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For scientists, now there's more to the 'Net than science.

The Internet and Microscopy:
Changing the Suppliers' Business

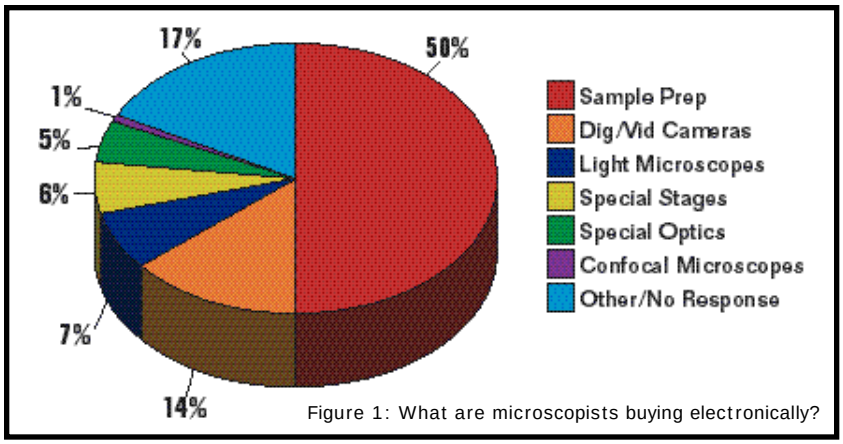

Figure 1: What are microscopists buying electronically?

From research to communication, the Web has had dramatic consequences on the way scientific researchers do their work. But suppliers must take note: it's now impacting the way scientists do business. SciQuest.com estimates that the average researcher spends more than four hours per week searching catalogs and brochures for supplies and equipment, and then waits seven days from request to receipt.

New approaches to e-commerce, coupled with more facile Web technology, lets the scientist get back to science. A whole new class of electronic storefronts are emerging, replacing the static, ponderous world of catalogs and product literature. "Scientific product Internet integrators" are streamlining e-commerce, from searching and comparing capabilities and prices, through the entire transaction process (ordering, approval, tracking, and delivery) to post-sale support (application and protocol development, service, even disposal of older equipment).

MICROSCOPISTS AND IMAGING SPECIALISTS ARE READY!

According to a number of recent surveys, microscopists and imaging specialists are ready for this new trend. Data collected at recent Microscopy Society meetings (M&M) revealed that while just under two-thirds of this audience uses the Internet for researching new technologies and communicating via e-mail, 44% now use it for evaluating products for purchase (up from 34% in 1998) and 27% actually order (up from only 12% in '98). As shown in Figure 1 (responded to by nearly 85% of the sample), sample preparation equipment and supplies top the list for electronic purchases (50%) with digital and video cameras a distant second (14%). At this point, there is limited interest in light microscopes (7%), special stages (6%), and special optics (5%).

Microscopy and related imaging is highly heterogeneous. While the M&M results give reliable overviews, results from more focused research studies reveals some niche dependency.

Microscopy/Marketing & Education has also begun asking questions to probe the limits of Internet purchasing, as well as the methods of payment. At this point, about 50% of the test audiences indicated that they could look for equipment on the Web but could not buy. Of those who can purchase, company credit cards and purchase orders are the two preferred methods of payment.

… BUT ARE OUR SUPPLIERS?

Typically, microscopy and scientific imaging/image analysis Web sites fall into one of three general categories: meta sites, manufacturer and dealer sites, and sample preparation suppliers.

Meta sites act as portals to a wide range of information by providing detailed listings of vendors, classes, societies, and activities. However, they typically don't contain specific content about instrumentation or pricing, nor do they permit shopping.

Manufacturer and dealer sites focus on details about equipment and, in special instances, provide good application information. Typically, no pricing is mentioned and, again, there is no ability to shop.

Sample preparation suppliers provide a large range of support equipment; occasionally, they also supply laboratory-level microscopes. They most closely approximate the electronic

Meta-sites:
Microscopy Society of America: *www.msa.microscopy.com*
MicroWorld Resources and News: *www.mwrn.com*
Microscopy Vendors' Database:
www.kaker.com/mvd/logo.html

Manufacturer and dealer sites:
See the meta sites for broader details and links!

Key sample preparation suppliers:
EMS-Diatome: *www.emsdiasum.com*
Ted Pella, Co.: *www.tedpella.com*
SPI: *www.2spi.com*

integrators' model, providing electronic catalogs with pricing and the ability to shop. In SPI's case, they also provide more extensive content, including links to important activities, resources and meetings—a key step toward full integration.

DAIGGER—THE MODEL ELECTRONIC INTEGRATOR

Outside microscopy, a survey of electronic integrators' sites revealed that most are using a fairly standard shopping-cart approach for selling diverse equipment lines, often extending into tens of thousands of products. Most offer easily-searchable instrument listings, specifications, and, in many cases, a picture.

Daigger (Vernon Hills, IL; *www.daigger.com*), however, has taken this whole process to a very different level. Realizing that many scientists are still comfortable with the look and feel of a catalog, they have designed an initial level of interaction along those lines, with especially good pictorial, component, and pricing information. Here, the similarity stops.

Interested in comparing prices (both discounted and regular) between competitors. It's there. Want to order a competitor's product from Daigger? It's there. Need help assembling the components of a system? It's there. Want to see the special pricing that your particular organization has negotiated with Daigger? It's there. On a budget? As you put equipment into your shopping cart, it keeps a tally of your bottom line. There is even a "Quick Order form" if you know the catalog number of a specific product.

FROM THE SCIENTISTS' VIEWPOINT

The impact of electronic integration (EI) is immediately evident. Dow Chemical was used as a case history in the recent PITTCON meeting. Before EI, Dow used to order lab, office and safety supplies from huge range of sources, with no link to either capital budgets or equipment maintenance. As a result, there was no real way to track cost of ownership.

They also found that, while many of their transactions were of low dollar value, they had high transaction costs. Their solution—an Internet catalog with purchases made on a corporate credit card—improved productivity and reduced search time. As an added benefit, they also improved the use of their assets through used equipment auctions and sales. Although they realize that their scientists have various levels of comfort and frustration with search engines (and that they will still have to fight a legacy system of catalogs and phone orders), they expect to go global with Internet ordering as well as stepping up from simple lab and office supplies to higher capital purchases on the Internet.

FROM THE MANUFACTURERS' VIEWPOINT

PerkinElmer, a giant in analytical chemistry, has begun making inroads in microscopy with the introduction of their new confocal line. PE sees electronic integration as a way to "re-invent industry" by streamlining their clients' transaction costs, increasing training and tech support, and personalizing their service. For example, plans are in place to match customers to PerkinElmer "superstars" for better application support on a global level, as well as building applications know-how by matching customers with each other. Their goal: instantaneous access to real people and global knowledge management which will put information and products at their clients' fingertips.

Although not yet selling equipment over the Internet, Bio-Rad Microscience, the leader in the confocal arena, is using electronic integration to reach new levels of customer support, especially in applications, education, and troubleshooting. If you have a problem with a Bio-Rad system, you can now hit *www.discover.bio-rad.com* and consult with a Bio-Rad specialist. You can also track the annotations that are in your case file and review solutions provided by other users.

WILL E-COMMERCE MEAN BIGGER BUSINESS?

Currently, e-commerce in microscopy seems to be limited to sample preparation equipment and supplies and laboratory-level light microscopes. After all, microscopy is still very much a "show me" industry. However, as many systems—including electron microscopes, confocals, and atomic force microscopes—become more standardized, the Daigger approach of using comparison shopping and configuration support may begin to encourage electronic purchase of these research tools, or at least of their accessories. As for me, I still prefer a hands-on demonstration—there is a lot to be said for how a microscope "feels" and what it can do with your sample in your lab. That's one commodity not yet available through e-commerce. ◆

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