SCAN newsletter Ltd.

The management Newsletter for all industries involved with bar-code scanning and related technologies.

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We must have been much more blase....

....10 years ago, as we moved from the 70's to the 80's, with nary a word to note that decennial transition in our January, 1980 issue. Possibly it's the current perception, that 1990 is the beginning of the end of this century and millennium, that has caused the heightened awareness and the constant bombardment on this subject by the media.

> [The remark we liked best (from a forgotten TV pundit) was: "What is it that causes all of this self-examination at the turn of the decade -- as if the progression of world history is based on the decimal system?"]

Be that as it may, we will take a shot at looking back and peering forward to see what can be learned about bar coding and the automatic identification industry.

In January 1980, *SCAN* Newsletter devoted almost all of its coverage to bar coding in supermarkets -- essentially the only game in town at that time. Here are some of the items that we noted that month:

- The number of scanning supermarkets in the US and Canada was approaching 1,500. (A 1979 year-end survey of grocery executives, conducted by *Progressive Grocer* magazine, predicted that the total number of scanning installations would reach 10,000 by the end of the 80's. In our own comment, appended to that report in our January, 1980 issue, we forecast that the figure would be closer to 20,000. The actual number, as we leave the 80's, stands at 17,000 automated stores out of the 32,000 US supermarkets.)

- Bar coding, we reported, was about to penetrate other markets and applications such as the (musical) record industry, (produce and meat) random weight packaging and retail shelf marking. We described in detail a proposal to scan bar codes right off microfilm reader-screens as they appeared enlarged from microfiche images (a project we never heard from again).

- In Europe, there was much movement, but little scanning as yet. France had registered 450 product suppliers who had source-marked 15,000 products, and a few scanning stores were expected to be up and running in 1980. In Sweden, there were many committees making extensive recommendations, with little perceived progress as yet.

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INCLUDING THE INTERNATIONAL EDITION

- And Symbol Technologies had issued its first Annual Report after going public in June, 1979. Sales totalled $841,000, with a net operating loss of $540,000. [At about the same time, MSI Data's sales were running at approximately $44 million, with earnings of about $1 million; and Intermec (still known as Interface Mechanisms) had sales of $10 million and earned $863,000.]

Looking back over the past 10 years, it would seem that the decade will not be remembered for the fundamental changes in the underlying technology of bar code scanning. Although scanning hardware -- notably hand-held and portable devices -- became better, smaller, cheaper and more versatile, this provided reassurance and credibility rather than create the dynamic force needed for new market development. A few new "stacked" symbologies were introduced late in the decade, but none of these has really taken hold as yet and subsequent developments may leave them languishing.

[Printers may have been somewhat of an exception, particularly with the development of the thermal/thermal-transfer equipment and supplies. Increased print speed and quality have allowed for the implementation of systems that otherwise might not have been economically possible.]

The key to the success of the 1980's, we believe, was the opening up of market-driven industry applications. For example, the first major new market emerged in July, 1982, when the US Department of Defense adopted bar code scanning. This decision, based on research undertaken within the DOD, not only opened up the enormous potential for equipment sales to the Government, but it introduced the concept of scanning to over 20,000 contractors. It was also the first major move of scanning away from the retail counter into the warehouse-distribution-operations areas.

Following just behind the adoption of bar coding by the government was the automotive industry's decision to form the Automotive Industry Action Group. The work of the AIAG laid the foundation for the introduction of bar coding into the auto plants -- although it wasn't until top management placed their full support behind the program, in the late 80's, that significant system commitments were made and installed.

The last major market expansion was the explosion of the retail use of bar code scanning from supermarket front-end to department stores and specialty shops. This development was triggered by the ad hoc Voluntary Inter-Industry Communications Standards (VICS) Committee, a group of retailers and their suppliers, who first met in June, 1986, under the leadership of Roger Milliken. In our January, 1987 issue, we stated: "This [non-grocery retail application] will develop into one of the most important markets for bar code scanning during the next five years." As we enter the 1990's, this prediction turned out to be somewhat of an understatement, with drug/video/specialty/department stores having become the current dominant factor in system and hardware sales.

There were other significant markets that emerged in the 1980's, although none so dramatically. Manufacturing systems (outside the automobile industry) have been developing steadily, but penetration is still estimated to be well under 15%; distribution/transportation -- including route accounting and the courier services -- were perfect applications for bar code scanning and proved to be fertile markets; the health care industry, with its reported one million nursing stations, has been much discussed but the surface has hardly been scratched.

If the 1980's were market-driven and brought visibility and recognition to the automatic identification industry, what will the 1990's bring? We believe that some of the markets which provided the major impetus for the last decade -- government and retail in particular -- will begin to approach maturation in the next few years. Major new markets with the potential to maintain the previous 25-30% annual rate of growth for the auto ID industry (more than doubling total sales every three years) may have to emerge from new technology.

For example, this may take the form of the ultra-high-density or mega-density symbologies, which can contain enough information to provide portable databases with no need to depend on host computers. [We find it significant that 99% of the bar coding equipment sold in 1989 were probably put to work printing and scanning the very same bar codes that existed 10 years ago.] Or possibly there will be new markets for this technology that will manifest themselves if and when auto ID becomes fully integrated into the total systems approach involving EDI, telecommunications and factory automation.

In the coming years, the vendors must move out front to develop the hardware, software and systems that will attract major new markets. The general manufacturing community, for example, is not as homogeneous or well-organized as the government, the Big 3 auto producers or the retail chains, and is not able to define its automation needs and to establish the required standards and specifications. These functions will now fall to the supplier community, which has grown large enough -- including companies with substantial resources -- to undertake the task.

Although we can't predict what the 1990's will bring, we do know this: Just like the automatic identification industry in the 1980's, which was punctuated at the end of the decade with nothing less than an earthquake, the next 10 years will not be dull.

And we can't wait!

<u>If you consider yourself</u>....

....a "strategic corporate buyer committed to devoting the resources required to develop the technology and markets," then <u>CIBA-Geigy</u> may consider you as a viable candidate to purchase its <u>Spectra Physics</u> Division.

Just a little over two years ago, CIBA-Geigy bought Spectra Physics for $36.50 per share, or about $270 million. Spectra Physics is the world's leading producer of lasers, laser systems and chromatography instrumentation for scientific, industrial and commercial applications. Spectra's 1988 sales totalled $296 million, with over 55% coming from abroad, and CIBA estimates that 1989 sales will exceed $325 million. [Prior to the acquisition, revenues were $209 million in 1986 and $260 million in 1987.]

The acquisition by CIBA, in 1987, followed competitive bidding from Saul Steinberg's Reliance Financial Services Company. There was also reported to have been active investment interest at that time by Symbol Technologies and Recognition Equipment (*SCAN* March 87, June 87). The resistance by Spectra's Board of Directors to all of these offers helped to drive up the final accepted price from CIBA.

[Even before the acquisition, CIBA-Geigy had underwritten extensive R&D projects at Spectra Physics in the field of chemistry with laser applications. There was speculation, reported in this newsletter in 1987, that CIBA might not have much interest in Spectra's Retail Division (the corporate unit that manufactures front-end scanning systems) and might sell off that part of the company. In a spirited response to that article, Herbert Dwight, President of Spectra Physics, and Richard Barth, President of CIBA-Geigy, wrote us a letter which read in part: "The Retail Systems Division of Spectra Physics is fundamental to CIBA-Geigy's diversification strategy...Our intentions are to continue to invest in this business not divest it." (*SCAN* July 87, Sept 87)]

CIBA-Geigy's Chairman, Dr. Alex Krauer, released a statement in mid-December, 1989, that was obviously designed to allay the fears of the Spectra Physics staff, which, after all, has managed the company's profitable growth during these years. Dr. Krauer noted: "Because we intend to sell Spectra Physics in its entirety to a company with a long-term strategic commitment to the electronics industry, the sale should have no adverse impact on Spectra Physics employees. In fact, the sale should create new growth opportunities for employees and the communities in which Spectra Physics operates."

We discussed this very point with John O'Brien, Vice President of Spectra Physics and General Manager of their Retail Systems Division. He did not seem the least upset over the pending sale of his company, and felt that his associates understood the actions of the parent organization. According to O'Brien: "CIBA-Geigy had looked at major diversifications a few years ago when pharmaceuticals did not look as attractive as it does today as a major growth area. As a result, they acquired Spectra Physics and other electronics companies. CIBA now wants to divest itself of these acquisitions and devote itself to expansion in the pharmaceutical business." O'Brien went on to say that Spectra Physics is also seeking to expand, both in new product areas, which it is developing internally, as well as in products and companies from outside sources. He would not be more specific because, he said: "These activities are proprietary at this time."

The investment banking firm of Morgan Stanley has been retained to find suitable suitors to bring to CIBA-Geigy.

In a move to strengthen....

....its presence in the US market, Atech AB of Gothenburg, Sweden, has rearranged its corporate structure in North America. And it does get a bit complicated.

It all started back to 1985 when Swedot, Inc. was established in the US as a subsidiary of its Sweden-based parent company (Swedot AB) to market a line of thermal, needle and ink jet printers. The printers sold by Swedot in Europe and the US were manufactured by Atech AB. In 1988, in Sweden, Atech AB acquired Swedot AB, and changed the name of the US subsidiary from Swedot, Inc. to Atech Systems, Inc.

When Swedot's US operations had started in 1985, Ed Andersson had left Computer Identics to head up the new company. Andersson proceeded to appoint distributors to cover the US and Canada. One of those distributors was Concord Technologies, retained to cover the New England territory. Concord was formed

by Ed Sullivan, Scott Arnold and Don Way (Sullivan has since left the company). All three of the founders had been on the marketing staff of Computer Identics and had been let go during that company's upheavals and reorganization in late 1987 (*SCAN* Jan 88).

Last month, Atech announced its latest corporate moves in the US:

- Atech AB (Sweden) purchased a minority interest in Concord Technologies -- with an option to acquire control of the company in the future.

- In what appears to be a reversal of the normal corporate hierarchy, California-based Atech Systems Inc. was acquired by its distributor, Concord Technologies. (Although the terms were not disclosed, the acquisition was obviously tied to the stock purchase arrangements that Atech AB made with Concord.)

- Atech closed its California office and relocated all operations to Concord's facilities in Marlboro, MA. Ed Andersson left the company.

- Concord will continue as one of the major distributors of Atech Systems -- a company it now actually owns.

Atech Systems will be managed by Executive VP/General Manager Chuck Mara, who had joined Atech just one year ago as VP Sales (*SCAN* Feb 89). Mara has told *SCAN* that he is retaining many of his regional distributors, while re-examining some areas that need improvement. Atech has been an important supplier of bar code printers to the airlines and has been looking to expand its activities into the factory automation market. Its major product for that application is the high-speed thermal-transfer printer (Model 196) introduced at SCAN-TECH 89 (*SCAN* Nov 89).

Concord Technologies/Atech Systems, 33 Boston Post Road, W., Marlboro, MA 01752; 508/460-9795.

An informed Wall Street analyst....

....who follows the public companies in the automatic identification industry, privately indicated, several weeks ago, some concern about Intermec -- a company he has been tracking for a number of years.

"Although I don't share this opinion," the analyst cautioned, "there has been a great deal of negative talk among some investors about Intermec's performance, and there has even been some short-selling of the stock." He went on to describe some of the company's negative aspects that this small group of investors were nervous about, and how these factors might be depressing the stock's value -- which was then in the mid-twenties. At the end of the conversation, it was agreed that these criticisms sounded like sour grapes from the few people who had guessed wrong on which way the stock would move this past year.

But the story didn't go away. It surfaced again at the start of the new year in the prestigious and widely-read *Wall Street Journal* column, "Heard on the Street" (January 2, 1990). Columnist, John Dorfman wrote: "In Wall Street's never-ending battle between shorts and longs, Intermec is a classic example of a stock pulled both ways like a piece of taffy...The shorts -- many of whom sold borrowed stock about a year ago when the price was 18 and so have sizable

paper losses -- are eager to catch the ear of reporters and security analysts with a litany of arguments calculated to pull down the stock."

Dorfman went on to describe some of these arguments, including a number of charges which centered around Intermec's purchase of all of its North American distributors during the past three years. One of the more specific complaints was that many of these acquired dealers were losing money before they were bought out, and that Intermec "stuffed" distributors with more merchandise than they would normally take -- thus hyping Intermec's earnings in the short run.

But Dorfman seems to have done his homework on the company. Although he pointed out that "securities analysts say there's a grain of truth in this criticism," he went on to quote one West Coast analyst who concluded: "I think it's a very fundamentally sound company. And the industry is nothing short of explosive; there's such a need for this product."

COMMENT

From our own analysis, and from other interviews with industry insiders, Intermec seems well-positioned to move ahead with the industry's anticipated growth over the next few years. The integration of all its US and Canadian distributors was a monumental task for the company, and some mistakes were made along the way. But this move was essentially completed by early 1989 and it has now given the company an experienced sales force familiar with their product line. The most recent financial report from the company, for the first six months of fiscal year 1990 (ending 9/30/89), reflected a 40% increase in revenues and a 78% improvement in earnings. Certainly, these results would bear out a more optimistic picture than these self-serving rumors would suggest.

Taking advantage of a spectacular increase....

....in both sales and earnings during the past year, Caere Corp. went public in October, 1989 with a very successful first offering of its stock. Shares were sold to the public at $12, and were listed on NASDAQ, where they opened at $14 on the first day. [This initial listing occurred on October 19, within a week after the market's 1989 mini-crash and the California earthquake, whose epicenter was just a few miles from the company's Los Gatos headquarters. The stock closed for the year at $18 1/2.]

Caere has been a long-time vendor in the automatic identification industry starting with OCR equipment in 1977 and introducing bar code scanners in 1983. Its OCR products were directed toward the retail industry (with a substantial portion of its sales as an OEM supplier to NCR Corporation) and also to the utility and banking industries for document processing (checks, bills, remittances). The company's bar code scanners were designed for the factory environment and some retail installations.

As a result of the successful introduction of one new product group called OmniPage, in September, 1988, Caere had doubled its revenues and quadrupled its net income in 1989, compared to 1988. OmniPage is a new OCR page recognition software package that supports the major OCR scanners. It is available in versions for MS-DOS (including the 80386 personal environment) and Macintosh. According to the manufacturer, OmniPage can recognize virtually all non-stylized fonts in sizes ranging from 8 to 72 points. A user can scan a page of

text or numeric data and then use OmniPage to capture, edit, save and load the scanned image into popular word processing, spread sheet and database programs running on industry standard personal computers. And product sales have taken off like a bird.

The somewhat amazing part of the Caere story is that the OmniPage product, with a retail price of $795-$895, has already accounted for more than half of the company's estimated $20 million in 1989 sales. (According to Chief Financial Officer Blanche Sutter, over 20,000 packages have been sold in the past 12 months. Although the company has not released any 1990 forecasts, Sutter had no quarrel with one analyst's estimate of $29 million in sales for the coming year.)

The original OCR and bar code scanning products will continue to be offered by Caere, and Sutter expects that sales of these product lines will remain at about the same level in the coming year, compared to 1988 and 1989. It is fairly obvious, however, as to where the company's primary product R&D and marketing efforts will be directed. In November, 1989, the newest version of OmniPage 2.1 was released, along with add-ons, OmniProof, OmniSpell, OmniTrace and OmniDraft. We suggest the management of the company be given a special award for being omniscient.

Caere Corp., 100 Cooper Court, Los Gatos, CA 95030; 408/395-7000.

Major corporate changes....

....have taken place in Atlanta, where 10-year-old KPG Inc. has renamed the company, realigned its management staff and taken on new products.

- KPG will now be known as Panda Printer Products. According to President, David Turnbull: "When we introduced the Panda Graphics Printer-Controller product line at SCAN-TECH 87, we found that both the name and the appealing logo were what people remembered. The renamed company will continue to market and support the same line of Panda graphic controllers, labeling systems, label design software and bar code printers."

- At the same time, three additional companies within the Panda Group have been established. Panda Developments will be responsible for all printer graphics controller development and manufacturing; Panda Product Marketing will manage large OEM Panda printer accounts; and Panda Printer Products Ltd., headquartered in London, England, will market in Europe all of the same products as its US counterpart.

- Turnbull, who now moves up to Chairman of the Group, has brought in Bob Belcher, formerly Southeastern Regional Manager for Printronix, as Vice President and General Manager.

- KPG/Panda is now the exclusive North American distributor of the Novexx Fox 6300 thermal/thermal-transfer printer. (Novexx is the German-based subsidiary of Soabar GmbH, a division of Avery International.) According to the company, the Fox prints 203 dot resolution at 5" per second with smart card option capability of over 100 fonts and type styles -- including 11 bar codes. The printer lists for $2,995.

- Jill Mandeno, one of the original founders of the KPG Computer Group in the United Kingdom 20 years ago (and Vice President of KPG Inc. in Atlanta for the last 10 years), has decided to retire. According to Turnbull: "Jill will be returning to New Zealand to spend time with her family, but she has agreed to continue as a Director of the Group."

On a personal note, although Mandeno has announced her retirement from day-to-day management responsibilities in the northern hemisphere, we shouldn't be surprised to learn, in the not-too-distant future, that her extensive knowledge of the automatic identification industry and her forceful personality have surfaced in a new effort in New Zealand and Australia. We wish her luck.

Panda Printer Products, 6075 Barfield Road, N.E., Atlanta, GA 30328; 404/252-7366.

There was immediate response....

....to our statement (*SCAN* Nov 89) that "the technology to print consecutive, non-duplicating bar codes on sheet-fed presses may not currently exist." This point was made in our discussion of the proposal by Sen. John Kerry (D-MA) to have all US currency ($50 bills and larger) bar coded with a unique identifying code number.

The first reaction came from Harry Burke -- the auto ID industry's resident guru (see next month's issue for a review of his latest book) -- who wrote to gently advise us: "This is nonsense. Several different kinds of printers are available which can do this job. After all, if serial numbers can be printed by any means, so can bar code equivalents."

Even more to the point was material we received from Pat Smith of Paul Liebinger Numbering Machine Ltd. of Greenwich, CT. In a follow-up interview with *SCAN*, Smith explained that his company is one of the world's leading manufacturers of numbering machines, bar code equipment and systems for the business forms industry, and many of their units are used to print consecutive and random bar codes. "These applications," Smith states, "are used on high-speed flat-bed presses at speeds of up to 700 feet per minute."

Smith not only believes bar coding US currency is feasible, he advises that some countries are already employing this method. He mentioned Canada, in particular, where he described currency that is already printed with a form of bar coding that identifies each bill.

Smith will be conducting the Liebinger Bar Code Workshop/Seminar on February 27-March 1, 1990 at the Hyatt Regency Hotel, Dallas/Ft. Worth International Airport. The program will focus on bar coding developments currently affecting the business forms industry -- "from design to manufacturing, marketing and sales." Scheduled speakers on the program will be from Diconix, Symbol Technologies, Intermec, IBM, RJS and NBS. Attendance is limited to 200 and Smith indicated that response has been good with delegates expected from many countries.

Paul Liebinger Numbering Machine, 280 Railroad Avenue, Greenwich, CT 06830; 203/661-8811.

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