

Wall Street Transcript

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David Green President Harvard Bioscience, Inc. 84 October Hill Road Holliston, MA 01746 (508) 893-8999

TWST: Could we start out with a little history and a quick overview of the company?

Mr. Green: Our company traces its roots to 1901 at the Harvard Medical School, and that's where the name came from. There was a professor there named Dr. William Porter, who was the founder of the American Journal of Physiology, and in his day he was one of the leading lights of physiological scientists. He wrote several books, and he was very famous. He taught physiology and his little revolution was that he taught using experiments when at the time teaching was done primarily with lectures. In order to do the experiments he needed equipment and because there wasn't any available he literally made it himself in the basement of Harvard Medical School.

Over time he developed a very good reputation for good quality innovative products, and the products became known as the Harvard apparatus. So that's where the company's name came from. We have used the Harvard Apparatus name for 100 years. Back in about 1980 we started using the name Harvard Bioscience, and when we filed to go public in August of 2000 we formally changed the legal name of the company from Harvard Apparatus to Harvard Bioscience because the business has grown significantly since its roots at the Harvard Medical School. Today physiology is not our main business. We have two main areas we focus on. One is what today is called ADMET screening, which is an area that's not familiar to everyone. ADMET stands for absorption, distribution, metabolism, elimination and toxicology. It's really the testing of drugs that goes on in the late stages of drug development before you go to animal trials, and before you go to clinical trials. That's where a big part of our business is today. It's new products, new technologies for doing ADMET screening of drugs by pharmaceutical and biotech companies that enables them to weed out early on in the process compounds that have bad toxicological side effects, or are unlikely to be absorbed well in the body - that's the A part of ADMET - unlikely to be distributed around the body to the correct tissues - that's the D part of ADMET, or may be metabolized into a toxic form, or maybe not metabolized at all, in which case it's maybe hard for the body to eliminate them, and that's important. If you don't eliminate a drug from your body, eventually its concentration will build up to toxic levels. So ADMET screening is really one of our most important markets.

We think we're well positioned in that market. We believe we are the market leader in that area. If you look at our competing companies they tend to be significantly smaller than us. It's really that part which traces its roots all the way to 1901 because a lot of physiological experiments were done on animals, and most of the history of ADMET tests has been done on animals. Where we're a little different is we've commercialized a range of new assays that either avoid or reduce the use of animals, in particular in toxicology screening, but also in absorption screening and distribution screening.

TWST: How big is this marketplace that you're addressing?

Mr. Green: That's a good question because you'll hear a lot of people talk about \$50 billion. I'm sure you've come across that number as being a number that people say this is the R&D spending of drug companies, and that's our market size. I don't really think that's true. First, the \$50 billion is what pharmaceutical companies spend on R&D, and that includes the cost of their scientists. What they actually purchase from vendors, such as ourselves, and other tools for drug discovery companies is, and this is really just a guesstimate, probably more in the \$15 billion range. It's still a big market, but it's not the \$50 billion a lot of people talk about, and within that, there are an awful lot of things that pharmaceutical companies do in research. So you really have to get very, very focused before you can define a market size for specific products.

According to BCC (Business Communications Company, Inc.) the markets for in vitro screening, which is outside of animals, in cells, tissues, cultures, organs, things like that, is about a \$200 million market. We do not know of any market research report on the size of the market for products used for doing in vivo research but we believe it is probably in a similar range.

TWST: Is that the size of the market you're addressing?

Mr. Green: For the ADMET part of our business, yes. I haven't talked about the other significant part of our business, the proteomics business.

TWST: Are you the largest factor in that marketplace?

Mr. Green: Correct. It's a very fragmented marketplace. We believe that by some margin we are the largest player in that marketplace, the tools for ADMET screening.

TWST: Why is it so highly fragmented?

Mr. Green: Well, traditionally, the way this piece of the industry has evolved, and it's quite true of a lot of the other pieces of the industry too -- and by industry I mean tools for drug discovery -- is that most things were invented by academic researchers. They were working on a new problem. They invented some new piece of equipment that helped to solve their problem, and then some of them then got into business by themselves. Those people typically have been very good at inventing, and typically have not been very good at sales and marketing, or manufacturing, for that matter. So the industry is full of lots of small companies, that's why it is so fragmented.

So one of things we found as an opportunity for us, because we believe we are good at manufacturing and we are good at sales and marketing, is to work with these small companies. They're often founder owned companies, and we work with them to acquire their businesses, which we've done a lot of over the last four or five years, or to work with them on a distribution basis, whereby they do the invention, they probably still do some of the manufacturing, but we'll take over the sales and marketing, or we license the technology and do the manufacturing and sales and marketing. So that's one of the reasons why we've grown to be significantly bigger than most of our competitors is because we've really pursued this sort of collaborative business model, where we've either bought up these smaller companies with a good technology base, or we've just entered into distribution agreements with them to put them in our catalog.

We have a very powerful catalogue. It's about 1000 pages long, and our nearest competing catalog is probably 100 pages long. We also have global distribution. We have subsidiaries in Germany, France, Canada, the UK and the US, whereas most of our competitors typically are only in a single country. They're usually in a single country because if it was a US company it was a US researcher who founded it and they don't have global distribution, or it's a British company because it was founded by a British researcher, or a German company because it was a German researcher. They all tend to be quite parochial.

So we found that there's a lot of leverage in our business model by, for instance, buying a company in Germany, which we did at the end of 1999. We bought a small company in Germany, who had a terrific technology in isolated organ testing systems. They were the market leader there, but they sold very little outside of Germany. So we brought that into our US distribution and sales and marketing channel, and we've been able to grow sales from the products we acquired in that acquisition.

TWST: Is there more opportunity for you to do that?

Mr. Green: Yes, exactly, I think there's still a lot of opportunity. It's still a very fragmented market, and even if we were to go and acquire a lot of companies, well, there's ten more that start up every day. There's always new research. There's always scientists developing new techniques and new technologies going off and becoming entrepreneurs. So we are the biggest player in this space by quite a long way, but I think the opportunity for us to continue this strategy we've evolved of leveraging our strength in global distribution, our strong brand name, and our strong catalog marketing is a very robust strategy. We can carry on doing this for a long time to come.

TWST: So there's good opportunity in that part of your business.

Mr. Green: Yes, and a lot of the same arguments, by the way, apply to the proteomic space as well. In the proteomic space almost all of the innovation comes out of universities, so the same kinds of thing apply.

TWST: What is it you're doing in the proteomics business?

Mr. Green: There are really two components to that. We have a business called Biochrom, which is a subsidiary of Harvard Bioscience, based at Cambridge in the United Kingdom. Biochrom manufactures spectrometers, which are tailored to the life science market, specifically for protein analysis and for DNA analysis. We sell those products together with an amino acid analysis system (amino acids are the building blocks of proteins) worldwide through Amersham Pharmacia Biotech, which is a very strong sales and marketing organization. In fact, they're either the number one or the number two in the life science space. The only other company they really compete with on that scale is Applied Biosystems. We've got a very long history of working with Amersham Pharmacia Biotech. It's over 15 years, and we supply them with products for them to distribute worldwide, primarily aimed for the DNA and protein analysis markets. That's the first part of that proteomics business.

The second part is we've acquired and licensed a group of technologies around the rapid purification of very small protein and DNA samples. And this is really what people talk about when they talk about proteomics. Proteomics is really just high throughput protein biology. People used to call this stuff biology, and now they call it proteomics. We had genomics before that, and that was also called biology before people called it genomics. And really, the difference between biology and proteomics

and genomics is simply throughput. People are sort of industrializing the approach to both genomics, which has really pretty much been done now. Most of the breakthroughs there have been done with the sequencing of the human genome, and the market is starting to focus more on proteomics, or the understanding of proteins.

This group of technologies we acquired and licensed is really three different approaches to doing high throughput purification of very small samples. And if you allow me to just explain for a moment, the big difference between genomics and proteomics is that there is no equivalent of PCR for proteins. If you're familiar with PCR, it's what enables you to amplify a single strand of DNA and make essentially a trillion copies of it. So if you have a piece of DNA and you don't have enough to analyze, you can always make more, and you're basically cloning it each time you go through the PCR process so you get a very large quantity of a very pure piece of DNA.

For proteins there is no comparable process, so when you're dealing with proteins you have to deal with them in the native quantities that they occur in. So if you've got a small piece of tissue, maybe a biopsy from a cancer patient, or you've got a blood sample or something that you think has interesting proteins in it, you have to deal with them in extremely small quantities. And that's why all of these technologies that we've acquired or licensed in the protein and DNA purification area particularly focus on effective purification at very, very low sample volumes, plus they're all designed for automation. So the whole idea is to be able to do very rapid, high throughput purification of very small protein and DNA samples. So those two pieces together are what we call our proteomics business.

TWST: What's the potential there? What kind of growth can you see as this business expands over the next few years?

Mr. Green: That's a very good question. According to Strategic Directions the market size today for DNA and protein sample preparations is in the \$300 to \$350 million range today. They project it to grow quickly. Today that's primarily DNA, which is primarily driven by plasmid DNA preparation, which is the business that made Qiagen famous. That's really what put them on the map is plasmid DNA preparation.

So the bulk of the market today is DNA because genomics has been the trend for the last few years. But we see the emergence of a new segment of high throughput protein purification, which is very small today. A lot of people are talking about doing high throughput protein production and purification but very few people are actually doing it. But we believe that it's absolutely essential. It's inevitable that all the big pharmaceutical companies and the biotech companies will start moving into high throughput protein production, and when they do they'll need to do high throughput protein purification.

TWST: Why isn't it being done much today?

Mr. Green: It's not easy to do. It's complicated to do and it took people in the genomics space quite a while to move to production scale from bench scale. Automated gene sequencing was invented, in the mid 1980s but large scale genomic sequencing facilities really didn't get going until the mid 1990s. I think we're in the same kind of position with proteomics where the interest is there today, but it just takes people time to gear up for doing high throughput protein purification. And just like there's no PCR available for proteins, there's also no equivalent of the gene sequencing. The closest thing to it today is the mass spectrometer, but mass spectrometers today have a much lower throughput than gene sequences do. So I think the technology of dealing with proteins is just several steps behind the technology of dealing with DNA. I think until some of those newer technologies are developed, I don't think we'll really see widespread high throughput protein production. I think it's inevitable that it's coming, but the equipment needs to be upgraded somewhat before it becomes widespread.

TWST: What's your position in this marketplace? Who are you competing with?

Mr. Green: In the protein purification area the only direct competition really comes from Millipore. They also have a tip based technology for protein purification in which the end of the tip is blocked with a filter – in ours there is free flow which we believe makes it faster to use. The dialysis products that we sell for protein purification have different competition. There's a company called Pierce Chemical that makes dialysis based products, and there's a company called Spectrum Medical, which makes the dialysis based products. But that's about it. There really aren't too many people today focusing on small sample protein purification.

TWST: Typically, who's the customer for this type of product?

Mr. Green: It's all the usual suspects. It's researchers at pharmaceutical companies, biotech companies, NIH, and universities.

TWST: What kind of growth rate are you capable of generating in this area over the next couple of years?

Mr. Green: I really can't comment on that as we only comment on future prospects through our public company reporting process.

TWST: Where do you see the biggest opportunities for the company over the next two or three years?

Mr. Green: I think that's very clear actually. I think the ADMET screening market is a real bottleneck in drug discovery today, and it's companies that create the next generation of product in ADMET screening that give you a better combination of relevance to the human clinical experience and throughput that are going to take advantage of that. ADMET screening has traditionally been a major bottleneck in drug discovery because most of it is done on animals, and animals fundamentally can't be automated. So you can't do high throughput anything on animals. So I think we've developed some novel technologies -- we have three or four of these today -- that enable you to at least start to think about automating the processes, and doing them at higher throughput at lower cost.

So that I believe is a very good growth opportunity for us because pharmaceutical companies really are crying out for new assays, new ways of approaching ADMET screening. I'm sure you're familiar with things like combinatorial chemistry and high throughput screening that have enabled drug companies to examine hundreds of drug targets and millions of potential drugs. What that has done is given them thousands or even tens of thousands of hits coming out of that high throughput screening process and now those all have to be prioritized. You can't possibly afford to put all of those into animal trials. So pharmaceutical companies go through a process of screening those down, or whittling them down to a small number of compounds they can actually put into animal trials. And it's really that that we're focusing on the ADMET side, and I think that's a very good growth opportunity for us.

On the proteomics side, I think the tip based technologies and dialysis based technologies have very good growth opportunities. So those are the two areas that I think have good growth potential for us.

TWST: What's the risk here? What can go wrong?

Mr. Green: Well, there's plenty of risk factors laid out in our S-1 and our 10-Ks, so you can go through those if you want to review some of the risks we have identified. The risk everyone is talking about today is customers delaying orders like you've seen very recently with Molecular Devices and Applied Biosystems. We don't believe we are as sensitive to this as perhaps others are as many of our products are not expensive capital items.

The risk, more to the industry though -- I'm not really talking about us in particular, but I'm talking about the whole drug development industry -- I think has much more to do with the fact that the science is way out ahead of society. The science of genome sequencing and of understanding our biological makeup as human beings is way out ahead of where public opinion is, and where ethical thinking has got too, or moral thinking has gone too.

I'll give you one small example. You may be familiar with Dr. Francis Collins, who is the head of the National Genome Research Institute. He was basically responsible for the government's side of human genome sequencing. So he was in competition with Craig Venter at Celera Genomics. But he has gone into writing in published articles saying that by the middle of this century not only will we have lots of genetic tests and novel drugs, but average human life span will increase from 90-95 years. Now, I ask you to consider one thing. What happens to social security when average life span reaches 90-95 years? That is not something that I think the government has even started to think about. There are huge societal implications of what the science is now capable of doing. And I think that is probably the biggest risk to the industry, is that there's a big mismatch today between where the science and where public education is.

TWST: Is there a technology risk here that somebody could come up with a system or an approach that surpasses what you're doing?

Mr. Green: Yes, of course there is. In my opinion, that's actually one of the biggest risks in this industry is that there's always new technology being created. It goes back to the point I made about lots of university researchers inventing things all the time. There's always a risk that someone will come out with a faster, better way of doing it, using a technology that you've never even thought of. And we recognize that, and in fact, we recognize that so clearly that we make a great effort to go and find out what the new technologies are that researchers are working on, and then we try to leverage our brand name and our expertise in sales and marketing, and our global infrastructure to work with those people to bring the new technologies to market. So the risk is always that someone else does it. But it's also an opportunity in saying that well, if you make an effort to go and find these things, you can utilize your strengths to a great effect here.

TWST: Co-op what they're doing essentially?

Mr. Green: Well, I wouldn't say co-op, but work with them, collaborate with them, so they do what they do well, which is R&D, and we do what we do well, which is sales, marketing and manufacturing.

TWST: Do you have the management team in place that you need?

Mr. Green: Yes we do. We made some significant additions to our management team before our public offering. Particularly,

we hired a CFO that we didn't have before, and we strengthened our marketing efforts, particularly in the US. We also strengthened our senior management in the UK. So I think we've actually got a pretty good management team. In addition to these managers there are essentially two founders of Harvard Bioscience who have major stakes in the company. There's myself, a major shareholder, and Chane Graziano, who is also a major shareholder. We were the original team that put together the buyout of what was then Harvard Apparatus from its prior owner five years ago. So Chane and I really are sort of the partners, if you like, that have evolved Harvard Bioscience from its roots in physiology to the tools for drug discovery company that it is today.

My background is really in marketing, and Chane's background is in marketing and sales. He has been in the industry for about 36 years. He was previously the president of Waters Chromatography, and spent many years there both doing acquisitions, and through the strong growth period both in revenue and earnings that Waters went through back in the 1980s or so. So I think the pair of us make a pretty good senior management team. And then we have, as I mentioned, a strong team directly beneath us.

TWST: Balance sheet?

Mr. Green: Well, we went public in December, so we have about \$40 million in cash on our balance sheet. We don't have any debt, so I would say that we do have a very strong balance sheet, and that's actually very important to us because, as I mentioned, a part of our strategy has been to acquire new businesses and technologies that fit with our focuses of ADMET screening and proteomics. And clearly, you need resources to do that. So a very important part of our business strategy was to go public, to raise the funds necessary to take us to the next level.

TWST: What is the current burn rate?

Mr. Green: Today we generate positive cash flow and it is our intent to continue to manage the business this way.

TWST: How do you feel about the value that the market is currently putting on the company?

Mr. Green: I think the market puts the value on the company that it wants to.

TWST: Do you think the market understands what you're doing?

Mr. Green: It depends what you mean by the market. I think the investors who we have owning our stock today I think understand us very well because almost all of them, certainly the holders of big chunks of our stock, are people who we met and presented the company to at our public offering road show. So I would say that those people understand very well what we're doing. I think there's a much broader audience than that of people who we did not meet on the road show, or who didn't read our prospectus, who don't really understand what we're doing today.

That's one of the reasons why I think it's an important part of my job as president of the company to go to things like health care conferences, like the one that this interview is for, to present the company and talk about proteomics and talk about ADMET screening because they're not familiar concepts to a lot of investors, and they're not familiar concepts to a lot of mutual funds. Because there is some science in this industry that really needs to be understood in order to make sensible investment decisions, I think it's a very important part of my job to communicate and educate investors about the kind of risks that there are in our business, which I think are very different to in, say, the biotechnology business, the kind of opportunities there are, how we compete, how we try to make successes out of the investments we make.

And I'm perfectly happy to share all of that with investors because I think it's a great moment in time we're living in. I think the sequencing of the human genome is a fantastic breakthrough, which in my opinion is more important than the industrial revolution. And this industry needs to be able to attract capital. Currently we've got capital. But I think to realize the vision that Francis Collins has of improving human life span we need a lot of entrepreneurs, we need a lot of capital, we need a lot of good business plans, and a lot of good management teams. And I think if we can help educate and communicate to mutual funds and investors where the bottlenecks are in the industry, where the business strategies are that are in our experience are more likely to be successful, I think it will simply help the industry as a whole to be more productive and do what we all hope, which is that we cure diseases faster.

TWST: If you were sitting down with some potential longer-term investors today, what two or three reasons would you give them to take a look at your company?

Mr. Green: I think the first reason would be that we're cashflow positive, and always have been, and intend to be going forward. That's something of a rarity these days, and yet, it's something that we believe in very strongly, and have a demonstrated track record of, both in Harvard, and also Chane's long experience at Waters and other companies where they were consistently cashflow positive. So I think that's the first thing I would say is that we've got a strong track record of making money.

The second thing I would say is growth. We're playing at bottlenecks in the drug discovery industry with strong competitive positions, with products that add real value to pharmaceutical companies in growth markets. So we think we've got a very good growth story. Again, historically, we've demonstrated very good growth. Our compound annual growth rate of revenues has been over 30%. Those would be the first two reasons, that we're cashflow positive and the second one is that we've got good growth, and have demonstrated good growth and the ability to manage it.

And I think the third one is that we've got a management team who has a demonstrated track record of launching new products, of licensing in new technologies, or acquiring new technologies, and has sort of the strategic flexibility that I think sometimes inventor/founders don't have. If you're a founder of a company and head off on this business plan, and then something goes wrong, my experience has been that the founders often stick to what they're doing because they can't see any alternative. Whereas I think business people, which is probably the best way to describe myself and Chane and the other managers here, are not wedded to a particular technology, and if we try something and it doesn't work, well, we're perfectly okay with dropping it and trying something else.

So I think those are probably the three reasons that I would give to a potential long-term investor. We're cashflow positive, we've got good growth, and a strong management team.

TWST: Thank you. TM

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