

Movers & Shakers Interview
with Patrick O'Hara, CEO of
Ambios Technology, Inc.





Patrick O'Hara, CEO

Ambios Technology, Inc. is an emerging player in the dimensional metrology market, and was founded in 1996. The company designs and manufactures innovative surface metrology instruments for the industrial sectors and academic set-ups.

In this Movers & Shakers interview, Mr. Patrick O'Hara, CEO of Ambios Technology, Inc., shares his views on the metrology market space with S.Vidyasankar, Senior Research Analyst, Frost & Sullivan. He also details what we can expect from Ambios Tech in the future.

S.Vidyasankar (SV): Please brief our readers on the genesis of Ambios Technology, Inc. What is the vision for its formation?

Patrick O'Hara (PO): The basic genesis for the company was to bring to industrial researchers affordable world class surface analysis instruments. We started with a profiler product for a market which we viewed as underserved by the then existing competitors and then we subsequently branched out into other areas of surface measurement technology. We delivered our first profiler in March of 2001, our first scanning white light interferometer in July of 2005, and our first AFM in November of 2006. The company has sustained profitability and recognized a revenue growth rate of 35% since the installation of its first product.

SV: What is the unique value proposition of Ambios Technology? What are its key competitive differentiators in the dimensional metrology market today?

PO: Generally speaking, our principal competitive advantage or value proposition is our price performance ratio. We produce scientific instruments with performance comparable to competitive systems at twice the price. We believe that not only Harvard, Stanford, MIT and the like should have access to great tools for scientific advancement. More people doing more research is a way to make the world a better place, and our goal is to make that happen.

SV: In your opinion, what are some of the key technology trends in the industry? How do you think they will shape tomorrow's metrology industry?

PO: Our focus really has been on nanometer scale measurements in the Z-height regime. When you need to make highly precise Z-height measurements of various surfaces over a variety of fields of view, one instrument cannot do it all. So we bring various technologies to meet the wide variety of applications that our customers have. With our instruments we can see fields-of-view that can be as large as 50 mm by 150 mm with Z resolution on the nanometer scale down to fields-of-view of a few hundred nanometers with atomic scale Z resolution. With this wide measurement capability, we help industrial and academic researchers in semiconductor, mass storage, and nanotechnology "see" the surface features of interest to them. In all of these areas, continually improved lateral resolution and atomic scale Z-height resolution are critically important. To this end the focus of our research has been to continually strive to push this resolution limit.

SV: How do you keep pace with technological advancements? Additionally, how do you approach technology innovation and product development within your company when considering these technology trends?

PO: At Ambios we spend a lot of time discussing the process of innovation. We have even gone so far as to synthesize our principals of innovation and posted them on our website. And although we consider ourselves innovative in many respects we are not here to try to be the next Nobel Prize winner for the development of some spectacular technology – we leave this to our customers. We think of innovation more in evolutionary terms than revolutionary terms. We take the technology that we have and we run it through regular innovation and regular advancement. We believe that innovation is knowledge driven. So we seek to attract the highest skilled technologists in our field to assist us with the advancement of our products and technology. This is often distressing to those in the financial community as evolutionary innovation is slow which means that the growth of these companies is slow. However I am gratified when I think of HP and the fact that they spent their first two and a half years in a garage and still became a great company.

SV: Can you give me some examples of how Ambios Technology, Inc. is showing value to customers who are still under pressure to cut expenses?

PO: Sure. Return on investment is frequently an element in the decision making process when purchasing a metrology system. So, we try to understand the specific element of the measurement that we are making for a customer that allows them to improve their product or just produce their product. As an example, we have a customer who was struggling with a thin film stress problem that was localized to a particular process. This problem became so severe that they could no longer process their wafers. Using our stylus profiler, they were able to quantify the stress and engineer a solution. So, in this case it was not a matter of reduced expenses, it was, quite literally a matter of survival.

SV: What are some of the growth strategies that your company has implemented to foray into untapped markets and expand its client base?

PO: We have grown both organically and through acquisitions, and we expect that this will continue. As our product base grows, we can address more markets. As an example, we identified an opportunity in the chemical industry that was very unlike any of our other traditional markets. Although this market is modest, it provided an opportunity to develop a niche at very high margins. This would not have been possible if we were “technology myopic.” That is, we identified and quantified a market and brought to bare the appropriate technology for the requirement rather than forcing a technology that we owned to meet the need.

SV: What have been your biggest challenges and how have you re-aligned your strategies to overcome them?

PO: Our revenue has grown 35 percent per year or more. We are entirely self funded which means that we fund our developments out of our cash flow. With this level of growth, cash flow is always an issue. Over the last two years our planning process has included a cash preservation plan to assist us with this issue. Our second largest challenge has been to attract and retain highly capable technologists and others here at the company. Even though we are located near the center of the Silicon Valley, we still find it difficult to identify qualified candidates. So, we have begun to recruit from other areas.

SV: As CEO of the company, what do you want to accomplish in the next couple of years? How would you define success for yourself and for Ambios Technology, Inc?

PO: I would say that we have already achieved a certain degree of success. Having profitably sustained a compound annual revenue growth rate of 35 percent, acquired a pioneering technology company, demonstrating an ability to successfully evolve a product line and sustaining many other achievements on a daily basis is success for me. Success for me in the future will be to remain committed to continued innovation, adherence to our strong corporate values, and provide our stockholders with a fair return on their investment. As for accomplishments in the next few years, I expect that we will continue to see revenue growth in the range of 35-50 percent per year and profit remain high for the next 2-3 years.

SV: What is your view on opportunities from emerging markets, such as Asia Pacific, Eastern Europe, and Latin America?

PO: Only 40% of our revenues are generated in North America. We have distribution channel access to markets in South America, APAC, India and Europe. We see some of those areas stronger than others and we are devoting resources to areas that require attention. As an example, we recently hired a business development manager for APAC who will assist us in focusing our attention on that particular region. So, we have begun to regionalize the company in a way that focuses on different parts of the world.

SV: What key strengths and core competencies have allowed Ambios Technology, Inc. to remain successful in the marketplace?

PO: Our principal strengths are two fold – agility and single mindedness. Our ability to identify either strengths in the market or emerging markets where we can bring our capabilities to bear and move things forward in a relatively rapid pace have permitted us to take advantage of market opportunities prior to our competitors. And our ability to attend to our projects single-mindedly and not be distracted has allowed us to complete our developments on time and within our budget. As far as our core competencies, we have identified core technologies that we keep very close to the vest and we try to build the technical staff in a way that allows us to have experts in these critical elements of our technology.

SV: You were talking about 35% growth. Could you tell me what influenced this performance in 2006, and could you also highlight future projections?

PO: Our growth in 2006 was due to continued market share acquisition in the stylus profiler products and contribution from the recently acquired AFM products. Generally, we do not make projections that run longer than a year since we feel that we cannot project very effectively beyond that period. Due to a variety of developments in research and development, we do not see a reduction in our revenue growth through 2008.

SV: What influenced that performance?

PO: In the case of early development, it was simply acquisition of market share as we entered a market that already existed and was growing modestly. In subsequent years, acquisitions of companies and products produced additional revenues for us, however, at the moment, we are looking at opportunities in the market place that will allow us to grow based on our existing product base.

SV: What products have you introduced recently? Can you share some insights as far as future product announcements?

PO: Within the last several days we have introduced a completely new line of surface profilers at the 54th annual American Vacuum Society meeting in Seattle. These new profilers incorporate an entirely new electrical design, an ability to operate the profiler from your laptop or any simple USB connection, entirely new software and a whole host of other new developments. This will allow us to capitalize our current market position and even grow our market further. In the case of the SPM products, we will complete a new electrical controller design that will be finished by the end of this year. This development in addition to our new ScanAtomic SPM software will permit us to establish a stronger foothold in this \$150M market.

SV: Who are your key competitors? How would you rate yourself among your competitors?

PO: Our key competitors are KLA-Tencor, Veeco Instruments, Zygo Corporation and a host of much smaller competitors. Our position in the market depends on which product we are discussing. In the case of the stylus profiler, our position is very strong while in the SPM and interferometry market we are a little further back in the pack.

SV: What have you identified as some of the prime factors for success in this competitive market space?

PO: I think agility, attention to detail, and our customer focus have been the principal factors in our success. As an example, I recently received an email from a customer at Lawrence Livermore National Laboratory extolling the virtues of our service organization. I think that this kind of customer interaction is why we have six profilers at Livermore. Agility in dealing with a service issue and attention to the specifics of that customer's problem means that we have a happy customer. And we like happy customers.

SV: Would you highlight any specific partnerships or alliances made in the past year? What can we expect on this front from Ambios Technology, Inc. going forward?

PO: We don't discuss partnerships or alliances prior to their formal announcements. But I would say that our recent acquisition of Quesant Instrument Corp. and our technology agreement with EXFO Burleigh Products is evidence that we are actively searching out new opportunities. No doubt you'll hear something noteworthy from us next year.

SV: What are some of the best practices adopted by your company in each of those markets that you play in?

PO: In the case of SPM, primarily the focus has been on technology in driving new and innovative methods forward in implementing scanning probe microscopy. This has been the traditional growth path and that's what the early adopters have always expected and that's why margins have always been good for those products in years past. What we are seeing now is that people are beginning to adopt these products in nanotechnology laboratories as simply imaging tools or measurement tools and the sexy element of a new mode or new integrated feature is less important than simply to be able to get their work done. So our focus has been to make instrumentation that's easy to navigate.

In the case of the stylus profiler, it's the breadth of the product. In the XP-Plus series that we have recently introduced there are three separate instruments in the series and each designed for different user requirements. For high-end, you have a highly automated semiconductor tool and at the low-end you have a

simple laboratory instrument and so in this case our best practice really is our ability to listen to our customer and attend to their specific problems and issues and build instruments that are suitable to them.

In the case of the interferometer, it's an entry level product that many researchers would not be able to afford. So, In this case, our "best practices" were to recognize the elasticity of the pricing in this market and take advantage of this in areas like India or China where value is more important than brand.

SV: How do you envisage the future of the global metrology market? As a conclusion, what role can we expect Ambios Technology, Inc to play in shaping the future of the market or what does the future hold for Ambios Technology, Inc., more specifically?

PO: The metrology market remains enamored with resolution and I think as feature sizes continue to get smaller in the continued pursuit of Moore's Law, metrology equipment makers will be forced to keep up. In our case, we believe that the diversity in our product offering and technology gives us a unique vantage point from which to assess our customers' needs. That vantage point will allow us to see emerging trends and technology before others in the industry. Now, how do we see ourselves having an impact over the next several years? Since our instruments are fundamentally the "eyes" of the researcher, we will be able see the development of applications in the R&D labs that will migrate to production. As this migration occurs, our instruments will migrate along with the processes to the manufacturing floor.

Thank you.

By S.Vidyaankar, Senior Research Analyst

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