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The management
Newsletter for all
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The marriage of auto ID and air travel....

....was highlighted when the International Air Transport Association invited the members of AIM -- and other vendors -- to join the newly organized IATA Traffic Services Registered Suppliers. This was done at a presentation at SCAN-TECH 89 in San Jose, and again at SCAN-TECH Europe 89 in The Hague.

We questioned IATA's representative, John Vermilye, Manager of Business Development, about the purpose of this group and why the auto ID people were asked to join. He told *SCAN* that IATA now comprises 187 airlines -- including its newest member, the USSR's Aeroflot, the largest airline in the world. He described how the technical problems facing the carriers have broadened to where they feel they must enlist the help of outside suppliers to provide additional technical expertise. IATA believes that members, in turn, will benefit from participation in industry meetings (without voting privileges, however), receipt of notices, agendas and minutes, and the opportunity to meet with customers.

Members of the suppliers' organization are expected to be those companies which have a day-to-day product or services involvement with air travel. IATA feels that the airlines will be more dependent on automation involving bar coding, mag stripe and RF and the carriers need to share the problems and possible solutions on a more formalized basis than before.

Vermilye states that almost all international flights are now reconciling passenger boardings with checked baggage. If, at the end of the boarding process, a bag has been loaded for a passenger who has not boarded, that bag is immediately searched out and removed from the flight. Using bar coded boarding passes and bar coded baggage tags, Vermilye maintains that the unwanted bag can be readily located in a specific container and promptly removed.

Membership in the Registered Suppliers group comes at a fairly steep cost -- dues range from \$10,000 and 20,000 per year -- and Vermilye admits: "It may not be for everyone." No auto ID companies have joined as yet, although, presumably, those who are supplying a significant amount of printers or scanners may be examining the possible cost/benefits.

IATA has two co-headquarters offices: Box 160, CH1216, Geneva Switzerland; and 2000 Peel Street, Montreal, Quebec H3A 2R4, Canada; 514/844-6311



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INCLUDING THE INTERNATIONAL EDITION

EC-92: The Coming European Community
Part II - Standards: The Foundation of Harmonization

This is the second of an occasional series of SCAN articles on EC-92 -- the European Community scheduled to become a reality in 1992. The first article on this important topic (SCAN May 89) covered the origins, background and general organization of the European Community and how the automatic identification companies will be affected.

[To recap quickly from Part I, the European Community is the core group of European nations which have banded together to create a single market, with no national trade barriers. The current members are: Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, UK and West Germany.]

In Part II, we begin the study of the critical area of standards, which will become the means by which many of the international boundaries will be eliminated. This month, we will concentrate on the structure of the standards apparatus within the EC. Part III, which will follow within the next few months, will include a detailed analysis of current activities in this vital sector of standardization.

[This essay was researched by Paul Chartier, the International Editor of SCAN Newsletter.]

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To start with, since it is virtually impossible to follow the European Community 1992 "Ballgame" -- much less participate in it -- without a scorecard, we've prepared this basic glossary to help guide you through the alphabetic maze of new agencies, commissions, catchwords and acronyms. (This list is by no means comprehensive -- that would require more than the full 8 pages of SCAN:

CEC - Commission of the European Communities: The administrative body of the EC, whose specific tasks are to: regulate and enforce EC rules and principles; initiate and propose to the EC Council of Ministers measures to advance the development of EC policies; implement community policies based on Treaty provisions or Council of Minister decisions; and manage funds and common policy budgets. The CEC is comprised of 17 Commissioners (national political appointees -- at least one from each member country) led by the current president, Jacques Delors of France.

CEN - European Committee for Standardization: A super-national structure made up of 18 national standardization institutes (from all EC and EFTA nations) and charged with preparing European Standards (EN).

Directorate General: The departments of administration within the EC. DG XIII, the Telecommunications Information Industries and Innovation, has been the prime mover for bar code standardization.

ECU - European Currency Unit: The so-called "official currency" to be used within the EC for all budgeting and funding purposes. The ECU has an exchange rate with the currencies of each EC member, and with all other nations, as well. While not represented by coinage or banknotes, the ECU is valid tender for "paper" transactions.

EFTA - The European Free Trade Association: A separate group of nations which are geographically related to the EC, and which may ultimately join forces with it (although not until after 1992): Austria, Finland, Ireland, Norway, Sweden and Switzerland.

EN - European Standard: A standard, published by CEN, which has the same status as a national standard, except that it is applicable consistently in all 18 EC and EFTA nations. Pre-existing and conflicting national standards must be withdrawn on publication of an EN.

ENV - European Pre-standard: A preliminary standard, usually applied in areas of technological innovation -- where guidance and further development is still necessary -- and eventually leading to full implementation as an EN. The ENV is subject to an experimental period of up to three years before it becomes a final standard.

HD - Harmonization Document: A standard that has not yet achieved the full status of a European Standard (EN), usually because of conflict with some pre-existing national standard. The HD allows for more flexibility, but requires that any conflicting national standards must ultimately be withdrawn.

* * * * *

The aim of Europe-1992 is to create a "Single Market" -- one in which all trade barriers are removed to permit the free flow of goods and information across national borders. Many of the designers of this new reality have recognized the essential role that will be played by auto ID. As Eric Forth, UK's Parliamentary Under-Secretary for Industry and Commerce, wrote in the May issue of *ANA News*: "It is difficult to avoid the subject of standards when discussing the likely impact of the Single Market, especially in the area of information technology...Clearly, an internationally agreed basis for...barcoding is vital."

During the 16-year history of bar code technology, the industry has constantly striven to establish and put into place reference documents for standards and specifications. The CEC concluded that the international standardization process had to be given the highest priority, since it recognized that the European nation-states -- each with its national standards-producing organization (equivalent to ANSI in the US) -- would create fragmented markets and barriers to trade.

The key word in this CEC program became "harmonization." Harmonization is the process whereby the existing national standards will be submerged and replaced, without qualification, by specifications that will permit goods and services to flow freely across national borders. Based on the development and acceptance of standards among all of the EC nations (and beyond, if the six EFTA countries are to be included), the CEC estimates that, each year, harmonization could save European businesses 12 billion ECUs (\$11 billion).

Harmonization goes well beyond just establishing industrial manufacturing and product standards. The harmonization process has to tackle such issues as the recruitment and administration of company employees, laws and regulations affecting distributors, rules on the transfer of funds and currencies from one country to another, and even the styles of advertising permitted in different countries.

[An example of how uniform pan-European regulations can affect all areas of doing business in the EC was recently explored in the prestigious weekly *Advertising Age* (Aug 7, 1989). The article described the complexity of just one aspect of sales promotion for consumer products in the Single Market: "Free mail-in offers are allowed in the UK, Ireland and Spain (but)...the same promotion may not be permitted in France, Belgium and Luxembourg, and would definitely be out in West Germany...which doesn't allow free premiums on products."]

It comes as no surprise, therefore, that many of the 300-plus directives which were issued to create the single European market are concerned with standards.

The EC standardization mechanism operates under the auspices of CEN. In order to accomplish its objectives, CEN has established three levels of procedural documents: the European Standard (EN), the most powerful document created at the highest level, carries the obligation to be implemented as a national standard; the Harmonization Document (HD) allows for more flexibility while national differences are being resolved; and the European Pre-standard (ENV) covers standards still under development.

Where do the standards for bar code and other auto ID technologies fit in the harmonization hierarchy? Since CEN itself is not clear about precisely what should be done in the area of bar coding and auto ID, it invited selected organizations to a workshop, on September 25-26 in order to review standards for EAN product coding, for existing symbologies and for applications. The delegates were to cover the "generic standards" for new symbologies, reader performance, testing and certification of symbols and readers.

The conclusions reached by the workshop will be in the form of a work program to be presented to the CEN Technical Board. The standardization process could then be undertaken by a Technical Committee (with its Secretariat in one of the national institutions) or "sub-contracted" to an existing outside organization.

In the coming months, our series on EC-92 will continue with Part III -- The Impact of Standardization on Operations. That segment will include a report on the results of the important September CEN workshop meeting. It will also describe EC Orders BC 85, 86 and 87, which define the three EC priorities laid down for the auto ID industry in the areas of EAN product coding, symbology specifications and application standards for mail and parcels.

In Part III, we will elaborate on why we anticipate that the CEN will exert a very powerful influence in global standardization -- well beyond just the EC. The bottom line may very well be that anyone planning to sell into the EC marketplace will be forced to conform to European standards -- regardless of country of origin.

In an extensive and detailed....

....financial analysis of those public companies devoted to automatic identification, the Wall Street bankers, Brown Brothers Harriman & Co., have published a 47-page report titled, "The Data Collection Industry" (October 2, 1989).

The author, financial analyst Walter Winnitzki, has closely followed the development of bar code scanning for a number of years. He points out in his summary: "We believe the data collection industry is in the midst of the growth/expansion phase of its life cycle that should translate into annualized growth of 20%-25% over the next two-three years."

Before launching into his analysis of the individual companies, Winnitzki outlines his larger view of the overall industry. He concludes it is now "driven by users' needs...[and] moving to combine various technologies/products...and to market complete systems with an increased emphasis on software, communications and support capabilities." He adds: "These trends favor well-positioned industry leaders...[and] should also spur consolidation among some of the niche hardware oriented suppliers."

The report includes a detailed primer on how bar coding works, which was accurate, lucid and written in simple language appropriate to familiarize the investing public with the technology. The study also describes the data collection industry in detail, including explanations of application areas and systems.

The analysis breaks down into four market segments and estimates the size and growth rate of each, as follows:

<u>Market Segment</u>	<u>1988 (\$ Millions)</u>	<u>2-3 Year Growth Rate</u>
Labels	\$200	20-25%
Printers	250	20%
Readers	300	30-35%
*Terminals	500	20-25%

(*Portable data Terminals)

The leading vendors in each market segment are listed, concentrating, as expected, on those public companies whose performances can be tracked through their published financial reports.

Ultimately, the report focuses on Intermec, Symbol Technologies and Telxon -- the three largest industry leaders, which Winnitzki feels are the bellwethers of auto ID. Highlights of his analyses of these companies (with his current investment ratings) include:

- Intermec (rated May Buy): "Intermec appears to be one of the best-positioned vendors to benefit in the trend in user markets to obtain complete data collection system solutions. In fiscal 1990, earnings are expected to jump about 45% to \$1.65 per share...[and] we believe earnings could expand at close to 25% annually during the following two years."
- Symbol Technologies (rated Buy): "The November, 1988 acquisition of portable terminal supplier MSI Data was strategically important because it created the largest company in the industry in terms of both revenues and the size of its sales force...The acquisition also provides greater exposure to the international arena and effectively positions the company to begin to sell more complete bar code systems."

- Telxon (rated Neutral): "The market share leader of portable data terminals...The company has the most diverse offering of PDT hardware products in the industry...Telxon is currently in the midst of a major transition which is intended to reposition the firm from being a vendor of hardware products to become a supplier of complete PDT solutions. If successful, this strategy could further differentiate the company and give it significant competitive advantages over other PDT vendors. However, the transition has negatively affected earnings because of a lengthening of the sales cycle and the rise in operational costs associated with this new strategy. Our fiscal 1990 (March) forecast anticipates that earnings will drop to \$.40 per share from the \$1.13 reported last year. We believe earnings could rebound in fiscal 1991."

Brown Brothers Harriman, 59 Wall Street, New York, NY 10005-2818; 212/493-8269.

If you are planning....

....a promotional mailing and want to quickly correlate the responses with your database, you might want to consider bar coding each reply card with a serial number so that each resulting inquiry will be uniquely identified.

Before you do that, however, you'd better check with Karl Zetmeir (Words & Data Inc., Lenexa, KS) who holds a patent covering just such an application. The abstract of the patent (no. 4,752,675, issued June 21, 1988) reads, in part: "A method for determining the effectiveness of a mass advertising wherein each advertising material sent to a particular addressee is encoded before sending with its unique identifying bar code symbol...The returned symbols are read and the information encoded in the symbol is transmitted to a computer...[and] compared with the master file list for analysis of the effectiveness of the advertising."

According to Zetmeir, his patent is narrowly focused and covers "only the method for using bar codes to uniquely identify the response cards so that the individuals who reply to direct mail promotion can be tied back directly to our database."

Words & Data, a direct mail advertising agency, employs this technique -- which they call "20/20 Response System" -- for their own clients. Zetmeir's primary interest in protecting his patent is to enhance his own company's capability and marketing edge over his competitors. He has aggressively pursued any other direct mailers who he believes are "infringing" and he has notified them to "cease and desist." He offers all of these alleged offenders a license under his patent, but so far he has had no takers. [Depending on the size of the company, the license costs from \$5,000 to \$20,000 per year, plus a royalty of \$1,000 for each different product, brand or service mailed.]

Zetmeir has scared off at least one Midwest marketing firm who received one of his warning letters. According to an executive of that company: "We have no intention of taking out a license. Although we have tried bar coding our response cards and we like the method, we'll just go back to printing serial numbers on each one and then key enter (or even OCR) the information."

Zetmeir does not claim that bar coded cents-off coupons infringe, because they do not uniquely identify each person or household. He believes, however, that the patent would cover the use of bar coded labels on magazine "Bingo" cards of

the type introduced by *Identification Journal* last year (*SCAN* Dec 88).

At the present time, Words & Data is using off-the-shelf, high-speed laser printers and bar code scanners to handle their in-house system.

Words & Data Inc., 14955 West 101st Terrace, Lenexa, KS 66215; 913/492-5550.

The most recent statistics....

....on the growth of scanning in US supermarkets, indicates a continuing reduction in both the rate of increase and the number of new installations. According to the Nielsen Annual Review, published in *Progressive Grocer*, October, 1989: "As scanning grows more universal, the rate of growth continues to slow simply because there are fewer stores left to convert."

[A similar view was expressed in the October 1989 issue of *Supermarket Business* by its veteran editor-in-chief, Ken Partch: "It is kind of strange to consider that the second or third generation of scanners is now available....and yet many supermarkets have not received any, and are not likely to, since the rate of installation has slowed or stopped, except for new stores. It must be that the operators of these stores do not feel that scanning is cost effective."]

The number of new scanning stores has decreased each year since it peaked at 160 per month in 1982. The A.C. Nielsen study estimates that supermarkets installed scanners at the rate of 110 per month in 1988 and forecasts that number will drop to 100 in 1989. The total number of automated stores is projected to reach 17,180 by the end of 1989, representing 60% ACV (All Commodity Volume).

Another section of the same Nielsen report contains the surprising statistic that cents-off coupon distribution did not increase last year -- for the first time ever. In 1988, there were 174 billion grocery coupons distributed through newspapers, magazines and direct mail -- exactly the same number as 1987. Overall, 3.2% of all coupons distributed were redeemed in 1988 (that's over 7 billion pieces of this "funny money").

We have followed the progress of coupon distribution and redemption partly because of the anomaly it presents -- just as the software and systems for coupon scanning and verification are arriving, the use of this promotional tool is tapering off. Preventing fraud, however, while accurately processing 7 billion coupons, is still no mean task to be accomplished. [This is further evidenced by the recent conviction of a New Jersey supermarket owner and three operators of a phony Philadelphia coupon redemption center which processed over \$3 million worth of fraudulent coupons each year. In a continuing "sting" operation, the IRS, working with postal inspectors, have netted 44 such convictions since 1985.]

An excellent example....

....of a seminar that works is the one that has been offered three or four times each year for the past seven years by the School of Business/Management Institute of the University of Wisconsin-Madison titled "Using Bar Codes in Warehouse and Distribution."

The last two-day session, held on October 10-11, sold out the 40 available seats, just as every program has for the past five years. Attendees come from all parts of the country and from just about every type of business involved in a warehousing or distribution function.

The first day's program covers the basics of bar coding technology, including History and Theory, Printing, Reading Devices and Data Collection. The seminar leaders, many of whom enthusiastically return year after year, are noted figures from the auto ID industry, including Craig Harmon (QED Systems); Ben Nelson (Markem); Dave Czaplicki (Intermec); and Robert Eckles (Data Acquisition Systems). The second day is largely devoted to application case histories from various industries and concludes with pointers on how to get an "action program" started.

Dr. Edward Marien, of the University's Management Institute, has been the program leader/coordinator since its inception. "Recent attendance at our seminars," Marien told *SCAN*, "has been comprised of 65% management personnel, 30% MIS people and 5% consultants, vendors and others. Among the companies represented, we have found that the number who have already installed bar coding systems has grown from 5% to as high as 30% at our most recent sessions." These Wisconsin programs are next scheduled for February 12-13 and July 17-18, 1990.

By the way, the Fixed Asset Management Association (FAMA) will sponsor a separate seminar on the "Techniques of Bar Coding" in Edmonton, Alberta, Canada on February 5-6, 1990. This workshop will address system development and implementation, analysis of cost effectiveness and evaluation of potential uses.

U of Wisconsin, School of Business Management Institute, 800 Langdon Street, Madison, WI 53706; phone 800/262-6243; FAX 608/262-4617.

FAMA, 2136-104 B Street, Edmonton, Alberta Canada T6J 5G8; phone 403/493-0716; FAX 403/493-0780.

The dramatic growth....

....of the National Retail Merchants Association Convention & Exposition as a major showcase for auto ID has followed hard on the heels of the retailers' adoption of UPC just a few years ago. Quick Response and EDI followed immediately and the entire retail trade has become immersed, almost overnight it seems, in automatic identification.

The 79th NRMA Convention will take place on January 14-17, 1990 at its usual venue, the New York Hilton and Sheraton Center Hotels. Although the program still devotes surprisingly few seminar sessions to bar code scanning, the exhibit floor will be crowded with vendors displaying the latest available hardware, software and systems for the technology.

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