We would like to share with you....

....the essence from three thoughtful pieces we read recently about productivity and manufacturing efficiency, and then add some personal comments concerning these critical subjects.

First, we quote from a report titled "How U.S. Manufacturing Can Thrive," which was written specially for Datapro Research Corp. by George Plossl, President of Plossl Educational Services. He states in his opening remarks:

"Manufacturing in this country is obviously in trouble...In productivity growth, we've been surpassed by all of our major trading partners.

"...Those who are touting the 'information society' as the wave of our future are...misguided...Those who think this country can prosper by massaging each other's data, doing each other's washing, transferring each other's money, or any of the other activities of a 'service economy' just do not fully understand how real wealth is generated, nor how important this is for a healthy economy and a rising standard of living.

"...The top levels of management in manufacturing companies in this country have not done an effective job of making them world-class competitors. The most important deficit in America today is a shortage of managers who know how manufacturing can and should be run...The good news is that the knowledge and resources to restore the dominant position of US manufacturing are available...We must revive manufacturing...In assuming this responsibility, manufacturing managers must get their houses in order."

(For reprints: Datapro Research; 800/328-2776.)

Our second reference is from a 10-part series of dialogues titled "Can We Speak The Same Language," which examined the issues relating to the so-called trade war between the US and Japan. These conversations took place during a panel discussion in Tokyo in May of this year. The participants were:

David Halberstam Pulitzer Prize-winner and author of the current bestseller, "The Reckoning";
Robert Reich Harvard professor and author of "Tales of a New America";
Ayako Sono, novelist and essayist;
Hajime Karatsu, professor at Tokai University and author of "Tough Words for American Industry."
In the very frank exchange of ideas -- some critical, many defensive -- there emerged no heroes nor villains. The many profound differences between the two nations -- including cultures, religions, education disciplines, business ethics, social mores, and ethnic diversity -- have all tended to benefit the recent development of the Japanese economy when compared to the US, particularly in the manufacturing sector. During the two-day exchange, the panelists attempted to identify why this happened and how to place it in a positive perspective so that the two nations can continue to move forward as business partners. (These dialogues -- a total of about 25,000 words -- appeared twice a week as full page ads in the NY Times during June and July.)

The last item of interest is an essay titled "Document Networking" by Harry Burke, one of the chief proponents of bar code scanning and the author of a number of books and articles on the subject. In this monograph, Burke discusses the decline of US industry in world trade and the critical importance for management to receive accurate and timely information. He concludes that:

"Unfortunately, information generated by any manual means is inaccurate to a significant degree, inherently late in being processed and very expensive to collect. In fact, manual processes are so expensive that a great deal of potentially useful information is never collected. In other words, manually created information...is expensive, untimely, inaccurate and insufficient!"

(Harry Burke, c/o Cramer, 13445 Robleda Rd., Los Altos, CA, 94022; 408/246-3617)

COMMENT

That's a very long introduction to the simple point of this article: the companies offering automatic identification products and services are not getting their messages across to the decision makers in manufacturing industries.

Almost everyone involved in this technology agrees that the penetration of automatic identification in US industry is still pitifully small. Our favorite characterization is that the coverage is ten miles wide and about two inches deep. Even the major US car makers, who organized the Automotive Industry Action Group (AIAG) five years ago, are still concerned, according to AIAG past chairman M.J. Grieshaber, "with a perceived failure to adhere to AIAG standards, and a lack of involvement by some members."

What we must come to realize, and to act upon, is that the overwhelming competition to any auto ID product is the manual completion of the task -- and that we are all remiss in failing to educate the world to this situation. We must stop expending all of that money and energy competing against each other for the 10% of the market already committed to automatic identification, and instead go after the 90% who do not yet fully understand its advantages.

And, most important, let's start educating the decision makers in top management, who, it seems, may not go shopping too often in scanning supermarkets, or visit the production floors of their own factories on a regular basis.
Some very important decisions....

....have come out of the Automatic Identification Manufacturers (AIM/US) organization during the past few months. These actions are substantial demonstrations of the growing maturity of AIM/US as a critical focal point for the industry.

- AIM has recognized the confusion generated by the shotgun form letters recently mailed by the Refac organization, which alleged patent infringement by all companies engaged in bar code scanning (SCAN Aug 87). In response, AIM sent out Mailgrams to all its members advising them "not to panic." According to the message, signed by Executive Director Bill Hakanson, AIM is gathering up all pertinent information and will prepare an executive review for guidance.

- As a major step to advance education about automatic identification technologies, AIM has co-sponsored a Teacher's Institute for college faculty interested in specializing in the subject. The program was designed to provide the participants with a thorough grasp of the technologies, as well as an understanding of how to teach this complex subject matter. On July 13-17, at the Ohio University campus in Athens, OH, AIM joined with Dr. James Fales, Chairman of the University's Department of Industrial Technology, to present the program to about 20 college professors from campuses across the US and Canada.

- In a subtle change of direction, AIM is featuring a major seminar on retail scanning at SCAN-Tech 87 in Kansas City. In the past, very few AIM-sponsored projects or activities have been directed toward retail applications. The inclusion of a session at SCAN-Tech on "Quick Response in Retail" is recognition of the importance of the retail market to many AIM members. It also acknowledges the gradual disappearance of the lines that have separated retail from commercial/industrial applications of bar code scanning.

These three significant programs have long-term implications for both AIM/US and its membership, which has now grown to over 100 companies. There will be larger issues to be addressed as the industry grows in size and scope, and it is most reassuring to have a knowledgeable, aggressive organization leading the way.

As often happens....

....during the hectic negotiations for a possible corporate acquisition, the air is thick with rumors and speculation. Much of this conjecture originates from within the principal companies themselves -- from sources normally considered reliable and circumspect.

When CIBA-Geigy recently acquired Spectra-Physics, there were a number of reports (from people who were in a position to know) that CIBA might not want to retain Spectra's Retail Systems Division (SCAN June 87; July 87). These informed insiders speculated that there were other bidders for the company who were particularly interested in the Retail Systems Division and that CIBA might find it advantageous to sell that subsidiary after the deal was completed.
We spoke with Herbert Dwight, President & CEO of Spectra-Physics, in late August, after the acquisition had been put to bed. He wanted it made clear that "these statements cannot be further from the truth." "We feel it important that the record be set straight," Dwight emphasized. "The Retail Systems Division is fundamental to CIBA-Geigy's diversification strategy...and offers opportunity for highly profitable growth in the future. This division is a leading force in the retail scanning market on a worldwide basis...and our intentions are to continue to invest in this business, not divest it." [To be certain that there was no misunderstanding about this point, Dwight had sent us a letter which clearly laid out this position. Significantly, we thought, the letter was also signed by Richard Barth, President and CEO of CIBA-Geigy Corp.]

During the interview, Dwight would not elaborate on any of the future plans for Retail Systems, saying it was against company policy to talk about developments before they have matured. "We regard this division as an opportunity for current and future investment," he added. "We do not expect to rest on our laurels or to sell it off to some third party." Presently, Dwight explained, the division is focused on producing fixed head laser scanners for supermarkets and other retail applications. They will be attempting to broaden their distribution to remain the leading shareholder in that market sector.

The CIBA-Geigy acquisition, according to Dwight, will give Spectra a major advantage that will "allow the company to take a longer term view of the world than we had the luxury of taking over the last five years." He feels that he had been forced in the past to concentrate all of his firm's resources on the task of regaining financial credibility in order to place the company on a sound financial footing.

Although Spectra does not break out specific sales figures for its operating divisions, Dwight did not dispute those financial analysts who estimate that Retail Systems does about $25-35 million annually.

When you are the Chairman & CEO....

....of a public company, and you learn that your current quarter's sales will be about 2 1/2 times last year's volume, you announce the news to the public as soon as possible -- before it leaks out. And it certainly does not make this assignment any more difficult if it just so happens that you are scheduled to speak, at about the very same time, to the New York Society of Securities Analysts (NYSSA).

That scenario was pretty much what transpired on August 15, when Jerry Swartz, Chairman/CEO of Symbol Technologies told the NYSSA that "revenues are expected to reach $20 million or more" for the first quarter of this fiscal year (ending September 30). (By comparison, first quarter revenues last year were $8.2 million.)

Swartz went on to caution the analysts that they should not extrapolate the full-year 1988 from the first quarter results. Later quarters, he warned, could be affected by the seasonal nature of retail automation sales. He was careful to point out, however, that he is comfortable with recent analysts' projections (which have been reported as $75-80 million in yearly sales and
$1.45-1.55 per share earnings). Based on the just-announced predictions for the first three months, it’s a safe bet that those analysts who follow Symbol’s stock are back at their slide rules and crystal balls working out their own new numbers.

At that same meeting, Swartz also disclosed that S/T had received a $10 million Navy subcontract for its LS 7000 hand-held laser scanners. Shipments, which are scheduled over a 12-year period, will not be significant this year. During this fiscal year, we have learned, military business amounts to about 15-20% of Symbol Tech’s total sales volume.

In the two days following these announcements, the price of the company’s stock went up about $5 to over $40/share.

In what may be....

....the first of its kind in bar code scanning, Intermec has launched a Users Group. According to Intermec president John Paxton: "Our objective is to provide a forum for those who use our products to share experiences...and let customers talk directly with us about their wants and needs."

According to the company, users groups are gaining popularity among high-technology manufacturers and their customers. The users save time and money by sharing solutions; manufacturers benefit from new product ideas, and improved customer feedback.

The inaugural conference of the Intermec group will be held on October 13 in Kansas City, to coincide with SCAN-Tech 87. The conference was planned by the group’s organizing committee, chaired by Don Mills, MIS project leader for The Hon Company. Others involved in the planning efforts include representatives of Compaq Computer, AT&T Technologies, the Anderson Company, Reynolds Metals, and Armstrong World Industries. The Intermec Users Group plans to publish a newsletter, conduct symposia, establish an electronic bulletin board, and host annual meetings to coincide with such major events as SCAN-Tech.

Contact: Steve Barr, at Intermec Educational Services, 206/348-2600.

Difficulties seem to be continuing....

....at Photographic Sciences (P/S) as the company digests last year’s acquisitions. While P/S has reported substantial increases in sales attributable to these new subsidiaries, it is still showing operating losses.

<table>
<thead>
<tr>
<th>Photographic Sciences</th>
<th>3 Months ended 6/30</th>
<th>6 Months ended 6/30</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1987</td>
<td>1986</td>
</tr>
<tr>
<td></td>
<td>1987</td>
<td>1986</td>
</tr>
<tr>
<td>Revenues ($000)</td>
<td>$2,391</td>
<td>$931</td>
</tr>
<tr>
<td>Income (Loss) ($000)</td>
<td>(274)</td>
<td>52</td>
</tr>
<tr>
<td>Income (Loss)/Share</td>
<td>(.08)</td>
<td>.02</td>
</tr>
</tbody>
</table>

SCAN/September 1987
There is no way to make direct, year-to-year comparisons by division since the company does not break out the data and has not restated results to reflect sales and earnings prior to the acquisitions.

According to Chairman John Blackert: "While our acquisitions were strong contributors to revenues they also had start-up costs which affected profitability. Optel did not have manufacturing capabilities at the time of acquisition and we had to establish production as well as a sales force to market our scanner products. Techtran is also performing well but is dependent on lengthy customer approval cycles which we cannot control. As a result, our profitability has been affected but we view this as a relatively short term problem as we increase presence in our markets."

Management remains optimistic about the company's future. President Mike Hone reveals that he is focusing a large amount of the company's efforts to expand their line of bar code products. As part of this program, Photo Sciences recently introduced their model LD 1100 bar code decoder (priced at $495) as an addition to the Optel line. Other new products are expected to be announced at SCAN-Tech 87, but no details have been made available as yet.

Photographic Sciences, Box 338, Webster, NY, 14580-0338; 716/265-1600.

**Coming off a pretty good year...**

....with sales and earnings up 19% and 25% respectively, Graphic Technology Inc. (GTI) of Olathe, Kansas is looking forward to an even brighter future, with new markets and innovative products.

<table>
<thead>
<tr>
<th>Graphic Technology</th>
<th>3 Months ended 6/30</th>
<th>12 Months ended 6/30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues ($000)</td>
<td>$7,323</td>
<td>$5,672</td>
</tr>
<tr>
<td>Net Income/($000)</td>
<td>504</td>
<td>412</td>
</tr>
<tr>
<td>Net Income/Share</td>
<td>.18</td>
<td>.14</td>
</tr>
</tbody>
</table>

When listening to President Terry Van Der Tuuk describe his company's performance, it is difficult to appreciate that their primary sales and earnings are still derived from bar code label products which are sold to major customers including K mart, Winn Dixie, Fleming Companies and Eckerd Drug.

Van Der Tuuk only wants to talk about his new Accu-Check electronic shelf label, which is in the final stages of pilot testing at Lucky's, Dominicks and Fleming supermarkets (SCAN July 87). These test installations are currently set up in partial store coverage only. The next phase will be full-blown tests in ten stores of different sizes and types, and then a complete market roll-out is planned. The concept of the Accu-Check system involves a battery-driven, electronic shelf marker that is updated, with all of the store's price changes, from a Telxon hand-held, portable computer.

It costs about $40-50,000 to completely equip one store. Van Der Tuuk estimates a return-on-investment to the customer of less than two years. The labor savings are said to be very significant, since it takes only about two hours to download 250 price changes. The company has filed for six US patents, with three more pending.
Telxon, which has a contract with GTI to supply the portable computers, invested $250,000 up front to help with the development costs. GTI will handle all of the marketing and sales in the US; Telxon has the exclusive marketing rights to the rest of the world. The agreement between the two companies anticipates that Telxon will sell a minimum of ten million Accu-Check shelf units in the foreign markets over the next three years.

The market-size estimates that are thrown about by GTI's Van Der Tuuk can get pretty heady. He is talking about a potential of $25 million in sales of these units over the next two years -- and is eying the "17,000 stores in the US which have electronic point-of-sale systems already installed."

Graphic Technology, 14824 West 117th St., Olathe, KS 66062; 913/829-8000.

The operating philosophy....

....of the recently-formed Computer Identics Systems Corp., a wholly-owned subsidiary of Computer Identics (C/I), has been clarified somewhat since our last report (SCAN June 87). Frank Wezniak, President of C/I, is also the General Manager of C/I Systems. He called to explain that the new firm has been set up as a separate profit center that theoretically can be spun off in the future -- although he emphasized that there are no current plans to do so. Backing up Wezniak at C/I Systems are Frank Goodfinger, VP Sales and Marketing, and Ted Williams, VP of Systems Engineering.

Wezniak stresses that management has established clearly defined, separate missions and goals for the two companies. "C/I Systems will function almost like a VAR," he says, "focusing on installations that incorporate products from C/I and others." Meanwhile, C/I will concentrate on its standard products, such as StarNode, and will continue to support those systems previously installed by the company.

For the second quarter of its fiscal year (ended June 30, 1987), Computer Identics reported sales of $3.2 million and posted a loss of $904,000 ($.15 per share). For the six month period, sales were $6.2 million, with a per share loss of $.27. These results reflect some improvement over the substantial losses that were incurred for the same periods last year.

Virtual approval was received....

....within the last month from the Securities and Exchange Commission in response to the preliminary filing by Metrologic Instruments for a public offering of its stock (SCAN July 87). But the company has decided to hold off for a while. "Profits are up, cash flow is good, business is growing," says President Harry Knowles, "and I am not completely convinced that public ownership is the way to go." He realizes that additional capital will be needed to fuel the growth he anticipates, but he is still exploring the available alternatives.

Metrologic recently acquired an old landmark skating rink in Blackwood, NJ and is drawing up plans to convert the 12,000 square foot building into a production facility. The 11-acre site is large enough to accommodate an additional 120,000 square foot structure (currently in preliminary design) to
take care of any future expansion needs. The company is also in the process of installing $500,000 in new automated production equipment in its original Bellmawr, NJ plant.

Knowles disclosed that the company will be releasing new product information sometime before the October SCAN-Tech show -- but he is not prepared to announce any details as yet. The only comment he would make is that the items are "retail-oriented." This would seem to indicate that these products will be an extension of the very successful Mini-Slot scanners, which currently comprise about 60% of the company's total sales.

Knowles just returned from Europe where he says that he found scanner sales for retail stores are just booming. Presently, foreign sales amount to about 20% of Metrologic's total revenues.

A major sector....

....of the European paper industry plans to have bar coding standards in place by the year end. These new standards apply only to products sold via merchants and wholesalers affiliated with Eugropa, the European paper merchants association with members in 15 countries. The scope of these standards covers printing and writing paper products (often packed in reams) sold by paper merchants and wholesalers. It does not include rolls of newsprint and gravure papers (as used for magazine printing, for example) which address different products and different channels of distribution.

The standards are intended to cover three areas:

1. Prepacked products will carry the standard EAN bar codes.

2. Papers sold in bulk packs, or as variable length rolls, will carry bar codes conforming to EAN/UPC standards for variable measure (random weight) products.

3. Pallet loads of products will carry a multi-field label encoding information in Code 39. (The Eugropa pallet label is basically a derivative of the Odette/AIAG type of shipping label used in the European and American auto industries.)

The original research for these standards was sponsored by the Eugropa affiliate in the UK. At Eugropa's congress, held in Rome in June, its Council had agreed to pursue the development of industry standards for all countries represented by the organization. Guest delegates from the US and Australia made it clear that these European developments were initiated in advance of any commitments from their countries.