the only time this had been noticed. The trial involved 197 patients following a bunionectomy procedure. The trial also showed that patients were two to four times less likely to stop taking MoxDuo than either morphine or oxycodone alone, presumably because of this better side effect profile. This trial found that the preferred dose for the final Phase III trials will be 12mg/8mg of morphine/oxycodone.

(b) In August this year the company released data from a study involving 44 patients following total knee replacement. The study compared the 12mg/8mg MoxDuo against the Percocet combination drug in the market (5mg oxycodone and 325mg paracetamol). The patients were given sufficient quantities of the drug to achieve a similar analgesic effect, with the aim being to look at the respective side effect profile. The data showed that 20% of patients taking Percocet experienced vomiting, compared to none in the MoxDuo arm. Also 13% of the patients in the Percocet arm experienced symptoms of constipation versus 7% in the MoxDuo arm. Percocet currently generates annual sales of around US$1 billion a year and is the second most widely prescribed opioid in the US.

Summary

QRxPharma is capitalised at $60 million. It had $17.8 million cash at June 30 this year. The immediate milestone for the company is to receive its SPA from the FDA to allow it to confidently progress its final phase III trials. However, it is seeking to form a strategic alliance first to help fund these final clinical studies.

Bioshares recommendation: **Speculative Buy Class B**

– 'Show Me The Strategy' cont'd

Thredbo 2009 could signify a new chapter in the Australian biotech sector. One where the emerging stars of this sector cogently demonstrate that the most effective way of commercialising a technology is to keep the problem it seeks to solve front of mind.

*Michael Johnson is a director of **Cogentum**, an innovation, strategy and market advisory firm that works with life science companies to optimise their technology, maximise their market opportunity and create compelling commercial strategies. (email: michael.johnson@cogentum.com.au)*

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.

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

Sell

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48 issues per year (electronic distribution): **$320**

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