



newsletter

Ltd.

Since 1977, the
premiere management
& marketing newsletter
of automatic data
capture: Bar Coding, RF
and related
technologies.

SCAN Newsletter, LTD. • 11 Middle Neck Road • Great Neck, NY 11021 • 516/487-6370 • FAX 516/487-6449

New Phone: 516/487-6375 New Fax: 516/487-6393

Volume XVIII Number 8

April 1995

The emotional responses....

...generated by inventor Jerome Lemelson -- prompted by his relentless pursuit of his patent rights -- run the gamut from admiration to frustration to out-and-out rage. In the automatic data capture industry, the reactions usually fall between the latter two emotions.

Our extensive coverage of Lemelson began in 1987, when his licensing agent (then Refac Technology) initiated legal action against 16 manufacturers, distributors and users of bar code scanners. A few of the targeted companies agreed to be licensed, but most firms ignored the threat and were not pursued (*SCAN* Aug 87, Oct 87, Oct 89, Jun 89, Apr 90, Jul 90).

In 1993, Lemelson and his attorneys (Refac was out of business by then) again took up the cudgels against the US auto ID industry, but changed tactics. This time, they chose to attack the very large users of bar code systems; the initial targets were the major electronics and automobile companies (*SCAN* Nov 93, Apr 94).

On August 22, 1994, the *Wall Street Journal* reported on Lemelson's "most recent crusade [which] involves a series of 17 patents including machine vision, bar codes and other technologies and processes used in making cars, semiconductors and other products." Jerry Hosier, a Lemelson attorney, told the *Journal*: "Major European and Japanese electronics companies have so far paid a total of \$500 million for licenses." All of these cases were settled before trial.

Six months earlier, news reports estimated the license fees from eight Japanese automobile manufacturers to be \$100 million (*SCAN* Apr 94). No independent authority has documented the real figures. This uncertainty is all part of the game being played by the protagonists.

The most recent legal actions in the US began in October 1992 with a preemptive strike by Ford, Chrysler, General Motors and Motorola who filed suits to invalidate Lemelson's patents. He countersued, alleging patent infringement. The disputants then agreed that Chrysler and GM would stand aside, for the time being, while the legal battle was fought with Ford and Motorola. Chrysler and GM could follow whatever decision was later resolved by Ford, or they could take legal steps on their own. In a separate action, Lemelson subsequently sued Mitsubishi on these same patents, bringing another major company into the fray.



0273-3080(199504)18:8;1-N

INCLUDING THE INTERNATIONAL EDITION

Motorola backed out of their suit in August 1994, despite previous statements that they would continue to fight until a court decision was reached. Their settlement with Lemelson was characterized by Donald Banner, a veteran patent attorney and former US patent commissioner, as "very unusual." Motorola agreed only to pay an undisclosed sum of money to Lemelson's "philanthropic foundation which makes charitable contributions to promote innovation and technology."

So, why is there so much anger against Lemelson's spirited defense of his patent rights? "Basically, I feel the guy is masquerading as an inventor," growled one outraged ADC industry executive who did not wish to be identified. "He has rarely won a case in court. Many of his victims agree to settle before trial because of the enormous legal fees involved to defend these complicated patent cases. It is a form of legal blackmail. Lemelson has never developed or pursued any invention into any practical form whatsoever. Some of these patents go back to the 1950s and 60s and are kept alive only through continuations and divisions that prolong the patents beyond their seventeen-year life."

Frustrated complaints like these relate not only to the legal tactics employed by Lemelson's very talented -- and well-paid -- lawyers, but also to the nature of the patents themselves. According to the *Wall Street Journal*: "Major companies...often complain that he received broad patents for general concepts without ever developing working models of his inventions."

There are some voices in the ADC industry -- a distinct minority -- who defend Lemelson's vision and actions. As one ADC guru (who also insisted on commenting without attribution) explained: "One of Lemelson's early patents described the 'Factory of the Future' and included concepts that related to machine vision and bar code scanning. Lemelson should not be criticized for utilizing the patent laws to his advantage."

Currently, attorneys in the Ford versus Lemelson suit are just completing the "discovery" process. Depositions have been taken from expert witnesses for both sides. For Ford, it was David Allais (ex-president of Intermecc, who now heads his own consulting company); for Lemelson, it was Craig Harmon (QED Systems) and William Putnam III (Georgia Tech University).

From all indications, this case may drag on for years. Although both Ford and Lemelson have filed a number of motions for Summary Judgement -- seeking an immediate court ruling based on the pre-trial evidence submitted -- the general consensus is that the judge will order the case to proceed to trial. If a decision is finally reached -- and that will take many months -- an appeal will almost certainly be filed by the loser.

AIM/US is not directly involved in any of these Lemelson lawsuits, but the trade association is carefully tracking the Ford case on behalf of its members. Information is being coordinated through AIM's VP Technology, Steve Halliday. He recently told *SCAN* that Lemelson stated last year that he will next "go after the giant retailers such as Wal-Mart and Kmart" if he wins the cases against the automotive companies. If Lemelson prevails, AIM believes that ADC vendors will probably be affected. Either Lemelson will pursue them directly, or royalty costs will be passed along by user companies such as Ford, GM, et al.

There will be more coverage of this important and fascinating story -- including Lemelson's public relations campaign to burnish his image -- in upcoming issues.

A very optimistic outlook....

....for the automatic data capture industry has been documented -- albeit with widely differing results -- by three recent market research studies by Frost & Sullivan, Venture Development Corporation and Ohio State University.

In the "Worldwide Bar Code Equipment Market" report, F&S concludes: "Overall, the bar code industry is experiencing, and will continue to experience, strong growth throughout this forecast period [1995-2000]."

F&S defines bar code equipment as scanners, verifiers, data terminals, printers and software. The research company estimates that total worldwide revenues in 1994 were \$2.44 billion; it projects an annual rate of growth ranging from 13.8 to 15.5 percent through the end of the decade, when revenues are forecast to be \$5.64 billion.

The worldwide sales volume by commodity groups shows the growing importance of software, which is projected to be larger than printers by the year 2000.

<u>F&S</u>	<u>1994</u>		<u>2000</u>	
	<u>\$ Million</u>	<u>% Total</u>	<u>\$ Million</u>	<u>% Total</u>
Scanners	\$822	33.7%	\$1,788	31.7%
Verifiers	19	0.8	51	0.9
Data Terminals	654	26.9	1,426	25.3
Printers	508	20.8	1,088	19.3
Software	<u>437</u>	<u>17.9</u>	<u>1,286</u>	<u>22.8</u>
Total	\$2,440	100.0%	\$5,640	100.0%

The worldwide geographic distribution, by major regions, reflects some shifts over the next six years, with Europe and "Rest-of-World" showing small gains at the expense of the US:

<u>F&S</u>	<u>1994</u>		<u>2000</u>	
	<u>\$ Million</u>	<u>% Total</u>	<u>\$ Million</u>	<u>% Total</u>
US	\$1,283	52.6%	\$2,611	46.3%
Europe	705	28.9	1,783	31.6
Pacific Rim	305	12.5	705	12.5
Rest-of-World	<u>146</u>	<u>6.0</u>	<u>541</u>	<u>9.6</u>
Total	\$2,440	100.0%	\$5,640	100.0

The 392-page F&S report (#5193-10, April 1995) covers each of the commodity groups and regions in great detail and includes profiles of twenty-one auto ID companies. F&S, 2525 Charleston Rd, Mountain View, CA 94043; 415/961-9000.

The second market research study that crossed our desk this month -- "The European Bar Code Market" -- was from VDC.

Starting with a base of \$1.26 billion for 1994, VDC forecasts that European consumption of bar code products and data collection terminal systems will grow 21.1 percent per year over the next five years. This rate of increase would

bring the VDC estimate of 1999 revenues for the European market to \$3.3 billion. "Europe promises to sustain industry growth," VDC Project Director Girish Rishi predicts, "at a time when the overall demand in North America is slowing down."

This is VDC's commodity breakdown for Europe in 1994:

<u>VDC</u>	<u>1994</u>	
	<u>\$ Million</u>	<u>% Total</u>
Scanners	\$313	24.7%
Data Collection Terminal Systems	322	25.4
Printers & Consumables	467	36.8
Software, Service & Others	<u>165</u>	<u>13.0</u>
Total	\$1,267	100.0%

[Although VDC will not release to the press any detailed breakdown for 1999, Rishi confirmed VDC's forecast of \$3.3 billion total revenues for that year. He also told *SCAN* that "the percentage share of each commodity will not vary by more than 4% in 1999 compared with 1994."]

In estimating the size of the 1994 European market, there is a very large discrepancy between F&S (\$705 million) and VDC (\$1,267 million). VDC's Rishi (who previously held a similar post at F&S) assured us that he produced a very careful study, with many cross-checks and data verifications. He said that he is very comfortable with his latest European figures which are "in line with our previous reports."

A spokeswoman for F&S was somewhat amused when the discrepancy with VDC was pointed out to her. "In our previous studies of this market," she explained, "conducted when Girish Rishi worked for F&S and was in charge of the project, our estimates were much higher. But we were severely criticized by our customers for being too optimistic, so we were much more conservative for this report." VDC, One Apple Hill, Natick, MA 01760; 508/653-9000.

The third ADC-related market analysis was conducted by Professors James Masters and Bernard LaLonde of the Logistics Research Group (LRG) a consulting body based at Ohio State University.

For the past 23 years, LRG has conducted an annual survey of members of the Council of Logistics Management, a professional association of logistics specialists. This survey explores a different set of logistics-related questions each year. The 1994 questionnaire included queries on the use of bar coding in the distribution systems of US manufacturers. Each respondent was asked to report on their firm's activity levels in specified applications in 1990 and 1994 -- and to estimate what those same levels would be in 1997 and 2000.

The results were: • Bar coding of incoming freight from vendors rose modestly from 10% to 20% from 1990 to 1994 and was projected to increase sharply to 60% by the end of the decade; • outgoing freight went from 20% to 50% (1990-1994) and was forecast to go to 75% in 2000; • very similar response patterns were tabulated about the current and future use of EDI for processing orders, warehousing procedures, and carrier transactions. OSU, College of Business, 421D Hagerty Hall, 1775 College Rd, Columbus, OH 43210; 614/292-0331.

Comment

We only report the results of these studies; we do not necessarily endorse them. Anyone who has read this newsletter during the past seventeen years knows that we have always been skeptical about the accuracy of market studies which purport to make long-range forecasts.

In a phone interview, OSU's Dr. Masters reinforced our skepticism when he cautioned: "Although we feel comfortable with the predictions of the steady increase in the usage of bar coding on freight shipments, we have found in the past that estimates of future implementations tend to be overoptimistic." Masters described what he called the "hockey-stick" effect; i.e., a fairly modest increase in past usage followed by a very sharp rise in forecasts of future implementation, which resembles a hockey stick when plotted as a graph.

It is apparent -- from the differences in the results of the studies cited above -- that there is still much to do to clearly define the auto ID industry and to develop reliable statistics on the size of the current market. That valuable task represents a challenge to the talents and resources of established researchers such as VDC and Frost & Sullivan.

Beyond that, it doesn't take a rocket scientist to scrutinize the recent progress of ADC technology and to predict there will be substantial growth over the next five years. Anyone who claims to be able to accurately forecast whether that annual growth will average 13.7% or 18.3% or 21.1%, however, is in voodoo-land.

The successful completion....

....on March 24 of PSC's secondary offering of 2.3 million shares of stock, at \$11 per share, left the company with some walking-around money, netting more than \$23 million (after underwriting and legal expenses).

From the proceeds, PSC plans to repay an \$8.3 million construction loan (used to finance its recently completed headquarters, manufacturing and engineering facility in Webster, NY); and a \$6.8 million term loan (used to finance part of the \$9 million acquisition of LazerData last December). The remaining \$7 million will be available for "general corporate purposes."

The injection of cash and the repayment of the two large loans will make for a prettier balance sheet -- although a 20% increase in the number of shares (to a total of 9.6 million) will tend to depress future per share earning figures.

Some inside stockholders piggy-backed 64,000 shares of their holdings onto this offering. The major sellers included: Robert Ehrlich, a director, who sold 22,840 of his 248,000 shares; Jay Eastman, Executive VP, who sold 20,000 of his 135,000 shares; Benny Tafoya, VP Product Development-Fixed Position Laser Scanners, who sold 10,000 of his 84,000 shares.

[Mike Hone, PSC's President and Chairman, chose to retain all of his 407,079 shares. The total number of shares owned by Hone, Ehrlich, Eastman and Tafoya include a substantial number of stock options which are currently exercisable.]

For the past few years, PSC has been methodically disposing of its peripheral product lines -- for instance, the Switching Systems product group was sold in December 1993 -- in order to concentrate on bar code equipment only (laser scanners and verifiers). The company completed this streamlining in February when it reached agreement (a Letter of Intent has been signed) to sell its Image Products business to a local entrepreneur. This product group comprised \$1.3 million in sales of form slides and bar code film masters. Starting more than twenty years ago, film masters were PSC's first product entry into the auto ID business.

Although rumors are flying....

....there is little specific information available from Pitney Bowes about the current status of the sale of its Monarch Marking subsidiary (SCAN Oct 94).

Monarch, headquartered in Dayton, OH, is a leading manufacturer of bar code printing equipment and data collection systems. The company -- which employs 2,500 people worldwide -- was acquired by P-B in 1968. P-B placed Monarch on the block last September as part of its program to concentrate only on its core businesses: mailing systems, copying systems, management services and financing business. P-B's Dictaphone subsidiary was also put up for sale for the same reason.

The Monarch sale is being coordinated by P-B's CFO Carmine Adimando (who did not return SCAN's calls). First Boston -- reportedly the company's investment banker and acting as the "marketing agent" in the Monarch deal -- sent an offering memorandum to those companies expressing an interest. Those potential buyers who wished to pursue the acquisition further, received additional documentation and were encouraged to visit Monarch and interview corporate management. The interested parties were then invited to submit sealed bids.

Three people from outside the company -- who claim to know what's going on -- have told SCAN that some of the bidders are serious and that a decision is not far off. [One unconfirmed report contends that an "auction" was held on March 27, that four to six bids were submitted, and that venture capital companies played very active roles in the bidding.]

Up to now, Pitney Bowes has kept a low public profile in this matter except to make it clear that this is not a distress sale and that Monarch will not be sold if the bids do not meet their (unspecified) price objectives. On April 6, a noncommittal P-B spokeswoman would only tell SCAN: "The process is proceeding as planned. We will not release any details until we have a final deal."

It is only natural....

....in an industry such as automatic data capture -- where eleven of the twelve public companies achieved record sales and earnings last year (SCAN Mar 95) -- that talk is running rampant about mergers and acquisitions, and preparations for other companies to go public. One likely target of these corporate rumors has been privately-held Datamax (Orlando, FL), the manufacturer of thermal and thermal-transfer printers.

We recently phoned Chairman/CEO Rob Strandberg to check out what we had been hearing about his company. Citing the recent activities of Peak, PSC, DHT and others, Strandberg readily agreed that the ADC industry is in an active merger-and-acquisition period. "As for Datamax," he admitted, "we have been interested in taking the company public since we resolved the bugs and got our act together following the purchase of Fargo's line of printers two years ago (SCAN Mar 93)."

Strandberg revealed that preparations for an initial public offering were started last year, but were delayed because of the "very unattractive public market" for new stock offerings this past summer and fall. "Now that the market looks stronger," he continued, "and we finished our fiscal year [2/28/95] -- we are active again and have placed the IPO back on the agenda for consideration by our Board and stockholders. Based on the reports in the last issue of SCAN Newsletter and how well the market is doing, we would be crazy not to look at it seriously."

Strandberg also disclosed that his company has already selected a "consortium of underwriters who are experienced in the auto ID market."

Datamax's sales for this past fiscal year were \$85 million. This amount was split about equally between sales of the original Datamax thermal printers (sold primarily to airlines for automated ticket and boarding pass systems) and the Fargo thermal-transfer printers (for industrial and retail applications).

Is Datamax considering the development of a less-expensive thermal-transfer printer to compete with the very successful, under-\$1,000 Eltron unit? Strandberg hedged. "If it looks like an opportunity," he replied, "and our channels [VARs, dealers] support it, we will do it."

Datamax has also taken steps to expand its line of verifiers. In November 1993, the company purchased the verification product line from Symbol Technologies, including the exclusive license for patents for non-contact verification. Recently, Datamax introduced two portable light-pen verifiers, a portable non-contact verifier and an on-line verifier -- all made by Bar Code Systems (Atlanta). In addition, a high-speed, on-line verification system, incorporating Symbol's patented technology, is being jointly developed with Nale, Inc (Kennesaw, GA). Last month, Jack Tedesco (who came from RJS, a manufacturer of verifiers and printers), was appointed to the new position as Datamax's VP Verification Systems. He will be based in southern California.

At a special "symposium"....

....in Tokyo last September, representatives from the Article Numbering Center (ANC) of China met with their Japanese counterparts. The purpose of the meeting -- convened by the Distribution Code Committee (DCC) of Japan and chaired by Mr. Kyosuke Asano, Executive Director of DCC -- was to establish a working relationship and to exchange information between these two important EAN groups.

Ms. Hu Jiazhang, Vice Director of ANC/China, reviewed the recent progress of retailing in her country:

"International trade is very active since the government adopted its innovative open-door policy....Private life has become very convenient and

you can now purchase virtually all daily necessities in nearby supermarkets. Up until 1978, national sales in the commerce sector totalled 155.8 billion yuan [\$18 billion], and this increased to 1,359.3 billion yuan [\$161 billion] in 1993 or 8.7 times...Total sales of the commercial shipping sector is expected to reach 3,500 to 4,000 billion yuan [\$416 to \$476 billion] by the year 2000, which is an unbelievable growth.

"The young people have quite a different consumption pattern these days, and tend to buy even if the prices are somewhat high. Their concept of consumption is increasingly diverging from that of older people."

The group discussed the factors prompting the introduction of POS systems in China. Mr. Liu Ping Jun, Vice Chief of the Jiangsu Provincial Bureau for Standardization, offered three reasons: "First, China became a member of EAN and exports increased. In these circumstances, quality control is recognized to be important....Second, the Jiangsu Provincial government has decided that after 1997 no products without a bar code will be allowed to be sold in POS storesLastly, consumers are conscious of the quality and packaging of productsWithout bar codes, importers and buyers will not accept the product."

In an interesting sidelight, Ms. Hu related the following (which would have been an unusual admission from a Chinese official just a few years ago): "At a store called the First Food Company, the rate of illegal activities by employees was 1% before the introduction of a POS system, but this was reduced to 0.1% after introducing the POS system."

As for the future, Ms. Hu added: "Competition among stores is becoming intense; foreign retailers will step into the Chinese market very quickly and will sooner or later compete with national or private businesses. That's why they are introducing POS systems to survive." Mr. Liu reported that the Jiangsu Provincial government has instructed that products in 35 categories must carry bar codes by 1997 in the Nanjing District. "The items have not yet been finally decided," he said, "but will include cigarettes, liquors, cosmetics and dresses. According to the plan covering the entire Jiangsu Province, 100,000 products from 10,000 manufacturers will be marked with bar codes by 1997, accounting for 95% of the 35 categories of products."

The purpose of the Tokyo symposium was to explore ways in which Japanese POS technology can be transferred to China and to further develop the Chinese ADC industry in cooperation with Japanese manufacturers. The Chinese delegates expressed interest in creating a POS database emulating the hardware and software from Japan. "However," according to Ms. Hu, "except for a limited number of large supermarkets and department stores, ordinary enterprises cannot afford to buy them from Japan. In this sense, I think local production by a joint venture is ideal."

[Our thanks to Ms. Hitomi Sekikawa of DCC Japan for keeping us posted on these important developments. She further advised us that DCC plans to hold seminars in two or three cities in China each year.]

New Phone: 516/487-6375 New Fax: 516/487-6393

SCAN NEWSLETTER, LTD. • 11 Middle Neck Road, Great Neck, N.Y. 11021 • ~~Phone: 516/487-6370 • FAX: 516/487-6449~~
PUBLISHER/EDITOR: George Goldberg • ASSOCIATE EDITOR: Jeff Goldberg • CIRCULATION DIRECTOR: Teddy Allen
INTERNATIONAL EDITOR: Paul Chartier • United Kingdom Office P.O. Box 7 • Cirencester GL7-1HY England
Phone: Int + 44-285-653011 • Fax: Int + 44-285-640401
