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Although it was expected....

....that the new Automatic Identification Technology (AIT) award would be made by the US Department of Defense by the end of last year, it did not work out that way. A special "AIT Task Force" -- led by the Army -- is now quietly ensconced in a room at Fort Belvoir, VA hammering out the complexities of this important five-year contract. [The previous contract -- when it was still called LOGMARS -- was held by Intermec and expired last May (SCAN Oct 93).]

Although one of the bidders told SCAN last week that a decision might be announced in February, a DOD spokesman indicated that this forecast was "very optimistic." "The way things are going," the spokesman explained, "I do not expect anything to happen until March/April at the earliest."

On another government front, the US Air Force is moving ahead with its related auto ID project: Microcircuit Technology in Logistics Applications (MITLA). Under the direction of the Air Force Materiel Command (AFMC), MITLA involves integrating the following technologies into logistics operations: RF Transponders, Smart Cards (Integrated Circuit Cards, Memory Cards and Laser Cards), EDI and Bar Coding.

On October 3, 1993, Systems Resources Corp. (SRC) -- based in Burlington, MA -- was awarded a one-year contract to provide a variety of technical and system integration services to the MITLA program. These projects include "market surveys, feasibility studies, requirements analysis, cost/benefit economic analysis, and developing and fielding complete turnkey systems." The contract includes tasks in all 50 states, Europe, Southeast Asia and the Far East.

Howard Miller, who heads up the SRC group handling the MITLA award, recently told SCAN: "We are only involved in the preliminary studies leading up to the larger program. One of our projects will be to design a system for a Smart Card which will be carried by each of the cadets at the Air Force Academy. The amount of each cadet's pay will be debited to the card; he [or she] can then make purchases of food or clothing which will be credited against the card. If this works out successfully, we visualize a similar system being installed in the other service academies -- and eventually to all armed services personnel."

At the end of this initial SRC contract, Miller anticipates that the Air Force will solicit bids for a three-year award with a much larger scope. He foresees



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these microcircuit devices being used in a very broad array of logistics applications in all of the armed services. Although there seem to be some overlapping efforts between the Army's AIT and the Air Force's MITLA programs in developing hardware, software, systems, supplies and applications, Miller contends that any duplication will be sorted out as these technologies and applications mature.

Once again, we find the DOD out front in the development and procurement of broad-based applications for automatic data capture products and services.

A mixed bag of news....

...has emerged from Telxon during these past months, including positive plans for the future, as contrasted with negative results from the immediate past.

First, to get the bad news out of the way, the first six months of this fiscal year (which ends March 31, 1994) showed decreased sales and earnings.

<u>Telxon</u>	<u>3 Months Ended 9/30</u>		<u>6 Months ended 9/30</u>	
	<u>1993</u>	<u>1992</u>	<u>1993</u>	<u>1992</u>
Revenues (\$000)	\$63,085	\$66,380	\$119,626	\$133,792
Earnings (Loss) (\$000)	(1,090)	3,504	(3,067)	7,437
Earnings (Loss)/Share	(.07)	.24	(.20)	.54

Although results were down compared to a year ago, President Dan Wipff pointed out that "revenues in the second quarter grew sequentially 11.6 percent over the first quarter." "During this same period," he continued, "backlog also increased. Offsetting the improvement in revenues were lower than anticipated gross margins reflecting inclusion of some large orders with below average gross margins."

For the balance of this fiscal year, Wipff anticipates that sales and gross profit will increase over the comparable second half of fiscal 1993. Although he foresees a "return to profitability" in the fourth quarter, he admits that the "impact of the acceleration of sales and marketing expenses and the continuation of lower than earlier planned margins eliminate the expectations of a profit for the year."

Telxon's positive side was presented in a long and detailed announcement of a "new strategic plan for the complete redesigning of the company to meet the future needs and challenges of a changing computer market." This plan was developed by the new executive management team installed a year ago following the departure of Ray Meyo as President/CEO (SCAN Nov 92).

Robert Meyerson, Telxon's current Chairman/CEO, outlined the program's key elements -- some of which have already been implemented -- including:

- Ten new products to be introduced in the next quarter.
- Reorganization of the "North American Sales Division and formation of the Retail Technology Group" (SCAN Feb 93).

- Redesign of the company from a monolithic structure to eight Strategic Business Groups (SBGs) "empowered with the authority and responsibility to increase sales and profits."

The company has placed a great deal of emphasis on decentralization into these SBG profit centers. These groups will be assembled into a seemingly complex structure with overlapping organizations devoted to product development, manufacturing, service, sales and marketing of a wide array of applications.

One example of a new SBG that will move Telxon into untried marketing areas is the recently formed Vertical Systems Group. Although the original plan was to start this group late 1994, the availability of five experienced IBM and COMPAQ sales executives with reseller experience (who were displaced due to mergers and layoffs) prompted Telxon to accelerate this initiative. The company recently hired these key managers and expects the Vertical Systems Group to bring in sales of \$25 million in fiscal year 1995 from systems sales to prospects in health care, insurance, transportation and factory automation.

Telxon's strategic plan also calls for the reduction of corporate management. This pared-down staff will provide limited shared functions to the SBG's, such as facilities, administration, human resources, accounting, legal and MIS.

The company's long-term plans also set forth other vaguely defined surprises. These innovations include the possibility that each of the SBGs may be spun off as separate public entities, and that the SBG managers may be required to purchase long-term holdings of their own companies as well as of the parent Telxon corporation.

Along with its reorganization, Telxon has undertaken to modernize and consolidate all of the company's customer service and manufacturing headquarters in one city, Houston, TX. The company just dedicated a new 36,000 square foot service center in Houston and plans to open an adjacent 116,000 square foot manufacturing facility by next April. Corporate headquarters will remain in Akron, OH.

These moves are just the beginning of a very complex design for the future. The plan broadens Telxon's coverage into a variety of different product groups and markets and creates a much different company than the one that emerged from its financial, management and identity crises just a year ago.

The continuing integration....

....of auto ID technologies into a single product was highlighted by two recently introduced portable computers -- one narrowly focused on a specific application; the other designed for a broad array of users:

- At quietly arranged, private hotel room showings in Philadelphia (during the SCAN-TECH 93 Convention), Symbol Technologies unveiled its newest product: the PPT 4100 PC-compatible hand-held computer (list price \$3,500). The unit incorporates pen input on a 5.5" x 3" screen, a graphical interface, integrated bar code laser scanner and RF spread spectrum communications.

At the size of a video cassette (4" x 6" x 1") and weighing about one pound, the company claims that this is "one of the lightest and smallest pen computers in its class." The battery is rated to operate for a full eight-hour shift.

According to Barry Issberner (Director, Marketing/Portable Systems Devices) the PPT 4100 was specifically designed for use as a "manager's device in a retail environment." "This unit has the capability," Issberner explained, "to interact real-time via RF with the host computer in the store. It can pull up current inventory, pending purchase orders, pricing data, and any other information necessary for a manager to operate in the store. With the addition of a mag stripe slot reader on the bottom [not yet available], it could even be used as a portable cash register."

The pen-based computer incorporates signature capture, "character and gesture recognition" and other graphics capabilities through the use of "electronic ink" (the information created when a user moves a stylus across the screen of a pen computer). The PPT 4100 has no keyboard; it is totally dependent on the electronic ink feature -- and bar code scanning -- to record information.

Shipments of the PPT 4100 are scheduled for the second quarter of this year. "Our target for 1994," Issberner noted, "is 15,000 units. We already have a request for quotation from one customer for 20,000 terminals."

- In contrast to Symbol's unit -- which is targeted at a specific segment of a specific market -- Videx Corp. (Corvallis, OR) has just introduced the OmniWand Portable Data Collection Terminal.

The OmniWand is a basic hand-held computer offering an assortment of integrated modular attachments. These include: laser bar code reader, contact bar code reader, Touch Memory reader, and RS-232 port (to connect a variety of external peripherals or a communication link). Videx has positioned this unit -- in its various configurations -- for a wide range of industrial, warehouse and distribution applications. (Because of special licensing agreements, the company is restricted from entering the retail market.)

The OmniWand includes an 8-line x 21-character display and 40-button alphanumeric keypad all packaged in a 12-ounce rugged metal case. We particularly admired the unit's graceful design with the basic terminal/keypad/display in a slim case which serves as the grip-handle when fitted with a bar code scanner.

The basic OmniWand terminal is priced at \$1,235. The laser scanner module adds \$1,133; the contact reader is \$220-290 depending on optics; Touch Memory and RS 232 port are \$98 each. The user can select up to two modular attachments per unit -- which must be factory installed.

Videx -- which characterizes itself as a small company with less than \$20 million in annual revenues -- markets its products through resellers, VARs and direct. According to a company spokesman, a number of orders for the

OmniWand have already been received from VARs along with "a couple of big orders from users." Shipments are expected to begin next month.

If you were to step back....

...and examine the business achievements of Peak Technologies, you would immediately wonder why its concept was not attempted sooner and more often.

Peak (New York City) is a public company that operates as a national distribution network for automatic data collection products for the non-retail market. The company represents a broad range of manufacturers and products and -- acting as a reseller or VAR -- offers its customers a single source for their total auto ID system requirements. In August 1992, Peak completed its initial public offering of 2.2 million shares (at \$8.50 per share), raising over \$18 million.

Peak began operations in 1988 and since then -- by using a combination of stock, cash, and earn-out deals -- has acquired a string of regional distributors blanketing the US market. These include Logon (New York); Mesa (Maryland); Peak (Chicago); Gentry (Florida); Group Three (California); Telpar (Texas); and, most recently, in July 1993, New England-based Concord Technologies (we reported on Concord's startup in SCAN Jan 88).

We interviewed founder/President Nick Toms recently to discuss his future plans. First, the most recent numbers: Peak's sales volume in 1992 was \$82 million with net income of \$1.8 million; for 1993, Toms projects sales approaching \$100 million. So far, reports for the first nine months of 1993 show that net income was \$1.2 million on sales of \$68.9 million -- up 14% and 28%, respectively, from the previous year.

About two-thirds of Peak's total sales are in bar code-related equipment (most of which are demand printers); 20% to 25% are in maintenance and service; and 10% to 15% are in supplies. Peak has a staff of 150 field service engineers monitoring 25,000 active service contracts with 5,000 different customers.

Toms foresees that his company will continue to offer services in four areas: applications solutions, software, services and supplies. He estimates that 70% of his company's sales include hardware and software which are value-added to its bought-out systems. He visualizes that his company will always concentrate on offering its customers a "total solution" to their system needs.

Peak's prominence in the non-retail auto ID market has reached impressive proportions. As Toms explained: "We are Zebra's largest customer, purchasing 15% of their total output; we are the largest VAR for both Symbol Technologies and Norand; and although I do not know exactly how we rank with other manufacturers such as Printronix, Welch-Allyn and UBI, we know that we account for a very significant portion of their sales."

Interestingly, Toms views Intermec as his major competitor because Intermec also focuses on non-retail applications and offers complete systems. Toms believes he can compete effectively and win contracts against a basic manufacturer like Intermec because of the flexibility and wider choices offered by Peak.

Now that Peak has attained total geographic coverage in the US, Toms is turning his attention to Europe and is actively seeking acquisition opportunities there. He expects that Peak's marketing concept -- tried and proven in this country -- will work just as well in the European Community.

A recent issue of *Crain's Business* selected Peak as the second fastest growing company (after the phenomenal Snapple Beverage Company) in the New York region. Peak has found and exploited a specific requirement in the automatic data capture industry -- the need for knowledgeable, targeted distribution of system solutions to the broad-based industrial market -- and the company seems positioned for continued growth and success.

The first solo effort....

...by Advanstar to conduct an automatic data capture industry exhibition and conference was SCAN TECH EXPO Europe 93 (Cologne, Germany - Nov 30-Dec 2).

Among those present were 118 exhibitors and about 3,500 visitors -- something of a shortfall from last year's Paris venue. Although the 210 conference delegates were spread thinly among the 29 seminars, those sessions ran the full gamut of all the auto ID technologies (including many application presentations).

According to Ian Smith, General Secretary of AIM/Europe: "Advanstar are to be congratulated for what they have achieved, given that this was a startup European operation and that they had less than a full year to organize everything."

[During the show, AIM/Europe announced the admission of three new affiliates: AIM/Germany, AIM/Czech Republic and AIM/Russia. These additions bring the total of AIM/Europe affiliates to twelve, comprising over 350 member companies. The 47 members of AIM/Germany had been direct corporate members of AIM/Europe but they voted -- not unanimously, it should be noted -- to become a national affiliate.]

Advanstar is moving SCAN TECH EXPO Europe back to Paris this year (Nov 15-17). According to show manager Lindsay Kubicki: "It is an established location for exhibitions and conferences attracting visitors from throughout Europe [and] is within easy reach of the centre of Paris."

Meanwhile, Advanstar will be sharpening its skills in the auto ID industry with ID Expo (Chicago May 15-17) and ICAP EXPO (Birmingham on June 21-23). [ICAP EXPO was formerly known as SCAN TECH UK until it was purchased by Advanstar earlier this year.]

The relatively obscure....

...West Coast company that was formed in 1966 and went public in 1969 was known as Interface Mechanisms.

By 1980, this promising company became known as Intermec, an independent identity it maintained until it was acquired by Litton Industries in 1991 (SCAN

May 91). [Intermec's annual sales were approximately \$200 million at that time and company executives maintain that the business has been growing at a healthy pace with positive earnings since the Litton acquisition.]

Nowadays, if you want to locate any specific information about this leading auto ID company you will have to look for it under another new incarnation. It will still be known as Intermec, but it is now part of the Industrial Automation Systems Division of Western Atlas, Inc. Litton has officially spun off its two "commercial businesses" -- oilfield information services and industrial automation systems -- and formed Western Atlas, a separate public company, with \$2 billion in revenues, listed on the New York Stock Exchange. John Paxton, who was president of Intermec when it was taken over by Litton, now heads up the Industrial Automation Systems Division of Western Atlas.

The gathering of data....

....about the auto ID technologies has usually emphasized bar coding, the largest segment of the industry.

The most recent market research study conducted by Frost & Sullivan/MIRC, however, is titled: "Forecasts of the Total World Emerging and Niche-Oriented Automatic Identification Product Market." This report emphasizes all of the other methods of automatic data capture, including: mag stripe, OCR, RF/ID, smart cards (including memory and microprocessor cards), and voice data entry.

The study defines auto ID as "methods that identify products or people" and covers "the common applications in manufacturing, retail, health care, pay telephones, transportation, personal access and financial operations."

For 1992, the estimate of total worldwide revenues for these technologies is \$1 billion. The compound annual growth rate projected through the remainder of the decade is 21.7% to reach \$4.1 billion in 1999. In the US, revenues were estimated at \$301.8 million in 1992, growing to \$998.6 million in 1999 -- an annual compound growth of 18.6%.

Of particular interest is the breakdown of market share by specific technology and the very significant differences in the comparison between the US and the rest of the world:

Percent of Revenues by Product Type

	<u>1992</u>		<u>1999</u>	
	<u>World</u>	<u>US</u>	<u>World</u>	<u>US</u>
Mag Stripe	32.0%	59.2%	29.3%	53.3%
OCR	6.3	7.3	1.5	1.9
Smart Cards	43.7	2.3	49.5	7.3
RF/ID	13.7	20.7	16.8	28.2
Voice Entry	<u>4.4</u>	<u>10.4</u>	<u>3.0</u>	<u>8.2</u>
Total	100.0%	100.0%	100.0%	100.0%

[Note: the "World" figures shown above include US revenues.]

The wide variations in the use of mag stripe and smart cards in the US compared to the rest of the world is even more apparent when examining the more detailed analyses of each product type by geographic region. [As agreed with F&S/MIRC, we can only publish limited summary statistics of this proprietary study.]

We spoke with Girish Rishi, F&S/MIRC's Senior Industry Analyst in charge of this study, about the research methodology that goes into preparing reports of this kind. Rishi is a staff member of F&S/MIRC and not a contract researcher, which is a departure from the company's previous practices. He told *SCAN* that he and his corporate staff are now devoting full time to major technology areas, including auto ID and bar codes. He emphasized that this staff dedication provides continuity and expertise which was lacking when the company used different outside researchers for each study.

We asked Rishi about the validity and usefulness of such research data. We wanted to know how he could accurately forecast results up to 6 years into the future in an industry that is constantly developing technological innovations; with vendor companies that have difficulty projecting revenues and earnings for their next fiscal quarter; and in an unsettled world with economic, political and social instability?

Rishi agreed that forecasting into these changing variables was one of the most difficult aspects of his job. He maintained, however, that his group carefully gathers all of the available data from industry literature, in-depth interviews with vendors, and extensive sampling of current and potential users.

"We make every attempt," he continued, "to eliminate duplications in sales revenues among the manufacturers and their OEMs, VARs and distributors. We cannot predict recessions, or the breakup of the Soviet Union or what will happen as a result of the Clinton Health Plan. We try to give our clients a feeling as to what will happen. We project based on our best research efforts, but we always include disclaimers which indicate that we cannot account for events which occur after the completion of the study."

Which leads to the question of who can benefit from these studies. The current vendors of hardware, software, systems and supplies, of course, are always anxious to obtain as much information as possible to round out their understanding of the industry. Rishi pointed out that there are also many other potential customers. "Wall Street analysts, venture capitalists, new companies who wish to enter auto ID -- all require information about this market that is not available elsewhere," he explained. "We try to provide these individuals with the best indicators so that they can plan their investments and analyses."

The study on emerging, niche-oriented auto ID products markets (Report #254-10 -- 268 pages) costs \$1,895.

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