REPORT ON IDENTIFICATION AND ANALYSIS OF SMALL MANUFACTURERS THAT ARE SUCCESSFUL GLOBAL COMPETITORS

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1. Task Objective

This project was initiated because of concern among U.S. manufacturers and policymakers that smaller manufacturers are losing substantial numbers of jobs and business to foreign firms, especially to Asia. One response to this concern is to do nothing because foreign firms create enough “insourced” jobs by investing in manufacturing facilities in the U.S. to compensate for other job losses (OFII, 2004). Whether investments by these mainly large non-Asian firms create jobs in the U.S. or not, smaller manufacturers in many sectors are still losing business and jobs to these firms.1 A second response is to help small and medium-sized enterprises (SMEs) become more competitive in their domestic markets. A third response is to help SMEs create revenue growth opportunities by exporting to foreign markets. Sometimes that means competing with foreign firms on their own turf. However, it also may mean competing with other U.S. firms or foreign firms in a market that is not the home turf of any of them.

Assessment of the merits of the first response is beyond the scope of this project. The other two responses are entirely appropriate to the challenge of foreign competition. This project focuses on the third one. Other reports under this or related contracts address the second one directly and thoroughly. The objective of this project is to identify a population of small and medium-sized U.S. manufacturers that are competing successfully in foreign markets, understand the stages of development that lead to commitment to exporting, and analyze factors that contribute to exporting success. A sample of exceptional SME exporters, not necessarily representative of all U.S. SMEs, can provide models for other exporters to emulate. The results will be used to guide other small and medium-sized U.S. manufacturers in strategies and/or methods to become successful exporters.

2. Sources of Information

Our analysis of successful exporting firms is drawn from two major sources. One source is a review of government reports and business periodicals that concern trends in the import and export of U.S. manufacturing goods. It is also based on academic books and articles that focus on the initial awareness and ultimate embrace of internationalization by SMEs. Internationalization is a process by which firms both increase their awareness of the direct and indirect influence of international transactions on their future, and establish

1 Japan invests heavily in U.S. manufacturing facilities, and South Korea investments are increasing. However, Germany, France, and United Kingdom make larger investments in the U.S.
and conduct transactions with other countries (Beamish, 1990). The process starts with either importing or exporting goods or services, and then follows by setting up sales unit(s), distribution unit(s), and production unit(s) in foreign countries, though not necessarily in that order, in an effort to localize the product/process.

Most of the literature on internationalization focuses on development stages, e.g., decision to export, choice of foreign markets to enter, and the mode by which to enter them (Coviello and McAuley, 1999). This literature varies in its emphasis on how conscious and rational is the decision to export, and how rigid is the sequence of development stages that firms follow. Our interviews subsequently reflected similar variation among firms. Some firms recognized clearly that a foreign market was growing faster than the U.S. market and responded accordingly. Other firms decided to export in order to balance sales of complementary or seasonal products across different regions (FCX, Al-jon). Surprisingly, however, many of the firms became exporters rather opportunistically. For example, Kingsbury and Markel were supplying a U.S.-based OEM that went offshore and their product was specified in their customer’s product. Other firms responded somewhat casually to initial inquiries about their product from a foreign customer and discovered a new business opportunity abroad.

Other academic literature focuses on predictors of export performance, e.g., relationship between firm characteristics, firm competencies, and strategy and the level of export sales or percent of exports to total sales (Aaby and Slater, 1988; Chetty and Hamilton, 1993). This research suggests that management’s willingness to commit resources to exporting, attitudes toward risk taking, available manufacturing capacity, strategic use of technological competence, and careful market selection and pricing decisions are related to export performance.

We developed the initial set of questions from academic articles that focused on SME internationalization and performance outcomes. Common themes in these articles included initial opportunity awareness, decision to export, development steps and sequence, market choice, and mode of entry. We added some questions concerning competitive strategy and innovation practices for synergy with another project. Twenty-one questions were generated from these sources, which we then clustered around common themes so that the interviews would flow smoothly. The interviewing process stimulated 15 follow-up questions, which we submitted via email to all interviewees for completion. Interviewees responded to these questions (22-36) by email or phone call (see Appendix A).

The second major source for our analysis is winners of the President’s “E” Award or “E Star” Award (U.S. Department of Commerce) or state-related awards (recognition by state governors or economic development agencies) for export excellence. To qualify for an “E” Award, a company must show evidence of a substantial increase in volume of exports over a four-year period. Exports should constitute a significant portion of total product sales and/or be materially in excess of the industry's average percentage. The

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A company also should demonstrate breakthroughs in especially competitive markets, introduce a new product into U.S. export trade, or open a new market. The "E Star" Award recognizes continued superior performance in increasing or promoting exports. Only recipients of the "E" Award are eligible, and the level of performance must exceed that for which the “E” Award was given. The criteria for award recognition by state governments varies by state, but always included a significant percent of sustained annual export growth. We also scanned the U.S. Department of Commerce website for articles about companies that were recognized for exceptional export performance.

We initially selected 126 small manufacturing firms that won export-related awards or recognition between 1998 and 2003. We subsequently excluded firms that were acquired or merged with another company after winning the award, did not manufacture a product, or for which we could not identify an appropriate contact person. Twenty-seven firms remained on the U.S. Department of Commerce list and 75 remained on the state list. All but one of these firms had less than 500 employees.

The total sample of exceptional SME exporters is undoubtedly larger than the 126 that we initially selected because many exceptional firms escape the attention of government agencies or the media. These 102 firms, however, represent 15 different industrial classifications, using three digit NAICS codes (see Table 1). The sample also provides broad coverage of the manufacturing sector, as there are 21 three-digit NAICS codes for manufacturing. Three NAICS codes make up half the sample; machinery (333), computer and electronic product manufacturing (334), electrical equipment, appliance and components (335), which is consistent with data that indicate that the bulk of U.S. nonagricultural exports in 2003 consisted of industrial supplies and capital goods (Mankiw, 2003).

Table 2 shows the distribution of states in this sample. Their representation reflects in part the importance of manufacturing to these states’ economy and the initiatives of their governments to promote and recognize export excellence (e.g., governors’ awards). Ohio, Pennsylvania and Wisconsin are the most represented states in this sample. These states ranked 6th, 10th, and 17th in the nation in 2001 in the value of exports. These states do not have the highest concentration of SMEs that export. In 2001, states with 50 percent or more of their SMEs that export included Wyoming, Maine, Alaska, District of Columbia, New York, and Florida. Non-manufacturing exports account mainly for this.

Letters were sent to all 102 companies to request a 60-90 minute interview with a senior manager. Follow-up telephone calls were made to firms that did not initially respond to the letters. Twenty-one companies agreed to be interviewed (see Table 2). A comparison against a number of attributes suggests that these 21 companies do not differ substantially from those that declined or did not respond to our letter or phone call. For example, these 21 firms represent 11 of the 21 NAICS manufacturing codes, and the same three NAICS codes predominate in this smaller sample too. Also, two of the three most represented

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4 Although Pasta Montana and Sound Technology were acquired by larger companies, they were included in the sample because their managements retained a minority interest in the acquired companies.
states among the 102 firms are also the most represented among the 21 firms (Ohio and Pennsylvania). Eighteen of the 21 firms interviewed (86%) were privately owned. McCurdy (2003) indicates that 82% of SMEs have fewer than 50 employees, and 69% have fewer than 20 employees. Nearly all firms of this size are likely to be private. Although 12 of the 21 firms interviewed had more than 50 employees (see Table 3), the average number of employees (105)\(^5\) suggests that the percent of privately owned firms is consistent with that for most SMEs.

Most of the 21 selected firms had Internet websites that provided an overview of the company, its history and products. Some companies were featured in government publications that announced that they were award winners. A brief profile of the history, major facilities, products, and markets of the selected companies is provided in Appendix B. These profiles are based on information that was accessed from the companies’ websites, Hoover’s Online (www.hoovers.com), or the U.S. Department of Commerce (www.export.gov).

The interviews were conducted between December 2003 and June 2004. They were recorded and the answers of interviewees are summarized in Appendix A. These interviews are the basis for the observations and conclusions presented below, and, where appropriate, are supported with references from relevant literature.

<table>
<thead>
<tr>
<th>NAICS CODE</th>
<th>FREQUENCY</th>
<th>NAICS TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>236</td>
<td>1</td>
<td>Machinery Manufacturing/Construction</td>
</tr>
<tr>
<td>311</td>
<td>5</td>
<td>Food</td>
</tr>
<tr>
<td>313</td>
<td>1</td>
<td>Textile Mills</td>
</tr>
<tr>
<td>315</td>
<td>2</td>
<td>Apparel</td>
</tr>
<tr>
<td>321</td>
<td>1</td>
<td>Wood Product Manufacturing</td>
</tr>
<tr>
<td>325</td>
<td>5</td>
<td>Chemicals</td>
</tr>
<tr>
<td>326</td>
<td>6</td>
<td>Rubber and Plastics Products</td>
</tr>
<tr>
<td>327</td>
<td>2</td>
<td>Nonmetallic Mineral Product</td>
</tr>
<tr>
<td>331</td>
<td>2</td>
<td>Primary Metal</td>
</tr>
<tr>
<td>332</td>
<td>7</td>
<td>Fabricated Metal Product</td>
</tr>
<tr>
<td>333</td>
<td>27</td>
<td>Machinery</td>
</tr>
<tr>
<td>334</td>
<td>15</td>
<td>Computer &amp; Electronic Product Mfg</td>
</tr>
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<td>335</td>
<td>11</td>
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<td>5</td>
<td>Transportation Equipment</td>
</tr>
<tr>
<td>337</td>
<td>1</td>
<td>Furniture and Related Products</td>
</tr>
<tr>
<td>339</td>
<td>9</td>
<td>Miscellaneous Mfg</td>
</tr>
<tr>
<td>339/325</td>
<td>1</td>
<td>Miscellaneous Mfg/Chemical</td>
</tr>
<tr>
<td>48-49</td>
<td>1</td>
<td>Transportation and Warehousing</td>
</tr>
<tr>
<td></td>
<td>102</td>
<td></td>
</tr>
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</table>

\(^5\) For the six cases that show a range of employees, the mid-range was used in calculating the average.
<table>
<thead>
<tr>
<th>Governor's Listing</th>
<th>President's Listing</th>
<th>Combined Tally</th>
</tr>
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<tbody>
<tr>
<td>FL</td>
<td>CA</td>
<td>CA</td>
</tr>
<tr>
<td>IA</td>
<td>CO</td>
<td>CO</td>
</tr>
<tr>
<td>IL</td>
<td>FL</td>
<td>FL</td>
</tr>
<tr>
<td>IN</td>
<td>HI</td>
<td>HI</td>
</tr>
<tr>
<td>KS</td>
<td>IA</td>
<td>IA</td>
</tr>
<tr>
<td>MA</td>
<td>LA</td>
<td>IL</td>
</tr>
<tr>
<td>MT</td>
<td>MD</td>
<td>IN</td>
</tr>
<tr>
<td>NC</td>
<td>MI</td>
<td>KS</td>
</tr>
<tr>
<td>OH</td>
<td>MO</td>
<td>LA</td>
</tr>
<tr>
<td>PA</td>
<td>NE</td>
<td>MA</td>
</tr>
<tr>
<td>WI</td>
<td>NH</td>
<td>MD</td>
</tr>
<tr>
<td></td>
<td>NM</td>
<td>MI</td>
</tr>
<tr>
<td></td>
<td>OH</td>
<td>MO</td>
</tr>
<tr>
<td></td>
<td>PA</td>
<td>MT</td>
</tr>
<tr>
<td></td>
<td>TX</td>
<td>NC</td>
</tr>
<tr>
<td></td>
<td>VA</td>
<td>NE</td>
</tr>
<tr>
<td></td>
<td>WV</td>
<td>NH</td>
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<td>PA</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>VA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WV</td>
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<tr>
<td>TOTALS:</td>
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<td>27</td>
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TABLE 3. DISTRIBUTION OF INTERVIEWED COMPANIES

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>INDUSTRIAL CLASS</th>
<th>NAICS CODE</th>
<th>STATE</th>
<th>AWARD</th>
<th>SALES (MM)</th>
<th>EMPLOYEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al-jon Machinery</td>
<td>Machinery</td>
<td>333</td>
<td>IA</td>
<td>Governor's E-Award List</td>
<td>7.5-10</td>
<td>70-100</td>
</tr>
<tr>
<td>Altronic, Inc.</td>
<td>Machinery</td>
<td>333</td>
<td>OH</td>
<td>Governor's E-Award List</td>
<td>35</td>
<td>153</td>
</tr>
<tr>
<td>Alturmutts, Inc.</td>
<td>Plastics and Rubber Products</td>
<td>326</td>
<td>PA</td>
<td>Governor's E-Award List</td>
<td>3.74</td>
<td>21-30</td>
</tr>
<tr>
<td>Artcrete, Inc.</td>
<td>Nonmetallic Mineral Manufacturing Products</td>
<td>327</td>
<td>LA</td>
<td>“Success Story” in Export America, DOC</td>
<td>2.66</td>
<td>25</td>
</tr>
<tr>
<td>BioPlastics</td>
<td>Plastics and Rubber Products</td>
<td>326</td>
<td>OH</td>
<td>Governor's E-Award List</td>
<td>2.5-3</td>
<td>31-40</td>
</tr>
<tr>
<td>Brown Medical Industries</td>
<td>Miscellaneous Manufacturing</td>
<td>339</td>
<td>IA</td>
<td>Governor's E-Award List</td>
<td>3-4</td>
<td>31-40</td>
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<tr>
<td>Diamond V Mills, Inc.</td>
<td>Food</td>
<td>311</td>
<td>IA</td>
<td>President's E-Star Award List</td>
<td>31.5</td>
<td>120</td>
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<tr>
<td>Excel Holdings</td>
<td>Machinery</td>
<td>333</td>
<td>VA</td>
<td>Export Achievement Award, DOC</td>
<td>85</td>
<td>5</td>
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<td>FCX</td>
<td>Transportation Equipment</td>
<td>336</td>
<td>WV</td>
<td>President's E-Award List</td>
<td>7.99</td>
<td>63</td>
</tr>
<tr>
<td>Herr Industrial</td>
<td>Computer And Electronic Products</td>
<td>334</td>
<td>PA</td>
<td>Governor's E-Award List</td>
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<td>Fabricated Metal Products</td>
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<td>PA</td>
<td>President's E-Award List</td>
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<td>Computer And Electronic Products</td>
<td>334</td>
<td>OH</td>
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<td>Electrical Equipment, Appliances, and Components</td>
<td>335</td>
<td>PA</td>
<td>President's E-Award List</td>
<td>25</td>
<td>130</td>
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<tr>
<td>MIOX</td>
<td>Machinery</td>
<td>333</td>
<td>NM</td>
<td>President's E-Award List</td>
<td>4.25</td>
<td>30</td>
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<td>Pasta Montana&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Food</td>
<td>311</td>
<td>MT</td>
<td>Governor's E-Award List</td>
<td>10-15</td>
<td>51-75</td>
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<tr>
<td>Firm P&lt;sup&gt;7&lt;/sup&gt;</td>
<td>Chemical</td>
<td>325</td>
<td>PA</td>
<td>Governor's E-Award List</td>
<td>10-15</td>
<td>31-40</td>
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<tr>
<td>Roberts Irrigation Products, Inc.</td>
<td>Machinery</td>
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<td>CA</td>
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<td>60</td>
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<td>Rowmark, Inc.</td>
<td>Plastic and Rubber Products</td>
<td>326</td>
<td>OH</td>
<td>Governor's E-Award List</td>
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<td>81</td>
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<tr>
<td>Sound Technology&lt;sup&gt;8&lt;/sup&gt;</td>
<td>Computer and Electronic Products</td>
<td>334</td>
<td>PA</td>
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<td>8.4</td>
<td>125</td>
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<td>West Paw Design</td>
<td>Apparel and Accessories</td>
<td>315</td>
<td>MT</td>
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<td>2.5</td>
<td>25</td>
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<td>X-Rite</td>
<td>Computer and Electronic Products</td>
<td>334</td>
<td>MI</td>
<td>President's E-Award List</td>
<td>117.1</td>
<td>636</td>
</tr>
</tbody>
</table>

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<sup>6</sup> Pasta Montana was acquired by Nippon Flour Mills Co., Inc. in 2000.

<sup>7</sup> This company chose to remain anonymous.

<sup>8</sup> Sound Technology was acquired by Analogic Corporation in 2002.
3. Choice of Markets to Enter

We need to understand better what prompted these 21 companies to export. What was the catalyst? What form did their initial entry take? What did they expect to gain by exporting? Was it immediate profits or gaining a foothold in a new market and learning from it? What country or regions did they choose to enter first and why? The academic literature suggests that the first markets that SMEs choose to enter are culturally and psychically similar to their own. Our interviews support this. Most of the companies that we interviewed exported to Canada or Western Europe before Asia or elsewhere. This generalization is tempered somewhat by the fact that some of these companies did not always choose their first foreign market to enter, e.g., they followed an OEM.

Many academic articles that focus on the decision to export are based on the experience of SMEs outside the United States, such as Finland, Norway, Denmark, Ireland, and New Zealand (Bodur and Madsen, 1993; Coveillo and Munro, 1997; Holmlund and Kock, 1998). These countries tend to produce high-value products, but have a limited domestic market in which to sell them. Thus, these companies looked to export their products very early. By contrast, many U.S. companies have been able to sell to a vast domestic market so they have had little interest until recently in seeking additional sales by exports. There is much that U.S. SMEs can learn from the experience of SMEs in these small export-oriented countries. Furthermore, many of these foreign-based SMEs were initially exposed to international commerce by importing components for their products. This exposure familiarized these companies to international issues and raised their comfort level and confidence to become exporters.

Total U.S. exports doubled in the last twenty years to 9.8 percent of GDP (Bureau of Economic Analysis, U.S. Dept. of Commerce). SME exports rose 77 percent from 1992 to 2001. U.S. SMEs constitute 97 percent of all U.S. exporting companies and account for about 30 percent of the value of U.S. exports. The number of SME exporters grew twice as fast as the number of large company exporters between 1992 and 2001. Twenty-nine percent of the SMEs that export are in the manufacturing sector, and contribute 36 percent of total export value (ITA, 2003). Finally, among SME exporters, 63 percent of them export to only one market, and 24 percent to two-four markets. Nearly half of all SME exports go to Canada (20%), Mexico (13%), United Kingdom (9%), and Japan (5%). The relatively few markets to which most SMEs export suggests the high potential for raising U.S. exports by encouraging currently exporting SMEs to enter additional foreign markets. Although this data on SMEs and market selection is not exclusive to the manufacturing sector, there is no reason to expect it to differ from the entire population of SMEs.

NAFTA accounts for a considerable portion of the increase in U.S. imports and exports, some of which represents movement of fabricated components across borders for assembly and return for sale in the U.S. as finished goods. NAFTA accounts for one-third of all SME exports, and combined exports to Canada and Mexico increased by nine
percent between 1992 and 2001. In 2003, U.S. exports to Canada were $170 billion (trade
deficit of $54 billion) and exports to Mexico were $97 billion (trade deficit of $41
billion). These numbers represent 70 percent and 131 percent increases in exports since
1993, respectively. The creation of the Southern Cone Common Market (Mercosur) in
1995 increased exports from the United States to Argentina, Brazil, Uruguay, and
Paraguay by 29 percent. In 2003, U.S. exports to Japan were $52 billion (trade deficit of
$66 billion) and exports to South Korea were $24 billion (trade deficit of $13 billion),
which represent 8 percent and 60 percent increases in exports since 1993, respectively.

The share of intra-NAFTA trade increased dramatically between 1992 and 2002. A
similar pattern has occurred for trade within ASEAN (Association of South Asian
Nations), but at a much lower level of overall trade. U.S. exports to the European Union
(EU), however, decreased by 24 percent since its creation in 1992. This pattern suggests
that regional trade agreements, at least initially, are encouraging increased trade within
economic regions and decreased trade between them.

With the economies of the rest of the world growing rapidly, especially India and China,
there are significant new export opportunities for U.S. companies. Brazil, Malaysia and
China were among the fastest growing markets for SMEs between 1992 and 2001. In
2003, U.S. exports to India were $5 billion (trade deficit of $8 billion) and exports to
China were $28.4 billion (trade deficit of $123.9 billion—the largest with a single
country). These numbers represent 79 percent and 226 percent increases in U.S. exports
since 1993, respectively.

U.S. exports to China are mainly goods that are made by relatively high-skilled workers.
Forty-seven percent of U.S. exports to China are capital goods, 35 percent are industrial
supplies, and 10 percent are foodstuff. In contrast, U.S. imports from China are mainly
consumer goods. Sixty percent of the value of U.S. imports from China in 2003 through
August was consumer goods compared to 28 percent for capital goods. Some of the
increase in imports from China to the U.S. has been at the expense of higher wage Asian
countries, e.g., Japan, Singapore, which are now exporting less to the U.S.

Developing countries can now buy U.S. goods that they couldn’t afford or did not want
or need previously. SMEs are seeking new foreign sales opportunities for mature
products that currently generate only replacement sales in the U.S. SMEs also can sell
machinery and equipment to foreign manufacturers to help them make products that the
U.S. once produced. Machinery (333) and computers and electronic products (334)
accounted for 31 percent of U.S. exports in 2003. Computers and electronic products was
the fastest growing industrial classification between 1990 and 2000 (18 percent growth)
(Office of Trade and Economic Analysis, Trade Development, International Trade

4. Mode of Entry into Foreign Markets

SMEs may choose to enter a foreign market by using export agents, distributors,
manufacturing representatives, or a direct sales force. These choices are not mutually
exclusive. SMEs may use export agents if they have little experience with exporting generally or exporting to a particular country or region. They may switch to distributors as their level of experience grows. SMEs may use distributors for sale of products to a large number of end-users, but use manufacturing representatives or a direct sales force if they also sell products to OEMs or large customers. Altronic uses a direct sales force to sell ignition systems for gas-fueled engines to OEMs, but uses distributors to support the after-market for updating older machines and replacement machines. Depending on experience level, country, product, and type of customer to which the SME sells, any of these modes of entry may be used exclusively or in combination.

Four SMEs began exporting by hiring a U.S.-based export agency to sell their products internationally for a commission (Markel, Roberts Irrigation, Altronic, and Alturmamats). One drawback of this approach is that the companies may not be satisfied with the amount of feedback that they receive from their customers. One of the four SMEs terminated its arrangement with an export agency specifically for this reason. Instead, it hired a sales force to sell its product directly to local distributors. Most SMEs begin exporting by signing agreements with local distributors to sell their products in a foreign market. A distributor buys a firm’s product at a discount and then sells it directly to customers. Distributors usually sell the SME’s product exclusively in a country or region, but exclusivity may be withdrawn if their performance is inadequate.

The academic literature suggests that personal networks play a strong role in learning about distributors who may be interested in selling a firm’s products (Coveillo and Munro, 1995). Our interviews support this claim. Firms were introduced to distributors at trade shows, through trade publications, by distributors from other countries, or by customers. Our interviews suggest that most companies considered finding and developing reliable distributors to be challenging. Many were grateful for the assistance they received from federal and state agencies to identify “pre-qualified” distributors, e.g., the Gold Key Service program of the U.S. Department of Commerce. Nevertheless, the vetting process was usually very extensive. Distributors had to be in the same business as the SME for a minimal period of time, have appropriate contacts, a good customer base, and prove their credit worthiness. They also had to meet language, knowledge and skills requirements before agreements were signed. Agreements varied as to how much money SMEs required their distributors to spend on advertising or customer service, minimum requirements for sales volume, and provisions for non-disclosure. SMEs occasionally supplemented their distributors’ advertising budgets by paying for ads, catalogs, brochures, etc.

SMEs frequently use manufacturing representatives in the U.S. and Canada. They use them less frequently in foreign markets, but certain conditions make them an attractive option. For example, some companies used them before their distribution network was established or because the complexity of their products warranted it. Manufacturing representatives usually have a stronger relationship with the company that they represent than distributors do as they are selling directly on the company’s behalf. Manufacturing representatives are paid a commission that is based on sales. If they are used abroad, they
often are foreign nationals who possess considerable product and market knowledge. However, they may require some additional training at U.S. headquarters.

Many U.S. SMEs are starting from a position of strength because they already have been in business for several years in the domestic market before their first attempt to export. Eight companies had been in business for 10 or more years before their first serious attempt to export. However, four companies began to export within two years of their founding. Most companies began to export without committing much in assets and thus their exposure to risk was relatively low. They mainly lacked knowledge of local markets and marketing expertise, so one might expect that their initial collaboration would be with distributors or manufacturing representatives who speak the language, know the local customs and regulations in a targeted foreign market. MIOX sells equipment that disinfects drinking water to local municipalities, and Brown Medical’s sales of orthopedic devices are dependent on the host country’s health care and reimbursement system. Specialized knowledge of rules and regulations is required to bid successfully in these cases.

Most of the firms that we interviewed were satisfied with selling their products in foreign markets through local distributors or manufacturing representatives. A few companies have gone further. Diamond V has wholly owned companies in Mexico and China that sell its products in these countries and Al-jon allowed a foreign company to take its name as its own in order to sell the product locally. Rowmark has a joint venture with an Austrian company for a distribution and warehousing facility near Paris. No SMEs manufactured products abroad in their own facilities. However, MIOX licensed its product for distribution and manufacture by a Japanese company when it was unable to export from the U.S. It was unable to compete against local firms in Japan because of high tariffs, shipping costs, and commissions paid to intermediaries. Herr Industrial builds the most critical components of automobile and truck painting systems in Pennsylvania, but builds some of its biggest and bulkiest components in Mexico, where the system is used, because of high shipping costs. Other companies considered manufacturing abroad but decided not to do so after the U.S. dollar weakened in 2003, thereby making their products more competitive overseas (Roberts Irrigation), or the cost of buying manufacturing facilities prohibitive (Kingsbury).

Some distributors manufacture their own products and include the SME’s product as a complementary product line. The distributors are motivated to do this because their customers prefer to buy from a company with a fuller product line. The U.S. SME may reciprocate by agreeing to sell the distributor’s product in the United States for the same reason.

Reciprocal selling agreements seldom extend to similar manufacturing agreements. Many distributors don’t have the financial or manufacturing capability to manufacture products for their U.S. collaborator. Nevertheless, seven SMEs reported being approached by their distributor about manufacturing their products locally. Two SMEs accepted their offers, one from Japan and one from China. In contrast, two SMEs were asked by their
distributor to make their product for them in the U.S. and export it back to the foreign market for sale. Both of these requests were declined.

SMEs usually declined repeated overtures from their distributors or other foreign companies to manufacture their products in local markets. If they agreed to allow such manufacturing, they were reluctant to share their product drawings with their potential partner in order to protect their intellectual property. A long period of collaboration is necessary before enough trust is established for such arrangements to develop. For example, Rowmark formed a joint venture with an Austrian-based company only after eighteen months of courtship. Rowmark’s Scandinavian distributor, whom it trusted very much, introduced it to this Austrian company. Even still, a U.S. company may choose to manufacture only its least complex and commodity-like products in a joint venture where selling price is a major consideration and less intellectual property is at risk.

5. Barriers to Exporting

Aside from government protection of the local industries (and high taxes on imports) in some countries (e.g., Mercosur, India), the initial barriers that SMEs face include understanding the markets that they have chosen to enter and on whom to rely to sell their products. As many SMEs have chosen to sell a product at the high-end of the market at a premium price, there is special emphasis on developing their own direct sales force, or finding distributors or manufacturing representatives who know how to sell and service such products or who can be trained to do so. For example, Kingsbury wants its direct sales force and manufacturing reps to be “engineers who like to sell”. Al-jon initially used its own direct sales force to sell in foreign markets because it considered its landfill compactors and scrap metal crushers to be too complex and specialized for distributors to sell without assistance. Similar reasons were given by FCX and Sound Technology for relying primarily on a direct sales force to sell their products. SMEs also may use a direct sales force for large customers (OEMs) or for customers with market coverage that does not match well with that of any local distributor.

5.1 Training. Training requires a major investment of time and resources. Training covers knowledge of product and service, how to sell products from a value perspective, and foreign language basics for dealing with distributors in countries where market share is highest. Nine of the companies reported that their training expenses were higher in foreign markets than in domestic ones, mainly because of higher travel costs. Four companies reported their training expenses to be the same and only one reported their training costs to be lower. In some developing countries (e.g., Mexico), training of new employees may be virtually continuous because of high turnover. Employees will readily switch companies for small pay increases, especially when employee benefits or rewards for seniority are minimal or nonexistent.

SMEs frequently require their distributors to come to the U.S. for training seminars at least once a year. Currently, however, training is hampered by difficulty in obtaining visas for them. Sometimes training can be provided in conjunction with visits that distributors make to the U.S. for professional conferences or trade shows. Brown Medical
takes advantage of such opportunities, but also has trained its distributors through live Internet sessions and sometimes sends its employees to distributor locations to provide training. SMEs also use the telephone extensively for technical problems that the distributors cannot solve themselves locally. If necessary, the SME will send a U.S.-based technician to the foreign site to solve the problem.

5.2 Intellectual Property. Most interviewees expressed concern about protecting their intellectual property, but varied in what they were willing to do to protect it. Some did not file for patents in foreign countries because they did not believe that patents could be enforced, especially in India and China. FCX and West Paw Design did not file because it believed that product innovation could keep it ahead of imitators. Diamond V had a product (yeast culture) that could not be patented, but tried to keep its manufacturing process a trade secret. Rowmark requires its distributors and joint venture partners to sign non-disclosure agreements. Patent applications are expensive and maintenance or renewal fees are required in European countries (usually annually) and in the U.S. (every third or fourth year) in order to keep the patents valid. The Patent Cooperation Treaty (PCT) reduces the cost of obtaining international patent protection by simultaneously providing protection for an invention in over one hundred countries. Protection also can be sought for countries that are parties to regional agreements, e.g., ARIPO Harare Protocol, Eurasian Patent Convention, European Patent Convention.

Companies can limit their exposure to IP risk by never collaborating beyond marketing agreements. However, even in such cases, interviewees expressed considerable concern about trademark violations. A foreign distributor or manufacturer could put an SME’s label on an inferior product and try to sell it locally. Trademark violations are common, but generally are easier to enforce than are patent violations. Extension to foreign countries of currently registered trademarks or pending applications is also easier now that the U.S. is a member of the Madrid Protocol that extends trademark protection to 62 countries. U.S. applicants can file a Madrid Protocol application at the U.S. Patent and Trademark Office, which certifies the application and forwards it to the World Intellectual Property Office in Geneva. The WIPO examines the application, issues an International Registration that is valid for ten years, and sends requests for extensions of protection to the designated countries. Canada and Mexico are not currently signatories to the Madrid Protocol, so separate applications have to be made with these countries. The Community Trademark (CTM) also provides protection in EU countries.

5.3 Specialized Knowledge. Exporters need to learn about export documentation, packaging requirements, currency translation, different payment strategies, legal documents, tariff classifications, certificates of origin, and letters of credit. Consultants are always available in the United States for a fee, but some banks, lawyers or freight forwarders will offer advice for free in anticipation of creating future business. Large international consulting firms also may offer such services in the country in which the SME conducts business, or foreign nationals may offer these services, especially if the SME conducts business near major commercial centers.
Many interviewees reported very favorably about the assistance they received from state and federal agencies. For example, the Pennsylvania Office of International Business Development (OIBD) can connect exporters with experienced private international banks, export credit insurance agencies, credit agencies and foreign tax and legal experts who can assist with their export finance and risk mitigation needs. The International Trade Division (ITD) of the Ohio Department of Development promotes the export of Ohio products and services to strengthen Ohio's economy and advance its leadership position in the global marketplace. ITD provides companies with market research; performs agent and distributor searches; participates in trade shows; organizes trade missions; and assists with export finance. ITD also works with the Economic Development Division to promote Ohio and attract foreign investments into the state. Finally, the Export Trade Assistance Program (ETAP) of the Iowa Department of Economic Development provides financial assistance for Iowa companies participating in an international trade show or trade mission taking place outside the United States, and provides $5000 grants to allow managers from small companies to attend international trade shows and conferences.

The U.S. Commercial Service (within USDOC) organizes trade missions to help small companies identify potential distributors. It offers free market research that few SMEs could otherwise afford, including overviews on doing business in particular countries, profiles of industry sectors, and updates on new regulations, currency fluctuations, business trends, and government-financed projects. The U.S. Commercial Service also offers Gold Key Service, which offers one-on-one appointments with pre-screened potential agents, distributors, sales representatives, association and government contacts, licensing or joint venture partners, and other strategic business partners in a firm’s targeted export market.

Some interviewees were more ambivalent about government assistance. The paperwork associated with financial assistance from the World Bank and USAID was considered onerous. They viewed foreign governments as more helpful to their SMEs than the U.S. government is to its own, i.e., more as partners in a common venture. Many small U.S. banks do not understand letters of credit and thus will not issue them or help SMEs to use them in their transactions.

Legal norms and accounting practices vary between countries. Distributors in some countries are offended by having to sign detailed contracts and consider it a violation of trust to have to do so. Countries with legal systems based on English law, like India, have norms that differ from those in countries that are based on different legal systems, e.g., French.

6. Business Strategy

Many successful SMEs have discovered and exploited a market niche that only they can fill. Their niche is relatively safe from intrusion because considerable knowledge and skill are required to exploit it, and few competitors, especially in developing countries, have the capability or interest in exploiting them. Some SMEs found a ready-made niche when a U.S.-based OEM went overseas with products that require components with
specifications already developed for the U.S.-based SME (e.g., Markel, Kingsbury, Altronic). Similarly, some foreign-based OEMs that seek to enter the U.S. market may require component specifications that U.S.-based SMEs already meet, e.g., UL or NEMA, or for which they hold patents. Such components may be shipped from the U.S. to foreign manufacturers and re-enter the U.S. as parts of finished products.

Seeking to understand the total value of the seller’s product to the customer is good advice for any company. Any means by which an SME’s product can lower the customer’s costs relative to its competitors or enhance the customer’s product so that it earns a premium price increases the customer’s profits and therefore justifies a higher price for the SME’s product. Virtually every successful SME in our sample charged a higher price (or the highest price) for its product than did its competitors. These companies were able to do so because their product was judged to be worth a higher price by its customers, based on superior quality, technology or service. Their recognized brand name and reputation allowed them to command a premium price. Customers, in some cases, were willing to pay two or three times the price charged by local companies for products that required extensive on-site installation, maintenance, and service (e.g., Herr Industrial). SMEs were as likely to report higher profits in foreign markets than in U.S. markets as to report the same or lower margins, in spite of higher costs for employee training, travel, and shipping costs, and discounted prices to distributors. The current weakness of the U.S. dollar may be partly responsible for the increased rate of growth in sales in foreign markets that some SMEs have reported.

U.S.-based SMEs can beat their competition by exploiting specialized knowledge of products, processes or environmental regulations. For example, Markel exploits its knowledge of fluoropolymers to produce components with a low coefficient of friction (i.e., slipperiness) for use in cable control liners for automobile manual transmissions, and is now seeking new uses for it. Niche companies often can do better than larger vertically integrated companies because they can focus exclusively on a particular technology and its uses. Markel’s knowledge of manufacturing processes for making fluoropolymers helps its customers to make longer continuous runs of cable and lower their production costs. Knowledge of environmental and pollution laws regulating use of fluoropolymers also gives it an advantage over its competitors. Also, U.S.-based products that require highly specialized and skilled labor to produce, such as with fluoropolymers (Markel) or specialized bearings (Kingsbury), but still relatively low labor cost to material cost are less likely to be outsourced.

A local competitor was present in many of the markets that SMEs entered. However, they commonly faced other foreign competitors in these and other markets, at least for the same products. They also competed in similar ways against these competitors, using the same marketing tactics and emphasizing the same product and service attributes. Although the product mix may vary by country, only a small number of companies had to modify their products slightly to sell them in local markets. Generally, packaging and documentation has not been reported to be challenging.
Local companies in foreign markets can sell directly to customers with their own sales force, while U.S.-based SMEs may have to sell through distributors. It is not clear whether or not this is a disadvantage for the U.S.-based company. The distributor’s reputation in the region and its knowledge and skill are critical factors in determining this. A member of the SME’s direct sales force occasionally may accompany a distributor on a customer sales call. These contacts may serve as training for the distributor and customer feedback for the direct sales force member.

Many SMEs reported 3-5 percent of research and development expenses to sales, and considered new product development or continuous improvement of existing products to be essential to remaining competitive in domestic and foreign markets, as well as to avoid product imitation or patent infringement by competitors. R&D also was used to improve production processes and thereby lower products costs or continuously improve product quality. Large OEMs may require annual cost reductions from their suppliers as a contract provision. Some companies have to modify their products often in order to sell them in foreign countries (e.g., BioPlastics).

No firms indicated that R&D expenditures were higher in foreign markets compared to domestic markets. The average R&D/sales ratio for all manufacturing is 3.7%, but computer and electronic products (NAICS code 334) has a ratio of 10.3%. We find no evidence from these ratios that research and development expenditure is related to exporting success. However, anecdotal evidence suggests that the rate of new product introduction may be related to exporting success and this relationship should be investigated in future research.

Some SMEs competed against products that use substitute technologies or materials rather than against comparable products. For example, MIOX uses an oxygenation approach to water disinfection, and competes against chlorine-based approaches, and emphasizes its odor-free and tasteless attributes. Also, BioPlastics’ greatest form of overseas competition is from substitutes, i.e., other materials that are being used for the belting or strapping purposes that BioPlastics’ products address. Companies may find it easier to develop new products and markets that are based on core technologies than to improve existing products once they have established a beachhead in an initial foreign market. If the SME does not have the resources to leverage the technology into a new product or market, it can consider licensing the technology to a local foreign company that can do so (e.g., Markel).

SMEs can overcome the logistics issues that relate to selling to foreign companies that require quick responses for order fulfillment, e.g., just-in-time. Markel, for example, has established local warehouses that are close to its customers so that it can fill orders on demand. Markel and Rowmark have established electronic data interfaces (EDI) with some of their customers that allows the latter to order products, and, in Markel’s case, to generate their own invoices. Markel owns its products until the customer takes possession of them.
Most SMEs accepted only payment in U.S. dollars for their products. Large and powerful foreign distributors or customers may dictate that local currency be used. Some SMEs may prefer to sell in a country’s local currency because it seems a more natural way to conduct business in that country. There are currency risks in both directions, of course, but it’s possible to hedge with long-term contracts with suppliers and customers. Some SMEs extend credit for 30 to 90 days to distributors with whom they have established a trusting relationship. In most cases, however, SMEs require their distributors or customers to pay for products with wire transfers or letters of credit in U.S. dollars before their products are shipped from the U.S. This is especially so if the product is large, expensive, and customized.

7. Organization

The pattern of investment in human and physical assets in foreign markets varies by the nature of the product. Products that are sophisticated and complex usually require direct sales involvement of senior executives of the SME and/or extensive training of distributors and technicians. These products also require significant investment in local service centers (e.g., FCX has thirty centers), and training of customers on how to use the product properly. Less sophisticated and inexpensive products that customers purchase routinely may require SMEs to invest early in distribution centers, and, for large customers, to invest in EDI (e.g., Rowmark).

The typical sequence for SME investment in a foreign market is marketing, distribution or service centers, and then manufacturing. For example, one SME is planning to expand in the near future in precisely this manner. A few companies have supplemented selling products through distributors and manufacturing representatives with wholly owned subsidiaries that sell products in the local market or region (e.g., Diamond V). Other companies have moved beyond this step by setting up distribution and service centers and, in two cases, by licensing their products for manufacture by local companies.

The number of personnel devoted to a specific function and their degree of specialization is related to the stage of internationalization that the firm has reached. Some SMEs have specialized personnel to deal with foreign marketing and sales. They spend a considerable amount of time on the telephone talking with distributors. In most SMEs, however, distribution, service and manufacturing personnel spend a percent of their time on foreign and domestic sales that is proportional to the breakdown of foreign to domestic sales. Some companies deliberately cross-train their personnel to serve both domestic and foreign markets. Logistics, e.g., freight, crates, letters of credit, and accounting were frequently specialized functions.

Sales to multinationals may complicate use of distributorships, as the territories of the latter may not coincide with those of the multinationals. In such cases, the SMEs sell directly to the multinationals. Also, if the multinational sells in the U.S., then that relationship may be the basis for selling directly to them in overseas markets also.
8. Advice for Successful Exporting

Although the idea of becoming an exporter may intimidate many SME managers, the barriers to becoming one can be overcome simply by making the commitment to export, by entering one market at a time with limited risk, learning by doing, and taking advantage of the resources and advice that federal, state, and local agencies are willing to provide at minimal or no charge.

Patience in entering new markets is essential. There is no typical time frame to breakeven; but it still takes time for distributors and end-users in many countries to develop trust in a company. They want to know that the company and its products will be there, and will not fully support the product unless the company and its people are trusted. Multiple sales calls may be necessary before some customers really start to talk seriously about buying. Companies that are impatient may not succeed in foreign markets that have significant long-term potential.

The interviewees varied in their willingness to wait for export success. Four of them indicated that they would be willing to wait 3-5 years for export success. Eight of the interviewees indicated that they would wait only 1-2 years for export success. The remaining nine interviewees said that they were always profitable, considered the question not applicable, or left the question blank. This divergence in willingness to wait could be based on many factors, including the nature of these companies’ products and markets. Although it is generally assumed that private firms are more patient than public ones in waiting for success, the three publicly held firms in the sample offer no confirmation of this. Pasta Montana was willing to wait only two years for success. Sound Technology was willing to be “patient if the situation were understood”. The third firm, X-Rite, considered the question not applicable because as a global company they needed to have a presence in all of their markets.

SMEs must acknowledge the necessity of a niche strategy in most of the foreign markets that they enter. Competition should be based on offering high quality, high performance products with excellent service. The focus should be less on the initial selling price of products, and more on lowering the customer’s overall operating expenses due to superior products and customer service. The challenge for SMEs is clear, however. They must deliver superior customer service from a distance or develop the capability of distributors to deliver such service locally.

Two SMEs (Markel and Kingsbury) already indicated that having a product that is “spec’d” into a U.S. or foreign-based OEM’s product is an important factor in being able to continue to export from the U.S. Also, products that require highly specialized and skilled labor to produce, but relatively low labor cost to material cost (e.g., Markel’s fluoropolymers or Kingsbury’s specialized bearings) are less likely to be outsourced. Finally, specialized knowledge of manufacturing processes or environmental pollution laws, required component certification or patents may encourage foreign-based OEMS to source these components from U.S.-based SMEs, even if this requires them to ship the...
components to a foreign location for assembly and then ship them back to the U.S. in finished products.

There is need to gauge the depth of interest and motivation of distributors early so time is not wasted on trying to reach agreement with the wrong persons or discovering after a year or more of unsatisfactory performance that a distributor relationship will not work. How significant is the proposed new business to the distributor’s total sales or current product line?

Travel is essential for exporting. Successful SME executives, including presidents, vice presidents, and many technicians, spend more than fifty percent of their time traveling. Travel includes visiting every distributor at least once per year, attending trade shows with distributors, making joint sales calls, and mixing business and social activities. There is no substitute for face-to-face contacts to build trust with most collaborators in foreign markets. Mark Kujawa, Vice President of International Business Development for Diamond V, says “You can’t do foreign business by sitting at the desk in the U.S and communicating long-distance to your customers.”

Communication with distributors and manufacturing representatives may be frequent at the start of a relationship, but decrease as comfort with the product and the relationship grows. Telephone, faxes, and email may facilitate communication. However, large time differences between countries may complicate using them. Teleconferences that require representation of personnel from the U.S., Europe, and Asia are very difficult to arrange. Some U.S. executives report making phone calls or sending faxes or emails in the middle of the night in order to minimize communication delays (FCX and Excel Holdings). Also, managers in some countries rarely use email even though the infrastructure exists in their country to use it. Faxes appear to be preferred over email in Japan and Korea.

Attention to understanding local customs and culture is critical. U.S. managers are unaccustomed to the lack of punctuality in meeting appointments in some countries. Foreign managers often make decisions less quickly than do U.S. managers. Common business terms may have different meanings in different cultures. Accounting practices also may differ. Deal-making is usually done by mixing business and social activities, e.g., over meals. Cultural awareness can be accomplished in formal training sessions or by hosting cultural events. For example, X-Rite has hosted a “China Day,” in which a Chinese buffet is served along with a discussion of what’s happening in China with X-Rite.

9. Ideas for Future Research

One of the most noteworthy findings of the study is that 81 percent of the 21 firms that we studied entered a large number of markets. This is an impressive finding, considering that the majority of SMEs enter only a single market and at most three or four markets. Firms that entered twenty or thirty markets were not uncommon. There were cases in which firms more than doubled their total revenue within five years after they started to export. The high export growth rate that brought these firms recognition and awards from
federal and state agencies was likely produced by frequent entry into new markets rather than by exceptional growth in existing markets.

As these SMEs entered so many more markets than SMEs typically enter, what is it that leads them to feel comfortable and competent enough to enter market after market? Because the 21 firms represented so many different industrial classifications, it seems unlikely that most of them were expanding to exploit a core technological competence (Manolova, 2004). Firms in many of these industrial classifications made limited use of state-of-the-art technology in their products. Even if they were high technology firms, why would they choose to exploit a core competence across foreign markets rather than different markets within the U.S.? Whatever core competence these firms may possess, it seems likely to be market-oriented.

Successful entry into the first market undoubtedly encourages entry into the next one, and so forth. However, what type of knowledge and skills are SMEs transferring across markets so that each new entry becomes progressively easier? It might be a general comfort level for dealing with foreigners with different languages and customs. It might also be mastering some of the fundamentals of payment arrangements, packaging, tariffs, etc. Whatever is most easily transferable across markets may influence the choice and sequence of markets that are entered. Our findings are consistent with academic literature that suggests that firms initially enter markets that are “psychically” close, and then venture outward to more distant markets. What knowledge and skills help make the transition from close to distant markets the easiest and what market movements are most probable?

A second issue concerns patterns of direct foreign investment by SMEs. If SMEs do not eventually invest in distribution, service and manufacturing facilities in specific foreign markets, can they remain competitive against local firms or other foreign firms that make such investments in these markets? If SMEs do not make these investments, they will become increasingly reliant on distributors that may or may not have the resources or motivation to invest in such facilities. Can SMEs maintain levels of responsiveness to customers’ needs that meet or exceed those of foreign firms that invest in these markets, especially if the rate of new product introduction were to increase and product lives shrink? Many factors may influence the outcome. For example, producing products for both U.S. and foreign markets from a single U.S. facility may lead to economies of scale that offset shipping costs, tariffs, etc. Also currency fluctuations may work to the advantage or disadvantage of U.S. SMEs if they produce and ship products from the U.S. rather than produce and sell them in a local foreign market. Also, SMEs that ship products from the U.S. are helping the U.S. balance of trade, while firms that invest in foreign facilities are not.

A third issue concerns what types of firms compete with SMEs in various foreign markets? Are SMEs competing head-to-head with similar types of U.S. or foreign SMEs or are they competing with larger firms or divisions of larger firms? How does this affect SME competitive strategy? Will a large firm discover that SMEs are very profitable in a particular market and decide to enter it? Markel suggests that small firms can remain
competitive against larger firms because they can focus on a particular product better than the large firm can. Not all SMEs can protect themselves in this manner, however. In markets in which selling price is important and intellectual property is difficult to protect, large firms may have a long-term advantage over SMEs. In any event, not all markets are the same, and SMEs may have to adjust their competitive strategy to best fit the structure and dynamics of the various markets they enter.

Finally, we believe that future research on SME exporters would benefit by the Census Bureau or another federal agency collecting data on winners of state-based awards for export excellence so that aggregate data could be accessed from a single source. There have been 2415 E Award and E Star Award winners from 1962 to the present. We selected companies only from 1999 onwards because we thought that it was important to capture the global competitive environment that SMEs currently face. This selection generated a useful, but small sample of companies (59). We had to supplement this sample by searching Internet sites of all fifty states to find additional stories about awards for export excellence.

We also believe that the Census Bureau would benefit by conducting surveys that included many of the 36 questions that we developed from reading the academic literature and brainstorming among ourselves. For example, questions on number and types of joint ventures would help address some of the issues raised above. Also, questions about major competitors that SMEs face in various foreign markets would shed light on what competitive strategy SMEs should pursue in these markets. ITA published the most comprehensive study on SME attributes and behavior that we have seen. However, many of the most interesting results would have been more valuable if the data had been disaggregated to the manufacturing sector, or even better, to specific NAICS codes. Data on percent of exports by states also would have been more valuable if they had been available at the manufacturing sector level or lower.

10. References


Export America, Success Stories, "Building Products Supplier Shares Exporting Secrets", U.S. Commercial Service, March 2002


APPENDIX A

INTERVIEW QUESTIONS AND RESPONSES

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<td><strong>1</strong> When did you start to export? What prompted you to do so?</td>
<td>Company has been exporting since the 1960’s (company was founded in 1963). Motivation to do so was market extension and to sell more product. We’ve exported to pretty nearly every country in the world. Our heaviest concentration right now is Europe, primarily England and France. We have had periods when Germany was really hot for us, where South America was hot. Pretty reasonable business in Australia. Our goal is to do 20-25% of our business annually in exporting.</td>
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<tr>
<td><strong>2</strong> What challenges did you face in becoming an exporter?</td>
<td>Company has been exporting for a long time. One of the things that companies our size (about 100 employees) – biggest challenge is to realize that you can do business somewhere other than where you are comfortable. Once you make that determination, there are a number of things you can employ to get the word out there. There are many organizations that have dealer rep organizations that would take your product and market it. That would be a difficult approach for us, much as it is to apply manufacturing theories to a company that makes 10 to 13 of something a month rather than 1,000 a day. We are a bit removed from some of the approaches. Because of that, we have to have a more specialized approach in the presentation of our product that doesn’t allow us usually to go through a blanket-type rep organization that is for all intents and purposes order-takers. So you have to have someone else over there to do the representation. In the early days, it was us. After an inquiry, once it got to a certain point, we would get on a plane and go see them. After you do two or three, someone crops up in that country who thinks they can do this for you and you may make the determination that that is appropriate and go forward. Since those early days of the company, there have been a number of programs that companies can take advantage of. There are state programs that will pay you up to $5,000 annually to go overseas to attend a trade show or product promotion. The federal government has things you can attach to as well. Our state’s program allowed us to go to a couple of conventions that we normally would not have gone to and we picked up business. Very effective. Today our selling is a combination of factory-direct and we have a representative group in Europe that has our name in their title, but they are not owned by us. They do all the service and sales work, and they charge a number plus.</td>
</tr>
<tr>
<td><strong>3</strong> How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>Good. We are a niche manufacturer by design and want to remain that. There are serious competitive issues at work today. We deal primarily in scrap metal processing and solid waste. The scrap metal is probably at the best period it has ever been, driven by China’s ferocious appetite for steel right now. It has come down some, but it hasn’t fallen off of a cliff. We have all the business that we can handle in scrap products domestically. We are not working our foreign markets too hard. On the solid waste side, business is doing well. It is a unique market. Our first foray into exporting that product line was in Europe. We have now achieved #1 market position for that product line and we want to make sure we stay that way. We will not move onto the next market for another six months or so. Our sales have jumped from $24 million last year to $37 million this year. Export sales will be up this year as well.</td>
</tr>
<tr>
<td><strong>4</strong> How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>See answer above.</td>
</tr>
<tr>
<td><strong>5</strong> What do you see as your percent of foreign and domestic sales in five years?</td>
<td>Expect ratio to stay the same, about 25%. The reality of this is that in a small business situation, your profitability for domestic sales is much better than foreign, and unless your domestic sales drop off a cliff, you won’t have any room for more foreign sales.</td>
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**Global Strategy in Small Manufacturing Businesses**

**Company Name:** Al-jon, Inc.  
14599 2nd Avenue, Ottumwa, IA 52501  
**Interviewee:** Kendig Kneen, President

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<tr>
<td>6. How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Small manufacturers must continually reinvest in your company and product or you will die. We have only one product that we were making three years ago. Probably 60 or 70% of what we sell today is new.</td>
</tr>
<tr>
<td>7. What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td>We are investing more in technology than in people right now. Automation, computer systems for engineering, etc. Having said that, we can’t totally ignore the other side. We are big believers in training. We are spending somewhere between 25-50% of our annual profits in research and development and increasing technology.</td>
</tr>
<tr>
<td>8. Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Any time you have a machine, you have to keep it running. Service is critical, but the question remains whether it is by us or others overseas. We are really talking about a company that has the capability to put someone not only in the sales situation but in the service situation as well. Different people. Service is highly technical.</td>
</tr>
<tr>
<td>9. What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>We don’t negative sell; we don’t compete on price. We compete on performance.</td>
</tr>
<tr>
<td>10. In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>There is a little company down the road from us that we compete with, called Caterpillar. We compete pretty much against the same companies both domestically and internationally. On the solid waste end, there is a German company called Bomag, and another company called Rex or CMI. On the scrap side, there are two or three domestic manufacturers roughly our size. In the overseas market, there are six to ten different manufacturers, the main one in Italy. Same players in virtually all countries in each of the markets. Our industry is unique. Scrap is a commodity that is purchased, not sold. When demand is there and it is purchased, life is good. It has an extremely volatile sales curve. That’s why we are diversifying our product line, and in exports in addition to domestics.</td>
</tr>
<tr>
<td>11. Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>There are different requirements in Europe than in the U.S., e.g., noise levels, a few light and control issues. For example, a trailer to country X might require different tail lights. We do not sell on price. We sell on the performance of the machine and that performance speaks for itself in just about any language.</td>
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<tr>
<td><strong>12</strong> How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>We don’t really try. The economic conditions mean little. We sell in U.S. dollars. We require an irrevocable letter of credit payable upon presentation of shipping documents at a U.S. port. We were selling a lot to a country in South America, where there is runaway inflation. Their local economy was not an issue for us because of our requirements for sale. As far as technological changes, in our industry most of those are going to have some environmental connotation – diesel, noise levels – and for the most part our demands domestically will exceed those demands for overseas. England is an exception. They have a lower noise threshold than the U.S. does, so we had to make some minor modifications to meet this. We have some engines that we cannot sell there as a result.</td>
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<tr>
<td><strong>13</strong> What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>We are a long way from Silicon Valley. Our technology is not such that it has to be protected. We patent wherever we can. We have been very leery of selling to China and other Third World countries because we know there are issues. We have turned down repeated requests to come to China to form a joint venture with some company over there to build products for their consumption. We have seen too many times where a product is built two or three times, and say good-bye to you and build them on their own. There is absolutely no recourse for you. The WTO has not shown any indication that they are working on this IP issue, particularly in China. China manipulates their currency, they are not properly charging VAT, there are a whole host of issues that WTO ought to be addressing, but they have no power. China has such a voracious appetite…nobody is trying to shut them down.</td>
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<td><strong>14</strong> Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>Criteria for selection are on a case-by-case basis. You go through an evolutionary process with any company, walk before you run, auditioning in a way. So you become very familiar with them.</td>
</tr>
<tr>
<td><strong>15</strong> What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>The volume is not such that we dedicate any one employee to it. It takes about 20% of the time of five employees.</td>
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<td><strong>16</strong> Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>Percent has increased over the last five years, probably one whole person’s worth. This is double what it was five years ago. Potential for further growth is there but we are not budgeting for it currently.</td>
</tr>
<tr>
<td><strong>17</strong> What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Logistics. Transfer of money, product and information back and forth. We do a fair amount of business in Quebec. By law, communications must be in French. Technical manuals have to be converted, etc. Separate manuals in French. Formalized training is all done here in Iowa.</td>
</tr>
<tr>
<td><strong>18</strong> How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>Out of the five people, three travel to see customers and trade shows. They go to support whoever is doing the business there, dealers or reps.</td>
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<tr>
<td>19 How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>Frequent communication via telephone and e-mail, usually in English.</td>
</tr>
<tr>
<td>20 What advice would you give to a firm entering a foreign market?</td>
<td>Go there.&lt;br&gt;You have to then find out how your product relates to what they are doing, what modifications you may have to make from a physical or information standpoint. Once you have determined that you have a product that is saleable, you have to figure out how you can service the market properly. There are a number of mechanisms out there that you can employ to do that. There’s a number of people willing to assist you in that. &lt;br&gt;Consultants.&lt;br&gt;Go first to the state that you live in; every state has an office that is dealing with exports and see what sort of assistance programs they have in place. Some are in the form of financial assistance to go work and develop these markets, or government employees who will assist you through the paperwork nightmare.&lt;br&gt;If you can determine that there is a need for your product somewhere, there are a whole host of people to help you. If it is in the state’s best interest to have you export, then it is in the country’s best interest to have you export.&lt;br&gt;We did it on our own. We hired a young man, put him through an MBA program, and he found out about a lot of these things – general intelligence gathering on what is available.&lt;br&gt;If you have a real love of a business and you want to go into it, don’t be scared by it. Pursue it. You’ll find a way to get through the quagmire. If you have a product that has a benefit to somebody overseas, go after it. That is the biggest hurdle people face – we don’t like to leave our comfort zones.</td>
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<td>21 What is the biggest problem in entering international markets?</td>
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<tr>
<td>22 How long were you in business prior to your first serious attempt to export?</td>
<td>Six years.</td>
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<tr>
<td>23 What was the first country that you entered? Second? Third?</td>
<td>Germany first, Australia second, France third.</td>
</tr>
<tr>
<td>24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>More times than not, we are contacted by people interested in representing us. Many times that is the result of one of their customers expressing interest in either our product or a generic version. Some were found through industry contacts and a smaller number result from overseas trade shows.</td>
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<tr>
<td>25 How many distributors sell your product along with their own product line?</td>
<td>None, other than servicing dealers. But many “dealers” represent multiple lines.</td>
</tr>
<tr>
<td>26 Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>Only one, and even then it is a small amount for trade shows.</td>
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<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>Yes, and so do we.</td>
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<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>No.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>We do not own any sales, manufacturing, distribution or service facilities in foreign markets. The most they do is stock some parts of inventory.</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>We have increased costs doing business overseas. The second part of this question is not clear, but on the surface, we would say no.</td>
</tr>
<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>We will look at the cost of doing business separately in early stages but we will not wait for profitability. Either it works or it is not sold.</td>
</tr>
<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>We sell on performance. Most competitors however are all in the same ballpark, but there is always someone in every industry that builds a cheap version.</td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>U.S. dollars and an irrevocable letter of credit that is payable on presentation of shipping documents.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Letters of credit on exports or wire transfers.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>Small manufacturers typically reinvest profits in R&amp;D. If you do not constantly develop new products, the business will begin a slow but eventual demise. R&amp;D for export is a little higher but not substantially so. It is usually a modification to meet local regulations of transport issues.</td>
</tr>
<tr>
<td>36 Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Usually higher, if for no other reason than translation of manuals and literature.</td>
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Global Strategy in Small Manufacturing Businesses

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<thead>
<tr>
<th>Company Name:</th>
<th>Altronic, Inc.</th>
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<td>712 Trumbull Avenue, Girard, OH 44420</td>
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| Interviewee: | Bruce R. Beeghly, President |

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<tbody>
<tr>
<td>1 When did you start to export? What prompted you to do so?</td>
<td>The company was pulled along by their customers in going overseas and had to export to survive.</td>
</tr>
<tr>
<td>2 What challenges did you face in becoming an exporter?</td>
<td>Challenge was building a distribution network to support the after-market of updating older equipment.</td>
</tr>
<tr>
<td>3 How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>The natural gas market drives the business which is doing well. The company has 30% in direct export business and another 15% in indirect through domestic OEM customers.</td>
</tr>
<tr>
<td>4 How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>The price of natural gas drives the business.</td>
</tr>
<tr>
<td>5 What do you see as your percent of foreign and domestic sales in five years?</td>
<td>In five years, export business is expected to be 45-50%. The company started exporting through a domestic company specializing in export business, and continued in this manner for many years. Several years ago, the export business was brought in-house.</td>
</tr>
<tr>
<td>6 How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td></td>
</tr>
<tr>
<td>7 What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td>Presently, there is one international sales person, one in-house sales person and a three-person office in The Netherlands. Others are involved for a portion of their time.</td>
</tr>
<tr>
<td>8 Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Product installation/operation advice is provided to the aftermarket - for example, troubleshooting help to customers when the customer has a problem. This is usually not a billed service so reliability is critical as is product support. The products are used on machines that run 24/7/52.</td>
</tr>
<tr>
<td>9 What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>The right people and the design and quality of the product are the main competitive advantages.</td>
</tr>
<tr>
<td>10 In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>When started in the mid-1960’s, 100% of the competition was U.S. companies. More recently there has been competition from England and Germany. The company continues to face intense price pressure from the large OEM customers.</td>
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<tr>
<td>11 Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>No.</td>
</tr>
<tr>
<td>12 How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>Trade publications, employees’ sales calls, and international distributors.</td>
</tr>
<tr>
<td>13 What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>The company has 20-25 U.S. patents and a few important patents carried over to Europe. Trade secrets / know-how are probably more important.</td>
</tr>
<tr>
<td>14 Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>There is a partner/customer in Canada, which provides a strong position in one major product area due to the partner’s leading market position.</td>
</tr>
<tr>
<td>15 What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>Approximately the same percentage of employee time as the overall sales percentage (approx. 45%).</td>
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<tr>
<td>16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>The company has 9-10 employees involved in international sales and support.</td>
</tr>
<tr>
<td>17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>The company had to learn the ways of doing business in foreign markets - learned on the job with help from the distributors.</td>
</tr>
<tr>
<td>18 How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>There are visits to international distributors 2-3 times per year with the majority receiving two visits per year. For many years, the president visited Europe once a year, but this is now handled by dedicated sales personnel on a more frequent basis. Primary purpose of these visits is sales and customer relations.</td>
</tr>
<tr>
<td>19 How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>By fax and email with attached documents. The cell phone is an important communication tool. Several company employees have Spanish capability; foreign language skills can help break down initial barriers. All distributors have some English-speaking employees.</td>
</tr>
<tr>
<td>20 What advice would you give to a firm entering a foreign market?</td>
<td>Find a good local partner. Do the same as in the USA; that is good business practice.</td>
</tr>
<tr>
<td>21 What is the biggest problem in entering international markets?</td>
<td>Finding good representation. It is much easier if the company/product has an established, recognized name in its market.</td>
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### Global Strategy in Small Manufacturing Businesses

**Company Name:** Altronic, Inc.  
712 Trumbull Avenue, Girard, OH 44420  
**Interviewee:** Bruce R. Beeghly, President

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<tr>
<td>22 How long were you in business prior to your first serious attempt to export?</td>
<td>Three to five years.</td>
</tr>
<tr>
<td>23 What was the first country that you entered? Second? Third?</td>
<td>Canada first, Germany second, England third.</td>
</tr>
<tr>
<td>24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>Usually word of mouth from customers and other distributors, or from trade publications.</td>
</tr>
<tr>
<td>25 How many distributors sell your product along with their own product line?</td>
<td>Distributors typically sell other complementary lines from other manufacturers.</td>
</tr>
<tr>
<td>26 Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>Yes, we advertise independently of our distributors.</td>
</tr>
<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>Yes. Our leading market position allows us to require that our distributors not represent competing lines. Our distribution philosophy favors exclusive territories so that a distributor doing the groundwork will not lose that sale to another outlet for our product.</td>
</tr>
<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>In general, no. Some peripheral accessory items are made by distributors to meet special customer requirements.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>The company has a wholly-owned sales office located in the Netherlands.</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Profitability is about the same; no change in the last three years.</td>
</tr>
<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>N/A</td>
</tr>
<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>Prices are the same to slightly higher.</td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>U.S. dollars.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Letters of credit. Many established customers are sold on open account, net 30 days.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>We do not measure this.</td>
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Company Name: Altronic, Inc.
712 Trumbull Avenue, Girard, OH 44420
Interviewee: Bruce R. Beeghly, President

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<td>36 Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Higher, due to travel expenses.</td>
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</tr>
<tr>
<td>1 When did you start to export? What prompted you to do so?</td>
<td>Started to export in 2000. We advertised in trade journals that have international distribution. Inquiries came in and we followed up. It was a good opportunity for us to balance out our sales cycle. We have a very cyclical business domestically (due to weather – winter vs. spring).</td>
</tr>
<tr>
<td>2 What challenges did you face in becoming an exporter?</td>
<td>Probably same challenges as everyone else. We realized we didn’t know enough to do it ourselves and sought help. We have had a lot of help from a lot of people along the way. We have sub-contracted with a company called Venus International whose expertise is in exporting, which is a local company. Also used the resources of the NW Planning Commission, anybody who offers seminars or workshops on exporting we send people to. The Gannon Small Business Development Center has been a good tool…they do a lot of international and export seminars that we go to in Erie. We never had to use a letter of credit.</td>
</tr>
<tr>
<td>3 How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>Business is growing. Total sales and numbers of countries are both growing. It is hard to put a number (i.e., percentage) on it.</td>
</tr>
<tr>
<td>4 How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>Right now, our export exceeds our domestic business. Probably 70-75% business is in export now.</td>
</tr>
<tr>
<td>5 What do you see as your percent of foreign and domestic sales in five years?</td>
<td>We would like to see it even out. Domestic sales have increased this year, but so have foreign.</td>
</tr>
<tr>
<td>6 How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>0%. We don’t have any new products on the drawing board.</td>
</tr>
<tr>
<td>7 What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td>We know we’re going to have to add another press this year…within five years we might have to add two more presses. With each press there comes an increase of 6 people, then we need more sales people, so makes that 8.</td>
</tr>
<tr>
<td>8 Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Our product doesn’t need any service. They don’t break, there are no moving parts. We’ve been selling for 11 years, and our first mats are still in use. Good for the end user.</td>
</tr>
<tr>
<td>Interview Questions</td>
<td>Response</td>
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</tr>
<tr>
<td>9. What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>They work for what we advertise them to do. No moving parts. They are expensive to buy initially, but over a period of five years, you are saving money. Same whether exported or in US.</td>
</tr>
<tr>
<td>10. In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>It would vary by country with the knowledge that we have of our competitors. For example, we export to Japan, but we don’t know of any competitors there. In Europe, we have one European competitor and one US competitor who is exporting to Europe. In Australia and Chile, no competitors that we know of, besides plywood. Plywood is our biggest competitor.</td>
</tr>
<tr>
<td>11. Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>Hard question to answer. Where there is competition, we are so new we don’t know how to go about competing against them. We don’t know how bad they are hurting us. We’ve also set up dealer/distributor networks. We are not dealing with the end user. So it becomes their job to compete with the other people producing mats.</td>
</tr>
<tr>
<td>12. How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>That’s where Venus Int’l comes into play. They are located in Seneca, PA. They are two people who used to work for Quaker State in their export division so they are quite knowledgeable about many areas of the world.</td>
</tr>
<tr>
<td>13. What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>We are working on patents. We do have a patent in the US. And trademarked names.</td>
</tr>
<tr>
<td>14. Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>The master distributor that we have in the UK also does a lot of advertising for us. So does Japan. The company in Japan selected us. We use the resources of the Governor’s Export Program to investigate the companies that come to us and indicate that they are interested in being a dealer/distributor. Pennsylvania reps are distributed throughout the world. There are 24 of them stationed around the world, working for the Commonwealth on behalf of PA companies. I am currently working with the one in Chile as we speak. They are very, very helpful. Countries working in: Canada, Japan (has worldwide distribution – not sure where), UK (who distributes to most of western Europe), Australia, Chile, Guatemala, Netherlands and Tibet (done through Ohio State University). Do not work in China yet. Distributorships are a great contribution to their success.</td>
</tr>
<tr>
<td>15. What percent of your employees are currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>We don’t make anything specifically for anyone…well, we do make the mats a little different for Japan. If you include production, 75% of employees are involved. If you don’t include production, say 15%.</td>
</tr>
<tr>
<td>16. Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>Yes – we had to install one new press to increase production capacity to meet the increased demand.</td>
</tr>
</tbody>
</table>
# Global Strategy in Small Manufacturing Businesses

| Company Name: | Alturnamats, Inc.  
P.O. Box 344, Titusville, PA 16354 |
|----------------|------------------------------------------|
| Interviewee:   | Janet Aaron, President  
Michael Gierlach, Executive Assistant |

<table>
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<tr>
<th>Interview Questions</th>
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<tr>
<td><strong>17</strong> What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>There are only three of us in the office that deal with handling the sales and it has been an “on-the-job” training experience for us.. (Total of 24 employees in Titusville.)</td>
</tr>
<tr>
<td><strong>18</strong> How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>Two of us just got back from Germany, first trip, to a trade show.</td>
</tr>
<tr>
<td><strong>19</strong> How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>Email is primary, but our distributor in the UK insists on dealing only with phone and fax. They are very strict about that.</td>
</tr>
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</table>
| **20** What advice would you give to a firm entering a foreign market? | Go to the people who know how to do it. Don’t reinvent the wheel. You might think you know how to do it, but you don’t. Make sure you know what your costs incurred are to ship overseas. That has been something that we have struggled with. We had to have special metal pallets made because some countries don’t allow wood. We needed heavier duty banding because it was going further. We sell by the container-load, so one of our biggest issues was how many mats of different sizes you can fit in a shipping container to use up the space without being overweight.  
A lot of companies think it’s like shipping or doing business here in the US; it takes a lot of more time. Companies aren’t as quick overseas to make decisions as they are in the US. At first we struggled with the NAFTA certificates for exporting into Canada…have to have all of NAFTA’s codes and it’s hard to get somebody to certify that they are giving you the right code number.  
One thing companies new to exporting need to do is to work with the trucking companies. A lot of them are set up to expedite the transfer of information across the border with customs agents. Container sizes for a sea-going ship are not the same sizes as trucks.  
Going with Venus Int’l was a big step. We didn’t have the time to learn it. Recognizing that different countries have different requirements, different culture issues….  
We spend quite a lot on advertising and trade shows: construction, tree, turf, utility, manufactured housing, golf courses, drilling…lots. A lot of shows have international distribution, that’s how the Japanese found us. The Japanese tested our product against the two other US companies and selected Alturnamats. |
| **21** What is the biggest problem in entering international markets? | Our biggest problem, both domestic and international, has been product recognition and awareness. People just don’t realize how much they need our product...how much money that it can save them in the long run. |
| **22** How long were you in business prior to your first serious attempt to export? | Seven (7) years |
| **23** What was the first country that you entered? Second? Third? | Canada first, Japan second, United Kingdom third. |
## Global Strategy in Small Manufacturing Businesses

**Company Name:** Alturnamats, Inc.  
**P.O. Box 344, Titusville, PA 16354**

**Interviewee:** Janet Aaron, President  
Michael Gierlach, Executive Assistant

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<tbody>
<tr>
<td>24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>Government programs and advertising in trade journals with international distribution</td>
</tr>
<tr>
<td>25 How many distributors sell your product along with their own product line?</td>
<td>Nine international and 153 domestic.</td>
</tr>
<tr>
<td>26 Do you supplement your distributors' advertising budgets with your own funds?</td>
<td>Yes.</td>
</tr>
<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>Sometimes – depending upon geographic location and industrial market.</td>
</tr>
<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>No.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No.</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Foreign markets are more profitable – no change in last three years.</td>
</tr>
<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>No experience with this – always profitable.</td>
</tr>
<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>Our products are comparably priced.</td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>U.S. dollars only.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Pre-pay wire transfer of funds.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>Information not available.</td>
</tr>
<tr>
<td>36 Are your training expenses higher, lower or the same for foreign markets?</td>
<td>No experience with training in foreign markets.</td>
</tr>
<tr>
<td>Company Name:</td>
<td>Artcrete, Inc. 5812 Highway 494, Natchitoches, LA 71457</td>
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<td>Interviewee:</td>
<td>Frank Piccolo, President</td>
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<tr>
<td><strong>1</strong> When did you start to export? What prompted you to do so?</td>
<td>Started to export 1986. The uniqueness of their product is the most important asset. Started by signing-up for a trade show, “The World of Concrete”. Part of being in the show was to submit a description of the product. Because their product was unique it was selected to be part of the pre-show publicity. They started to receive phone calls inquiring about the product. It was also featured in the post-show material and more phone calls were received. A connection was made with an Australian who gave him a big order that evolved into the Australian becoming his distributor in Australia in 1990.. The funds from this deal supported the company in the early days</td>
</tr>
<tr>
<td><strong>2</strong> What challenges did you face in becoming an exporter?</td>
<td>To do business internationally we learned about letters of credit. Early on the firm was in debt and there were no funds for travel. Press releases (15 to 20 per month targeted to concrete-related publishers) were used to generate interest in the product. Business was conducted over the phone. The product was not patented as we did not have the funds. We tried to keep the creation of the product a secret. We believe that a small firm cannot defend foreign patents.. We became involved with the Gold Key program of the U.S. Department of Commerce. Their programs were helpful as they fund part of the costs of visits. They do background checks on potential customers. They will send a picture plus 50 words to all of the consulates who distribute them to potential customers. They will qualify the potential customers. We were very happy with the gold key program.</td>
</tr>
<tr>
<td><strong>3</strong> How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>Our international sales dropped last year as their key contact person was not handling international sales. Personal contact is very important in international sales. This past year we lost sales due to the loss of a key person who supported international sales. He provided fast and detailed answers to customer’s emails.</td>
</tr>
<tr>
<td><strong>4</strong> How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>Sales are about 3.7 million with international sales being about 25% of the total, until recently when sales fell to 17-20%.</td>
</tr>
<tr>
<td><strong>5</strong> What do you see as your percent of foreign and domestic sales in five years?</td>
<td>By 2009 sales are forecast to be 10 to 15 million, with international sales being 25% of the total.</td>
</tr>
<tr>
<td><strong>6</strong> How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Existing products will generate the sales but a new business model will contribute to profit growth.</td>
</tr>
<tr>
<td><strong>7</strong> What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td></td>
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<tr>
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<tr>
<td>Do you provide your customers with services as well as products? If so, what</td>
<td>We hold schools to teach the application of the product Training is the key. Service is the support on technical issues. This service is very important, as sales have decreased when the technical support person was no longer working with the international customers. He gave fast and detail responses to customer questions. Domestically, we are changing our business model from 300 distributors and five sales persons by adding retail stores to be called Concrete Design Centers. The stores will be owned by us and will be modeled on the Sherwin-Williams stores. Customers are aware of decorative concrete. Sales are booming. They have one store doing very well and are looking at adding a store in the next month or so. When selling direct to contractors the cost of the product to us is $45 and sells for $208. While the margins are high they had to write-off a lot of debt due to contractors failing. In 1987 they moved to use distributors. Now they are integrating forward by adding stores to capture more margin.</td>
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<tr>
<td>services? How essential are these services to selling your products in foreign</td>
<td></td>
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<tr>
<td>markets? Is your answer the same or different for domestic markets?</td>
<td></td>
</tr>
<tr>
<td>What qualities of your products and services help you win in foreign markets?</td>
<td>It is a unique product that offers value to customers.</td>
</tr>
<tr>
<td>Is your answer the same or different for domestic markets?</td>
<td></td>
</tr>
<tr>
<td>In the countries to which you export, are your main competitors Americans, locals,</td>
<td>The main competitor seems to be their former distributor from Australia.</td>
</tr>
<tr>
<td>others? If your answer varies by country, then indicate competitors in the countries</td>
<td></td>
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<td>with your largest sales.</td>
<td></td>
</tr>
<tr>
<td>Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>In the USA they have 300 distributors; that will increase to 400 this year. They are supported by 5 (soon to be 7) sales persons. International sales are direct to contractors or trading companies.</td>
</tr>
<tr>
<td>How do you keep up-to-date about economic, technological and political changes in the</td>
<td>We keep up by working with the customers, gathering first-hand information. We believe that people buy from people they like. Immerses oneself in the culture helps.</td>
</tr>
<tr>
<td>foreign markets in which you compete?</td>
<td></td>
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<tr>
<td>What do you do in foreign markets to protect your intellectual property or ideas?</td>
<td>“You don’t”. We do not patent but keep it as a trade secret. We do not travel alone anymore.</td>
</tr>
<tr>
<td>Is your answer the same or different for domestic markets?</td>
<td>One customer just plagiarized their brochures.</td>
</tr>
<tr>
<td>Have you formed partnerships or alliances with any foreign companies? If so, what</td>
<td>We have an alliance with a company in Shanghai. In the future if volume justifies it we will create a manufacturing alliance.</td>
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<tr>
<td>criteria did you use to select or reject companies for such relationships? How have</td>
<td></td>
</tr>
<tr>
<td>these relationships contributed to market success or failure?</td>
<td></td>
</tr>
<tr>
<td>What percent of your employees is currently involved partially or full-time in</td>
<td>The president plus about 10% of most of the office staff with 5-6% being the estimate.</td>
</tr>
<tr>
<td>foreign sales and marketing, production, logistics, etc.?</td>
<td></td>
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<td>Interview Questions</td>
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<tr>
<td>Has the percent of employees involved in foreign sales increased in the last five</td>
<td>We recently dropped to 17-20% (from 25%) of total sales being international. Growth will come from adding new employees.</td>
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<tr>
<td>years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td></td>
</tr>
<tr>
<td>What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Best way to learn is to travel and meet our customers and then their customers. He spends 90% of time traveling.</td>
</tr>
<tr>
<td>How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>Two to three visits per customer per year.</td>
</tr>
<tr>
<td>How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>The primary purpose of these visits is to meet the people and build relationships.</td>
</tr>
<tr>
<td>What advice would you give to a firm entering a foreign market?</td>
<td>Have a unique product. Use the U.S. Department of Commerce for help.</td>
</tr>
<tr>
<td>What is the biggest problem in entering international markets?</td>
<td>Language. Hire your own interpreter to be sure you understand the conversation.</td>
</tr>
<tr>
<td>How long were you in business prior to your first serious attempt to export?</td>
<td>About 11 months</td>
</tr>
<tr>
<td>What was the first country that you entered? Second? Third?</td>
<td>Australia first then Europe and then South America</td>
</tr>
<tr>
<td>How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>They use the “World of Concrete” to promote the product. Also use press releases and Commerce programs i.e. US Commerce News, Gold Key</td>
</tr>
<tr>
<td>How many distributors sell your product along with their own product line?</td>
<td>USA 350 and international 15-20</td>
</tr>
<tr>
<td>Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>They offer a 2% contribution for promotion to customers who buy a container load</td>
</tr>
<tr>
<td>Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>No exclusive though some customers would like an exclusive territory</td>
</tr>
<tr>
<td>Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>No</td>
</tr>
<tr>
<td>Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No but considering a joint venture in Japan</td>
</tr>
<tr>
<td>Interview Questions</td>
<td>Response</td>
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<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relation</td>
<td>Foreign markets offer a 60% gross margin and are more profitable but only 20% of sales</td>
</tr>
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<td>ship between markets changed in the last three years?</td>
<td></td>
</tr>
<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wai</td>
<td>Since a foreign distributor must buy a container load of product the purchase is profitable to the company.</td>
</tr>
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<td>t before it becomes profitable?</td>
<td></td>
</tr>
<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar pr</td>
<td>Slightly higher but out sell the competition</td>
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<td>oducts?</td>
<td></td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>SUS</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers</td>
<td>Letter of credit, wire transfer ay first. Later for good customers they may use EXIM bank</td>
</tr>
<tr>
<td>etc.?</td>
<td></td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for for</td>
<td>They cannot give a number but they do have a small program.</td>
</tr>
<tr>
<td>eign markets?</td>
<td></td>
</tr>
<tr>
<td>36 Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Because of travel cost international training is more expensive.</td>
</tr>
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# Global Strategy in Small Manufacturing Businesses

**Company Name:** BioPlastics, Inc.  
34655 Mills Road, North Ridgeville, OH 44039  
**Interviewee:** Frank Boron, President and Jesse Pennington

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<tr>
<td><strong>1</strong> When did you start to export? What prompted you to do so?</td>
<td>We began to export to Canada (“we had a Canadian customer”) in the early 1990s. However, “we never paid too much attention to exporting … until well into the 90s.” Exporting began to pick up around 1997. At that time the president hired someone who had a lot of international business experience. They made an arrangement whereby he would “go after the rest of the world for us; and that effort “started seriously in ’99 and 2000” The company’s first export targets in 1999-2000 were the European Union, Canada, and Mexico. In 1999, they began to think strategically about the company’s export business. Prior to 1999, the company’s limited export business was mostly “opportunistic.” The few international customers the company had prior to 1999 had been opportunistic.</td>
</tr>
<tr>
<td><strong>2</strong> What challenges did you face in becoming an exporter?</td>
<td>The real challenge was “how and where to go to market.” Domestically over half of our sales were direct sales to manufacturers. For international sales, however, we put together a distribution strategy in which the company decided to use local distributors for our products. A challenge, therefore, has been to identify good distributors with which to work. There is an ongoing challenge to find distributors with which to work that are focused on the end-use markets for which our products apply. The company terminated their relationships with several of their distributors after “a year or so because they just don’t quite fit what we are after … We look for distributors who are busy in the markets in which we think we have opportunities so that our product is an easy sell … We have made some mistakes picking distributors.” Breaking into some geographic areas has also been difficult. In particular, breaking into the southern cone of South America (Brazil, Argentina, and Chile) has been difficult because of government protection of the local industries (and high taxes on imports).</td>
</tr>
<tr>
<td><strong>3</strong> How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>“We are not sure what our market share in the foreign markets is … In terms of growth of our export business, however … In 1999, our export business accounted for 7% of our total revenue. In 2003, our export business accounted for 15% of our total revenue.” Our export revenues grew about 30% per year for the past four years.</td>
</tr>
<tr>
<td><strong>4</strong> How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>The domestic business has not grown as quickly as the international business over the past four years. The domestic business grew around 10% per year. Nevertheless, the bulk of the company’s profits still come from the domestic side.</td>
</tr>
<tr>
<td><strong>5</strong> What do you see as your percent of foreign and domestic sales in five years?</td>
<td>In five years, at least 25% of the company’s sales would be in foreign countries (and this may be a conservative estimate). Therefore domestic sales in five years would account for around 75% of the company’s sales.</td>
</tr>
<tr>
<td><strong>6</strong> How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Every time you venture into a new country or new market, it seems that they always find a reason to not use your product. We have found that the company often has to modify their products to sell them in foreign countries. Based on this experience, we guess that half of the future export sales in five years will come from new or modified products.</td>
</tr>
<tr>
<td><strong>7</strong> What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td>We will need to make a number of human and technical investments. In the European Union, for example, our short-term (overdue) plans include having someone move there and start a company distribution center (probably in Spain) and eventually a small manufacturing facility to serve the European market. In the longer term we can see replicating this strategy in the Asia-Pacific area, and possibly also in South America. The company is learning that to compete successfully in Brazil, “you almost have to set up operations there.” To answer the question, however, we can’t give you a number [a dollar amount], but it is going to require people and probably some bricks and mortar.”</td>
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<td>Response</td>
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<tr>
<td>8 Do you provide your customers with services as well as products? If so, what</td>
<td>We do offer both products and services. Our sales start with products, then we offer a number of services [modifications] to our products that we can make that allow customers to more easily incorporate our component products into their end products. We try to offer the same level of service both domestically and internationally, but language barriers and differing industry norms between our US facilities and the company’s international distributors makes that a challenge.</td>
</tr>
<tr>
<td>services? How essential are these services to selling your products in foreign</td>
<td></td>
</tr>
<tr>
<td>markets? Is your answer the same or different for domestic markets?</td>
<td></td>
</tr>
<tr>
<td>9 What qualities of your products and services help you win in foreign markets?</td>
<td>We offer products internationally that are not available from our competitors … We sell into more product markets than any of our competitors,“ internationally and domestically. Our greatest form of competition overseas is from substitutes, other materials that are being used for the belting or strapping purposes that our products address. These substitutes are inferior to our products because of the problem-solving aspects that we bring to the table. Additionally, there is the cultural challenge associated with introducing products to foreign markets that were not familiar with the materials that we used in our products. (That is, the materials, such as plastic, were not conventionally used for the application, such as a horse saddle strap, in some countries.) We are bringing new potential solutions to markets and countries that simply have not been seen before. It takes a little while to overcome that ‘give it a try’ kind of thing.” Lastly, to answer the question, we think the quality of our products and service is very good, perhaps better than all our competitors. We have an R&amp;D department that is continually working on ways of improving product quality.</td>
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<tr>
<td>Is your answer the same or different for domestic markets?</td>
<td></td>
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<tr>
<td>10 In the countries to which you export, are your main competitors Americans,</td>
<td>Our main competition comes from other materials (substitutes). However, in terms of companies with which we compete…in the EU, one of the biggest competitors is an Australian company. In Asia Pacific, the main competitors are a Korean company, a Taiwanese company, a Vietnamese company. In Canada, the main competitors are US companies. (Canada, Asia Pacific, and the European Union are our three largest export markets.)</td>
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<tr>
<td>local, others? If your answer varies by country, then indicate competitors in the</td>
<td></td>
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<tr>
<td>countries with your largest sales.</td>
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<tr>
<td>11 Do you compete differently in the U.S., than in foreign markets? If so, then</td>
<td>In the domestic market, half of our business is through direct sales and half is through distributors. Internationally, about 80% of our sales are through distributors. (Our international direct sales customers are mostly in Canada. If Canada is not considered, 100% of export sales are through distributors.) We have taken this tact internationally because strategically the company’s managers understand that they need the local expertise to develop the markets.</td>
</tr>
<tr>
<td>how?</td>
<td></td>
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<tr>
<td>12 How do you keep up-to-date about economic, technological and political changes</td>
<td>We have a very close working relationship with both the people at the International Trade Division of the Ohio Department of Development as well as the people in the US Commercial Services Group … and through our own research. Also, our managers are in continuous contact with the company’s distributors around that world. The distributors act as important conduits of information in their countries/regions.</td>
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<tr>
<td>in the foreign markets in which you compete?</td>
<td></td>
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<tr>
<td>13 What do you do in foreign markets to protect your intellectual property or</td>
<td>At the moment, we are concentrating on protecting the company’s intellectual property by establishing roughly eight trademarks in three geographic markets: the US, the EU, and Canada. Next, we will probably attempt to expand these trademarks into the Asian Pacific countries. The company had not yet seen anyone overseas who had attempted to steal or pirate our intellectual property. A preliminary step currently being taken in an attempt to avoid any possible future violation of intellectual property rights is to develop technology that would easily identify our products, but that would be difficult to copy (e.g., embedding labels onto products that can only be viewed under a black light). We perceive a greater threat to our intellectual property rights in some parts of the world than domestically or in other parts of the world.</td>
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<td>ideas? Is your answer the same or different for domestic markets?</td>
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<tr>
<td>Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>We have not yet formed partnerships or alliances with foreign companies, but we are working on it … Currently we are trying to learn how to select companies that we might like to partner with. If any results [from this research] concern how to form better partnerships with companies overseas, we would like to hear of these results.</td>
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<tr>
<td>What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>One hundred percent of one person’s time is spent dealing with our export business. For the company’s customer service employees, about 20-30% of their time is spent on the export business; and for the company’s production employees, about 15% of their time is spent on the export business.</td>
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<tr>
<td>Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>Yes – the percent of employees involved in foreign sales have increased as export sales have increased. In terms of events that occurred that increased the company’s involvement in foreign sales we can only think of one incident. In 1999, while playing golf, the company president made a strategic decision to make exports a key part of the company’s future growth plans and began to invest resources behind that decision. This decision and subsequent commitment to the decision led to a change in “mindset” at the company.</td>
</tr>
<tr>
<td>What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Employees mostly needed to learn how to work with foreign distributors. Customer service representatives and sales employees had to learn how to pick distributors, which involved learning how to recognize if we could work with them and their local norms. Additionally, customer service representatives had to learn a great deal about international freight shipping. The company turned to Ohio state and federal government trade agencies to learn about international freight shipping and other matters related to international business.</td>
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<tr>
<td>How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>One sales employee travels all the time internationally – in his travels, he usually identifies distribution partners with whom to work. Then other employees periodically travel to meet with representatives of these distributors periodically. Aside from this sales employee, 2-3 other employees travel internationally each quarter travel internationally (mostly to Canada and the EU).</td>
</tr>
<tr>
<td>How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>He keeps in touch with folks from overseas (primarily with distributors and via email) “every bloody day;” and he has developed social, as well as business, relationships with distributor employees. It has been vital to gain the distributors’ trust. The main way he has been able to gain their trust is by “doing what he said we would do.”</td>
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<tr>
<td>What advice would you give to a firm entering a foreign market?</td>
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<tr>
<td>What is the biggest problem in entering international markets?</td>
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<tr>
<td>How long were you in business prior to your first serious attempt to export?</td>
<td>20 years.</td>
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<td>What was the first country that you entered? Second? Third?</td>
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<tr>
<td>24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>Mostly government programs.</td>
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<tr>
<td>25 How many distributors sell your product along with their own product line?</td>
<td>25</td>
</tr>
<tr>
<td>26 Do you supplement your distributors' advertising budgets with your own funds?</td>
<td>No.</td>
</tr>
<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>We do not give any distributor “exclusivity” in a geographic market. We do require that a distributor not sell a product line similar to ours.</td>
</tr>
<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>No.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>Domestic is currently more profitable. As the foreign volume grows, it will be on a par with domestic.</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Depends on the factors involved. The writing should be on the wall in three years.</td>
</tr>
<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>They are higher in both domestic and international markets.</td>
</tr>
<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>About 3%. Same for both.</td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>US dollars only.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Wire transfer in advance.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>They are higher for the foreign markets…don’t know the percentage.</td>
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**Global Strategy in Small Manufacturing Businesses**

**Company Name:** Brown Medical Industries  
Lake Business Park, 1300 Lundberg Drive West, Spirit Lake, IA 51360

**Interviewee:** Ivan Brown, President and CEO

<table>
<thead>
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<tr>
<td>1 When did you start to export? What prompted you to do so?</td>
<td>1972 – to Scandinavia and Northern Europe, just to grow sales. No particular reason. The company was founded in 1965 and only 7 years later they were exporting. Back then, foreign sales contributed a huge amount to the total sales.</td>
</tr>
<tr>
<td>2 What challenges did you face in becoming an exporter?</td>
<td>Developing relationships with distributors. Finding them and finding the right ones. They still use distributors today.</td>
</tr>
</tbody>
</table>
| 3 How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales? | Growth of foreign sales: up 68% over the last year – up to the first 4 months of 2004  
Number of foreign markets entered: 5 new markets in the last year  
Increasing market share in each foreign market: it is difficult to tell what their market share is in each country  
Contribution to profits from foreign sales: less than domestic because of price points. (distribution channels are different, causing prices to have to be higher and profits lower) |
| 4 How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits? | Growth in sales: up 8% over the last year  
New markets entered: 1 new market last year  
Market share per market: depends upon product. In niche products (35%), other products (1 -5 %)  
Contribution to profits: significantly higher |
<p>| 5 What do you see as your percent of foreign and domestic sales in five years? | Foreign sales make up 15 -16%, it should increase to 25% of total sales. Foreign sales will grow at a higher rate than domestic sales. |
| 6 How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products? | New products 75% of the growth, existing products 25% of the growth |
| 7 What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years? | Their primary investment will be in further R&amp;D. They already have 2 biomedical engineers on staff. In a company of only 44 people, that’s a lot. |
| 8 Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets? | No |
| 9 What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets? | The high quality and uniqueness of our products help us win in both foreign and domestic markets. |</p>
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<td>10 In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>American companies and local companies. Not all of their American competitors are in foreign markets; some just don’t want to do it.</td>
</tr>
<tr>
<td>11 Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>They don’t do any marketing outside the US. They simply support their distributors by going to trade shows and training them on the products. In the US they have a huge marketing budget.</td>
</tr>
<tr>
<td>12 How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>They make decisions about where and how much money to spend in which markets based on the status of the healthcare industry in each market. They use journals, news, conferences and training programs.</td>
</tr>
<tr>
<td>13 What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>They do nothing to protect intellectual property in foreign markets. Sometimes their distributors file for trademarks. But, in the US, everything is patented and trademarked. The expense to patent intellectual property rights overseas is too high. Distributors express concern about it. They are very cautious about work in China. There is disrespect for intellectual property in the South Pacific. This is a huge concern.</td>
</tr>
<tr>
<td>14 Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>No</td>
</tr>
<tr>
<td>15 What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>1 person in marketing and sales, international sales….they expect this number to grow. 6 people are in production ….they expect this number to grow [person is in logistics (freight and transportation)] They have separated their sales market into 8 geo-political markets. Eventually there will be more people to manage them, some individually.</td>
</tr>
<tr>
<td>16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>They recently hired sales reps in some markets (on top of distributors). These sales reps have specific knowledge of the markets.</td>
</tr>
<tr>
<td>17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Language usually isn’t a problem since they are targeting very well-educated people in the world. They need to know the host-country’s health care system and reimbursement system. They also need to know how healthcare products are purchased and distributed in each market. They train sales reps in host countries on their products. There are huge differences in facilities (hospitals and trauma centers) in host countries. The best way for them to learn is through trade missions with the U.S. Department of Commerce and home state. They get introduced in each country. They provide a good agenda.</td>
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<tr>
<td>18 How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>Probably 5 times per year. Mostly to Canada, Mexico and Western and Northern Europe. Those are their largest export markets. Purpose is relationship building, and to find new distributors.</td>
</tr>
<tr>
<td>19 How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>Distributors and surgeons frequently visit them in the US, for association meetings and trade shows. The US hosts the elite meetings and shows. Sometimes foreign surgeons are more enthusiastic about our products than American surgeons. Communication is by email daily/weekly. Telephone weekly/monthly. Contact and updates regularly with their distributors.</td>
</tr>
<tr>
<td>20 What advice would you give to a firm entering a foreign market?</td>
<td>Call the US and local departments of economic development. They will jump to help and they offer great programs. Take advantage of all their training programs, seminars and networking opportunities.</td>
</tr>
<tr>
<td>21 What is the biggest problem in entering international markets?</td>
<td>Learning technical mechanisms (logistics, freight, etc) and paperwork. The financial side, how to collect in each market. Policies and payment terms, especially with distributors they’ve never met. Building trust with distributors.</td>
</tr>
<tr>
<td>22 How long were you in business prior to your first serious attempt to export?</td>
<td>About five years.</td>
</tr>
<tr>
<td>23 What was the first country that you entered? Second? Third?</td>
<td>Sweden was first, Germany was second, Canada was third.</td>
</tr>
<tr>
<td>24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>Most often through government programs, but some leads from existing distributors. We have also placed ads in various publications like “Commercial News USA”.</td>
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<tr>
<td>25 How many distributors sell your product along with their own product line?</td>
<td>Over 70.</td>
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<tr>
<td>26 Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>Generally no, but we do support a few trade shows.</td>
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<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>Some do, but sales volume typically justifies it.</td>
</tr>
<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>Not sure what you mean…we have been approached by a distributor to manufacture its products.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No.</td>
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## Global Strategy in Small Manufacturing Businesses

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<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Domestic markets are more profitable. This has not changed.</td>
</tr>
<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>Perhaps a year, at most.</td>
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<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>Depends upon the product but usually priced slightly above the competitor.</td>
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<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>US dollars only.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Cash is preferred, in the form of wire transfer, but for larger orders we will do letters of credit. For many established distributors, we extend 30 to 60-day terms.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>R&amp;D expense to sales is about 1%, while R&amp;D capital investment to sales is closer to 10%. There is no difference between domestic and international.</td>
</tr>
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<td>36 Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Lower.</td>
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## Global Strategy in Small Manufacturing Businesses

### Company Name:
Diamond V Mills, Inc.
838 1st Street NW, Cedar Rapids, IA 52405

### Interviewee:
Mark Kujawa, Vice President of International Business Development

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<th>Interview Questions</th>
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<tr>
<td><strong>1</strong> When did you start to export? What prompted you to do so?</td>
<td>Our company is 61 years old and we started exporting about 50 years ago. I believe the motivation is the demand for our product and need to increase sales so this is a natural revolution. There was no grand strategy 50 years ago and people started requesting it. There were individuals who said to us that they can take our product and they can develop it for us. And we thought this will work so we decided to do that. Those individuals first got to know our products at the trade show.</td>
</tr>
<tr>
<td><strong>2</strong> What challenges did you face in becoming an exporter?</td>
<td>Registration of products. There are government regulatory issues to be addressed so getting our products registered is a big one. No. 2 challenge is labeling. Each country has its own label requirement and label language. No. 3 is the cost of transportation. At that time, our company was inexperienced in that. The ability of creating and delivering proper message of your product to the individual culture that you are selling to is also a challenge.</td>
</tr>
<tr>
<td><strong>3</strong> How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>In general, our international business is doing extremely well relatively to our domestic business. Our domestic business is considered to be the U.S and Canada. Our international sales is about 16% of our total sales with the growth rate around 5%. We have different ways of exporting to the world; we have two wholly-owned international companies, one in Shenzhen, China and one in Mexico. We sell our manufactured products to these two companies and those are our fastest growth areas. In Mexico, the sales growth rate is about 100%/year over the last 3 years. For China, we started exporting four years ago with a growth rate at about 10-20%/year over the past three years. The total sales in the international market are about 5 million dollars in year 2003. Besides, we have a plan to have various sales and marking efforts in south-east Asia, that will be centered in Bangkok, Thailand. Thailand is a major market for us. We are looking to invest certainly in people if not another wholly-owned company in Thailand. Another market will be India, and we consider India a separate market from all of the rest. No. 3 is Brazil. And these are our plans. In 2003, we opened up Australia, New Zealand, Turkey, Poland, and Hungary. We have been very active in the western Europe market, in Italy. Yet the western Europe market is not growing very fast. Our total number of foreign markets is 40. In terms of market share, in some markets, our market share is less than 2%, however in China, our market share can be as high as 20%. I see a trend of increasing market share and creating new markets. China, Mexico, Australia and Thailand, I believe are the countries where we can achieve the highest market share increase in the next 5 years. The percentage of foreign sales over total sales is about 20%. One of the reasons that we are doing better in the international market than the domestic market is that the growth in animal production is increasing faster in Asia, South Africa, etc., while in the domestic market, animal production is shifting. Our No. 1 seller is the yeast culture. XP yeast culture is our major product.</td>
</tr>
<tr>
<td><strong>4</strong> How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>The domestic market has not been quite as good. The domestic business has been quite flat. We sell our products to every state in the US. Our market share is up to 35% in the domestic market</td>
</tr>
<tr>
<td><strong>5</strong> What do you see as your percent of foreign and domestic sales in five years?</td>
<td>85% for the domestic market, approximately. We are expecting market share increases to 25-35% in the next five years. We expect every year there will be an increase in the foreign markets.</td>
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## Global Strategy in Small Manufacturing Businesses

**Company Name:** Diamond V Mills, Inc.  
838 1st Street NW, Cedar Rapids, IA 52405  
**Interviewee:** Mark Kujawa, Vice President of International Business Development

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<tr>
<td><strong>6</strong> How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Let’s say foreign sales are about 25% of total sales; then about 5% should come from new sales within 5 years. Changing the form of our current products will give us additional growth opportunities in the future. Such activity saves us lots of transportation costs. I do see there is significant correlation between new product development and exporting sales. Because we have invested so much in our international markets, we must increase new product development. It makes our products be more competitive in the foreign markets. We pay a lot of attention to R&amp;D. We have a significant budget around the world for universities, for supporting graduates, also for commercial studies done with various companies, or to prove that our products are effective under the local conditions. Our total investment in R&amp;D worldwide can be around half-million US dollars per year. In the future, we will invest 50% in both new product development and existing products.</td>
</tr>
<tr>
<td><strong>7</strong> What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td>We have been evaluating the investment needed to support our foreign sales and we found that we must find foreign nationals in their respective countries to be our main contact people. We can’t do it successfully from the U.S in most regions. With that said, we plan to add 3-5 area managers in India, Thailand, and Brazil in the next 5 years. For us, this is a pretty significant investment. When we select those people, they must be unique individuals. First, we look for people who have experience in the animal industry. Second, we look for people that have very strong technical, sales and marketing backgrounds; they also need to have strong contacts in local markets. They also should have working experience with U.S companies in order to have good communication. Our investment in technical resources is the investment put into research.</td>
</tr>
<tr>
<td><strong>8</strong> Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Yes we do, but it’s not a structured service such as accounting. What we provide are connections. If our distributors have needs for other services/industries that are not directly in the animal industry (for example, machinery, computers) then we sometimes act as a finder for those services for our customers for free. Services are very essential. Product is one part of the value but because of the generally more isolated business conditions where these customers are, they also want information on the world business in general that they have difficulty getting. They will select their suppliers based on product performance and how much information you can bring. It also helps establish mutual trust between our customers and us. I think it is a little bit different focus between domestic and foreign markets. In the domestic market, our customers have much information about their animal business. We help them do their job better in their business. In the international market, we do that automatically. Plus, they have a need for connections, networking with the international community.</td>
</tr>
<tr>
<td><strong>9</strong> What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>No. 1 is that of market leader. [Our product] performs in animals measurably better than our competition. That allows our customers who are distributors of our products to make good margin on our products. So it makes their business profitable. No. 2, we enjoy a strong reputation of honesty and science. So our distributors have an easier time developing long-term sales relationship with their customers. Currently, all our products are sold through distributors. Quality is also important because the image in the industry is very important. We invest a lot in quality control. No. 4, we can provide better support (technical, sales) than our competition. The quality issue is even more important in international markets than domestic because of more expensive transportation costs.</td>
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# Global Strategy in Small Manufacturing Businesses

**Company Name:** Diamond V Mills, Inc.  
838 1st Street NW, Cedar Rapids, IA 52405  
**Interviewee:** Mark Kujawa, Vice President of International Business Development

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<tr>
<td><strong>10</strong> In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>In general, American companies. Alltech is the largest company in the worldwide market. The Mexican market is our biggest foreign market. Our biggest competitor there is Lesaffre. It’s the biggest because it has production in Mexico and it also produces yeast for humans. We have one manufacturing facility in Iowa. In the domestic market, we have Alltech, Lesaffre and other companies from Canada and there are hundreds of small U.S companies. Our company is the biggest player in the domestic market.</td>
</tr>
<tr>
<td><strong>11</strong> Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>Yes. In foreign market, we sell products via distributors because they are most familiar with the local markets. The distributors are responsible for developing the market. We have to train the distributors to do the job for us. In the future, we plan to sell some directly to customers. Domestically, we sell via distributors and direct sell to large customers. The second strategy is the coordination and cooperation with prominent professors in universities. Particularly in foreign countries, professors are very involved in working with companies on the products that they believe in. You don’t see the same thing domestically. They are more effective speakers for our products. We have a strategy for them and incorporate them as consultants for the company to have them become more effective speakers for our products. We have to support their graduate students and their research and in turn they help us.</td>
</tr>
<tr>
<td><strong>12</strong> How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>Printed trade magazines, important newspapers worldwide (we receive them via Internet); we also subscribe to electronic newsletters. We also attend international trade shows and seminars. We communicate with some of our distributors on a daily basis as well.</td>
</tr>
<tr>
<td><strong>13</strong> What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>We try to use every legal method in every country that we can to protect our brand. Our products are not patented in U.S. They can’t be patented so it’s a challenge for us. It can’t be patented overseas. So we try to protect our product by rigorously monitoring people who try to use our brand name. For those competitors who use our brand name, we will legally pursue that. Secondly, we try to protect our manufacturing processes from everyone except for people from our company. Distributors don’t know how exactly we make our products. We have a department that is working for protecting our trademark. In the domestic market, there is not much copying. We have registered our trademark in U.S as well but we don’t need to defend it very often.</td>
</tr>
<tr>
<td><strong>14</strong> Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>To date, we have not: We tried but failed. Reasons are that, first, the partner that you found was not as interested as you originally thought and second, sometimes there are people who want to form a partnership with us but are just trying to copy our products. We do plan to continue to look for successful partners. We tend to find partners that have or can develop more market distribution or penetration into our category (which is the animal business) than we can. There are some large companies who control a large portion of the distribution channel and those can be the best partners. They can also have a more active financial role in our products. We also prefer companies that have international business experience. Accounting systems must also match. To find the good partners, we contact a national person and let them do some initial investigating and determine the partners’ motivation. The markets that remain for us are those where we have zero influence or sales, those are quite large and mature markets and are countries where national companies dominate the market. I would say that partnership is very important for us.</td>
</tr>
<tr>
<td><strong>15</strong> What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>If we include the employees in our wholly-owned companies, we have a total of 20 employees full-time involved in foreign sales (about 17%). We have 120 employees as a total. In our headquarters, we have four people full-time devoted to the foreign sales. Two are part-time. Among the four full-time employees, two are order process people (one is me and one is my associate - we are both technical and sales people).</td>
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<td>Interview Questions</td>
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<tr>
<td>16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>Absolutely. The major reason is that we understand that we must have national people in marketing, selling and technical support. Without it, we will fail. Five years ago, we only two people and today we have 20.</td>
</tr>
<tr>
<td>17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>They need to develop value-added selling skills. How do you sell the products that have the highest price in our market place to farmers who are not used to buying expensive products? It is a big challenge. Best way to learn: many things. First, we hire professional sales trainers in those countries. We have some training programs in China on value selling. Second thing is to demonstrate to them how we sell our products in U.S market. We do invite them to visit our headquarters. They visit our facility and are involved with our sales people as well as our customers. But a visa is a big issue. We hope that you can help us with this issue. In our headquarters, we offered some training programs. For example, we had a Spanish language training program. We have culture days here. We celebrate China culture. If there are any visitors here, we make sure there is some interaction with our employees at the headquarters. We find the best way to do business is via a combination of social activities and business. We try to get as much social interaction as possible during their stay here.</td>
</tr>
<tr>
<td>18 How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>I travel about 60% of my time internationally. Other employees travel 2-4 times a year. The purpose is to visit our key customers or organize the distributor meetings that we have once every year, and to better understand the culture. Such visits are very important. You can’t do foreign business by sitting at the desk in the U.S and communicating long-distance to your customers.</td>
</tr>
<tr>
<td>19 How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>Emails, telephones. Fax is also very important; countries such as Japan and Korea like fax. Email is used most. We communicate with most of customers at least once a month via email. There is communication out of our headquarters on a daily base with our most important customers.</td>
</tr>
<tr>
<td>20 What advice would you give to a firm entering a foreign market?</td>
<td>No. 1, plan for the long term. The American window of evaluating success in 1 year to 2 years doesn’t apply in the foreign market. You must have a minimum investment window of 5-10 years. We are devoted to the long-term relationship. We see lots of foreign companies fail in China but we have been selling there for more than 10 years. The [first] reason that dedication to such a long run is important is that it takes several years to develop a level of trust. And that trust means interacting with people; they know you will be there when you say you will be there and your products will be there. Most people don’t fully support your products until they trust you. This is particularly true in Asia. Then you must establish their understanding of your products. That takes 5 years. Our distributors do advertisement for us but we do have marketing support money that is based on sales and other criteria to support their marketing activities. Some major marketing activities can be setting good examples to demonstrate the credibility of our products, or sponsoring seminars. Second, locate and source foreign national employees ASAP. Third, be cautious. Because of the culture differences in doing business, you are not necessarily speaking and understanding the same thing. Make sure communication is clear on both sides.</td>
</tr>
<tr>
<td>21 What is the biggest problem in entering international markets?</td>
<td>Short-term goals in the international markets can cause problems. Visa is a big issue for us. We hope you can help us with that.</td>
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### Global Strategy in Small Manufacturing Businesses

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<tr>
<td><strong>Company Name:</strong> Diamond V Mills, Inc.</td>
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<tr>
<td><strong>Interviewee:</strong> Mark Kujawa, Vice President of International Business Development</td>
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<tr>
<td><strong>Interview Questions</strong></td>
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<tr>
<td>22 How long were you in business prior to your first serious attempt to export?</td>
<td>20 years.</td>
</tr>
<tr>
<td>23 What was the first country that you entered? Second? Third?</td>
<td>Italy first, Japan second, Canada third.</td>
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<tr>
<td>24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>Personal networking and trade shows.</td>
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<tr>
<td>25 How many distributors sell your product along with their own product line?</td>
<td>All of our distributors sell other products and product lines. However, few of them sell competing products to our product.</td>
</tr>
<tr>
<td>26 Do you supplement your distributors' advertising budgets with your own funds?</td>
<td>Yes, we have a marketing support program. The amount funded is dependent on their sales.</td>
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<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>Yes, we grant exclusive rights to a distributor for a country.</td>
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<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>We have been approached and we have declined.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>China and Mexico.</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Domestic is currently more profitable, and has been so for the last three years.</td>
</tr>
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<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>Five years.</td>
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<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>Higher.</td>
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<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>US dollars only.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Net 60 days.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>3 to 5%. Ratio is the same.</td>
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<td>Interview Questions</td>
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<tr>
<td>Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Higher – more travel.</td>
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## Global Strategy in Small Manufacturing Businesses

**Company Name:** Excel Holdings  
2 Cardinal Point Drive, Suite 201-C, Leesburg, VA 20175  
**Interviewee:** Hisham Fawzi, President

<table>
<thead>
<tr>
<th>Interview Questions</th>
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<tbody>
<tr>
<td><strong>1</strong> When did you start to export? What prompted you to do so?</td>
<td>Mr. Fawzi began to export from Leesburg, VA in 2001, but originally exported from Dallas, TX starting in 1992. His entire career has been exporting since getting his B.S. in Business in 1980.</td>
</tr>
<tr>
<td><strong>2</strong> What challenges did you face in becoming an exporter?</td>
<td>His biggest challenge was letters of credit. He likes to travel so that part is not a challenge.</td>
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<tr>
<td><strong>3</strong> How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>He has solid signed contracts and is starting to perform on them. He has concentrated on exporting water machines since 1997. One of the challenges is the product itself. Also each country has different water regulations. Water is not internationally regulated as it is in the U.S. (e.g., FDA, EPA, WHO). Some foreign countries try to follow U.S. regulations, but modify them to fit their own beliefs. To sell the product you need certificates and acceptance from local authorities. The limit on bacteria count varies by region and country. Europe is very open. France has much higher acceptable bacteria count (related to high bacteria count in French cheese) than does Singapore. Designing filtration systems with different requirements in a big challenge. Water is not consistently regulated.</td>
</tr>
<tr>
<td><strong>4</strong> How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>5</strong> What do you see as your percent of foreign and domestic sales in five years?</td>
<td>Foreign sales were up in 2001 and 2002, down in 2003, but up again in 2004. Sales were going down mainly because of certification requirements, but more big units are being sold to governments. It takes time to make these sales. Mr. Fawzi doesn’t “sit behind a desk”. He is “not an order taker”. Big companies have foreign departments, but they are typically only order takers.</td>
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# Global Strategy in Small Manufacturing Businesses

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**Interviewee:** Hisham Fawzi, President

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<td>How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>All of the foreign markets are new markets. Ninety percent is new in the Far East. Mr. Fawzi developed new markets by taking a prototype to household customers and asking them to try the product and then asked for their feedback. This influenced the product’s design. South America is also a new region. The Gulf Area is not new for him. (He used to sell wood products there). Next, he sets up a distributorship in a new territory or region. He designs a regional distribution network by reading and exploring what neighboring countries can work together. His end customers are distributors who in turn sell to household customers. Small machines are sold to households and offices. Big machines are sold mainly to government, e.g., military or bureaucracy. Many people in foreign countries don’t understand the dehumidification process. He needed to show customers a prototype and demonstrate how it worked. He was the first in all regions with a water machine, but now he has three competitors. The competitors have had many problems mastering filtration, but he expects that they will solve this problem soon. He relies on his product’s brand name, called Water Finder, which in Saudi Arabia is as well known a brand as Xerox or Kleenex. Currently he has no domestic sales. He needs three months to deliver a product. U.S would be an easy market to enter, but he has to compete against bottled water companies. Without financial backup, he can be eaten alive. His strategy is to establish a brand name first, then sell in the US. His cost per gallon is 23 cents. Bottled water is .80 to $1 per gallon. If he enters the U.S. market, he wants to come in strong and control the market before the bottlers can react. They can’t lower their price to match his. In the U.S., you can lease, rent, or use installment plan. Credit is easy. He has a large margin to play with, but they can’t reduce their price beyond a certain point. They have high administration and trucking costs. They will have to follow and perhaps contract from him. He submitted a proposal to the Indian state government. Five percent of its water needs equals $1 billion in sales. He expects 40% domestic U.S. sales if he can get contracts from the U.S. government. All of his products are new products. Every product is a prototype especially for big units. He prefers not to use over-the-counter parts. They are good enough, but not the best. Customized parts are more efficient, but not from a marketing standpoint. Customized parts cost a lot more money. It’s different for the small five-gallon machines that Whirlpool makes. He makes minor adjustments inside and just changes the plastic cover. Machine efficiency is not simpler for the customer. Customer needs an easy way to drink water. No notes signs, instructions, clean this or that. Fawzi opts for efficiency over simplicity.</td>
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| What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years? | Fawzi hired some people in the beginning, but laid them off. They tried to sell the product the same way they would sell an existing product. The product needed to establish an identity, a whole new market. He couldn’t find the right people. Currently he has no employees. He subcontracts everything. He doesn’t believe he needs any people now, especially with computers. Administration would complicate matters. He expects that as the market grows, he will have to invest 5% of gross revenue in physical assets. But the U.S. market would want more service. He might subcontract to a marketing company or do it himself. His distributors take care of customers, maintenance. They make the administrative investments. His biggest investment has been in R&D. |

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## Global Strategy in Small Manufacturing Businesses

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### Interviewee: Hisham Fawzi, President

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<tr>
<td>Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Air filters need to be changed every three months and water filter every two months. Ongoing service is needed. Distributors who are businessman with engineering or technical backgrounds can do this. If they are retailers, then they likely know little about service, so he forces them to subcontract. The customer could change filters, but the subcontract assures that it’s done properly. The machine and the filters are sturdy. But overseas, customers can’t or don’t want to read the manuals. They start playing with machine, and then someone has to fix it.</td>
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<tr>
<td>What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Customer service is essential. When some companies begin to export, their main concern is the buck, and they do not follow-up with services. American companies don’t need to provide the service in the foreign markets. Fawzi’s has few competitors, and they tend to follow his actions step-by-step. They don’t understand the culture as well as he does. His competitors are Chinese and Korean companies (with products built in Korea or China). U.S. health-related products have a big advantage because people trust U.S. quality. U.S. standards are higher when they relate to health.</td>
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<tr>
<td>In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>Fawzi’s three competitors copied many features of his product. However, the price per gallon with the machine is much higher than for bottled water. They added a hot and cold water feature. His machine doesn’t have this. He thinks customers would rather pay less for the machine and heat or cool their water separately in a conventional way. Singapore is his hub. He also thinks that Saudi Arabia will become a major market.</td>
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<tr>
<td>Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>Every country is different, not only in selling a product, but also in understanding the culture of a country. How do people live? How do they think? What are their habits? Need to talk in a way that they understand. Many companies don’t recognize it as a major issue. His advice is not to go there and impose your own conditions.</td>
</tr>
<tr>
<td>How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>He reads a lot.</td>
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<td>What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>Fawzi used to be very careful, and gave lots of attention to IP protection. An executive told him “The only way to protect IP is by quality and price”. Now he doesn’t worry about legal protection. Only huge corporations can do this. He noted that India hasn’t signed an intellectual protocol on IP. Everything is open. Even in countries that have signed, they have no legal protection anyway. Why put in the effort?</td>
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<tr>
<td>Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>Only distributors, but he looks for self-motivated persons. Big privately owned companies don’t care because his machines don’t generate enough in sales. Also older and more comfortable persons are less motivated. He prefers a less wealthy person who is very motivated to sell.</td>
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<td><strong>15</strong> What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>There are no employees in foreign sales other than distributors. He has no warehouse. Every product is custom-made by a subcontract. Customer will have to pay the higher price. He goes to one of three manufacturers, (who make 250-1500 gallon machines). The price for a single order is high, but it’s better than holding inventory. He performs letter of credit, which is then transferred post-work. No FOB. The customer takes responsibility for the machine as soon as it leaves the factory, including all local transportation to his country. Whirlpool makes the five-gallon machine and expects a minimum number of units over the life of the contract. Because of the product, they were willing to take some risk. As for the large capacity units, it may take three months to manufacture three units, but the second and third are quick. The delay is due partly to lead-time. Products are sold by letters of credit. He had a difficult time explaining this to his manufacturers. Only major banks understand letters of credit. Even branches of major banks don’t understand them. Korean companies understand letters of credit very well. Their advantage is not only labor cost. It’s also their efficient use of letters of credit (from banks to export managers). He gets confirmed letters of credit from large banks. He doesn’t have to put out money to suppliers. Letter of credit will go to them. Lack of understanding of letters of credit is a major loss of opportunity for many American companies. The Chinese and Koreans understand them well. He received great advice from the U.S. Department of Commerce. The Gold Key helped in identifying distributors. Otherwise he would have to go through more steps to prove himself. The Gold Key provided introductions.</td>
</tr>
<tr>
<td><strong>16</strong> Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>No increase in employees, but he has more distributors.</td>
</tr>
<tr>
<td><strong>17</strong> What did these employees need to learn or still have to learn in order to be involved in foreign sales or adding new employees?</td>
<td>They need to learn respect for culture. America isn’t always the best. Understand the country relative to its region, read about the country, it’s people’s daily habits. One needs to know how people live inside their homes, how many drinks of water per day, whole or partial cups. Foreigners love Americans. Their hatred is mostly jealousy. Reach out to them, but don’t talk politics.</td>
</tr>
<tr>
<td><strong>18</strong> How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>Fawzi travels about eight months of the year, and works 18 to 20 hours per day. He takes short naps during the day and night so that he can be awake when his distributors are awake. If he worked only on our time, he would only get a three-day week. He uses email, but the telephone is essential because it’s a feeling thing. People in many countries prefer someone’s voice. They don’t trust a fax or email. This is less an issue in Western Europe.</td>
</tr>
<tr>
<td><strong>19</strong> How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>See response to #18.</td>
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<tr>
<td>What advice would you give to a firm entering a foreign market?</td>
<td>Fawzi’s recommendations to enhance international trade knowledge for future generations:</td>
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<td></td>
<td>a. The U.S. Department of Commerce should conduct seminars about letters of credit, how to make the most out of them.</td>
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<td>b. Create associations between all Universities’ International departments at the Business Administration faculties; the purpose of this association is to change how international business faculties think and teach. We need to think “out of the box” and make the courses not just academic. We need to establish an export department within the international business field, so that we can transform order-takers to real exporters.</td>
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<td>c. We need to teach that we are no longer the only market and that everybody is looking at us as their market. We need to change that by emphasizing that the old days (before the 1970’s) are gone and either we change our way of thinking when it comes to international trade or we end up being consumers to other countries’ products. It has already started and we need to act very quickly.</td>
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<td>d. We need to change the tax laws when it comes to exporters and business overseas. Why not create a tax law that any citizen or company that makes money from overseas operations is free of taxes as long as the money is brought back to the U.S.? Most other countries do that. This will increase investment capital in the U.S. industrial sector rather than going out to another country and invested there. Fawzi is responding to the issue of offshore companies that the U.S. allows to conduct business. American companies or citizens get penalized for bringing profits back to the States, thus forcing lots of American-owned offshore companies to reinvest their profits overseas and not in the States.</td>
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<td>e. Establish a free zone area in the U.S., like Lichtenstein or the Channel Islands. We need to bring investments to our industrial sectors in the States.</td>
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<td>f. We need to release ourselves from all the regulations that are not designed for export and international trade. We should not have to comply with regulations that prevent us from being competitive overseas.</td>
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<td>g. We need support from our universities and definitely from our Congress when it comes to understanding that our laws and regulations that relate to international business need to be changed.</td>
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Note: Excel Holdings could not be reached for responses to the second round of interview questions.
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<tbody>
<tr>
<td>1 When did you start to export? What prompted you to do so?</td>
<td>We started to export in 1989. We kind of got forced into exporting. When we established the company we looked at the domestic commercial aviation market as being our market. We felt like if we built the best product in the world they’d buy. While they liked the product – agreed there was none to compare to it – they were still concerned that we were a new company and wanted to know how we could guarantee we were going to be around in five years – which we could never really do. So we found that there was an aviation market internationally that didn’t ask those same questions. That kind of forced us into export.</td>
</tr>
<tr>
<td>2 What challenges did you face in becoming an exporter?</td>
<td>Just about all of them. Foreign currency, letters of credit, shipping were probably the toughest issues we met with. We eventually got working with various banks. Back at that time we weren’t aware of the U.S. Department of Commerce and some of the other things that are available to you today. We kind of learned a lot of it on our own, and a lot of it with help from some of the banks.</td>
</tr>
<tr>
<td>3 How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>When things are in a perfect pitch, we like to talk about our sales as being 50% domestic and 50% international, and we also talk about being 50% what we call commercial aviation and 50% military. Right now, since 9/11, our military is skewed up to be about 90% of the volume because in the beginning all aviation sales went down, but now the international side has come back, but the domestic side is still way down.</td>
</tr>
<tr>
<td>4 How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>We will be about 40-50% domestic. We would like to keep it at this level.</td>
</tr>
<tr>
<td>5 What do you see as your percent of foreign and domestic sales in five years?</td>
<td>Same</td>
</tr>
<tr>
<td>6 How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Market growth and new product sales growth as well as replacement product sales will drive the market.</td>
</tr>
<tr>
<td>7 What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td></td>
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### Global Strategy in Small Manufacturing Businesses

**Company Name:** FCX Systems, Inc.  
400 FCX Lane, Morgantown, WV 26501  
**Interviewee:** Don Gallion, President

<table>
<thead>
<tr>
<th>Interview Questions</th>
<th>Response</th>
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<tbody>
<tr>
<td><strong>8</strong> Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Yes. To sell overseas, they had to develop a maintenance service capability, by finding local firms who become service centers. These service centers assure the customer that they will have good technical support in their market. Do work on the basis of a contract or by item, as trouble arises. They find local firms that have the technical capabilities to provide the service. They have 30 service centers now. Service is a big part of selling the product. Service centers help the company maintain its customers and keep their products operating in each country.</td>
</tr>
</tbody>
</table>
| **9** What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets? | The qualities that help the company fit in foreign markets are:  
- That the overall product is well designed and rugged  
- The firm has cutting edge designs on high-tech products  
- As the product evolves over its lifecycle, the company develops upgrades for the product so that the customer does not have to replace the whole product – only needs to purchase an upgrade to keep the product as a viable piece of equipment. |
| **10** In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales. | The firm’s competitors are two US firms, several European firms, one in Japan and now one in China |
| **11** Do you compete differently in the U.S. than in foreign markets? If so, then how? | The firm must compete in different ways in foreign markets. A great deal of time is spent time getting to know people. Two, three, four sales calls before they even really start to talk about buying in a serious way. He used to spend 70% of his time traveling internationally – he’s down to 35 to 40% of his time.  
It’s important to get to know the people before you can really sell them. |
| **12** How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete? | |
| **13** What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets? | Protecting their intellectual property is very difficult. They have put in some patents pending, but have backed away from patents as a way to protect material.  
By the time a competitor backward engineers a firm’s product, the company will have a new product in the market.  
The company works on keeping their technology secret. They believe that the new product development program makes it difficult for competitors to copy the company’s product. |
## Global Strategy in Small Manufacturing Businesses

**Company Name:** FCX Systems, Inc.  
**Address:** 400 FCX Lane, Morgantown, WV 26501  
**Interviewee:** Don Gallion, President

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<tr>
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<tbody>
<tr>
<td>14 Have you formed partnerships or alliances with any foreign companies?</td>
<td>They have a relationship with the service centers.</td>
</tr>
<tr>
<td>If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td></td>
</tr>
<tr>
<td>15 What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>They have six people involved in international sales; the president and his VP visit international firms about 40% of their time, with the president carrying the heavy load. The primary purpose of these visits is to work on a project, but at the same time they develop their relationships with customers, distributors, service centers and sales agents.</td>
</tr>
<tr>
<td>16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td></td>
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<tr>
<td>17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Upper management visits international firms about 40% of their time, with the president carrying the heavy load. The primary purpose of these visits is to work on a project, but at the same time they develop their relationships with customers, distributors, service centers and sales agents.</td>
</tr>
<tr>
<td>18 How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>On a day-to-day basis there’s a great deal of contact through email and telephone. Email in particular has been very helpful. The customers or service centers – or whoever is asking a question from an international firm – knows that they will get a fairly quick response despite time zone changes. Before email, it was more difficult to manage the communication process because of all the different time zones. A lot of time was spent making middle of the night telephone calls.</td>
</tr>
<tr>
<td>19 How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>Their advice to a firm entering a foreign market is to become export-ready. That means commitments by management to invest in relationship building, to build the skills that will let them manage international programs. The biggest problem entering international markets is that too many people do not understand the nature of the business they are going into. They try to treat the market as though it was a US market, and fail in selling. A great deal of time needs to be invested to get ready to do business internationally; we do not understand the cultures, and tend to want to sell and walk away. This leads to bad feelings and disappointment on the part of the customer. There is no hard-sell in international markets. Relationships are important, and spending time and investing to know each other is a first step to beginning a sales relationship.</td>
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<td>Interview Questions</td>
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<tr>
<td>21 What is the biggest problem in entering international markets?</td>
<td></td>
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<tr>
<td>22 How long were you in business prior to your first serious attempt to export?</td>
<td>About two years.</td>
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<tr>
<td>23 What was the first country that you entered? Second? Third?</td>
<td>England was first, Mexico was second, Italy was third.</td>
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<tr>
<td>24 How have initial contacts with distributors typically occurred? For example,</td>
<td>In the beginning, through networking. FCX uses reps, not distributors. Once we learned of the Gold Key program, they have been going through the U.S. Department of Commerce.</td>
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<tr>
<td>were they made through personal networks, government programs, or some other</td>
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<tr>
<td>mode of contact?</td>
<td></td>
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<td>25 How many distributors sell your product along with their own product line?</td>
<td>All company reps sell other product lines, but not their own.</td>
</tr>
<tr>
<td>26 Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>The company does most of their own advertising.</td>
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<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>For the most part, both the company and their reps do as it relates to the company’s specific products.</td>
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<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so,</td>
<td>We have declined local manufacture to this point.</td>
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<td>have you accepted or declined?</td>
<td></td>
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<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service</td>
<td></td>
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<td>facilities in foreign markets? If so, where?</td>
<td></td>
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<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this</td>
<td>Foreign markets are currently more profitable. This has not changed over the last three years. But the foreign markets are getting more and more competitive.</td>
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<td>relationship between markets changed in the last three years?</td>
<td></td>
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<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to</td>
<td>Depends on the size of the market and the customs of the people. We waited three years in China, but would not normally wait more than 18 months.</td>
</tr>
<tr>
<td>wait before it becomes profitable?</td>
<td></td>
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<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar</td>
<td>Slightly higher.</td>
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<td>products?</td>
<td></td>
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<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>Both, but U.S. dollars are preferred.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Letter of credit.</td>
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## Global Strategy in Small Manufacturing Businesses

| Company Name: | FCX Systems, Inc.  
400 FCX Lane, Morgantown, WV 26501 |
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<td>Don Gallion, President</td>
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<tr>
<td><strong>35</strong> What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>About 20 to 1. No real difference for foreign markets.</td>
</tr>
<tr>
<td><strong>36</strong> Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Training expense is higher in foreign markets mainly due to travel costs.</td>
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# Global Strategy in Small Manufacturing Businesses

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<th>Company Name:</th>
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<tr>
<td>Interviewee:</td>
<td>Vice President of International Sales</td>
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<tbody>
<tr>
<td>1 When did you start to export? What prompted you to do so?</td>
<td>Japan was the first market about 8 years ago. They first started to export via word of mouth.</td>
</tr>
<tr>
<td>2 What challenges did you face in becoming an exporter?</td>
<td>Finding the right distributors. For example, Korean doctors wanted to be the distributors, but they just don’t have the adequate channels for distribution. They needed to find the “big dogs” in each country. They have to find people who can reach all the health care professionals and people who already have good networks. We didn’t want to reinvent the wheel. Registration and regulations for the product in each country. In Korea it took them 2 years and $100K in cost to get everything worked out. Our product is an OTC in US, but other countries treat it like a prescription drug. They went on a Trade Mission with the Dept of Commerce to China two years ago to learn what the regulations and registration requirements would be, but have had no success to date.</td>
</tr>
<tr>
<td>3 How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>They are in 42 countries; growth is triple digits in some countries versus double digits in the US market.</td>
</tr>
<tr>
<td>4 How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>Their domestic markets have continued to grow in double digits yearly. They have opted to stay in the same markets, i.e., licensed healthcare practitioners.</td>
</tr>
<tr>
<td>5 What do you see as your percent of foreign and domestic sales in five years?</td>
<td>International sales can be up to 5x domestic sales in the next few years.</td>
</tr>
<tr>
<td>6 How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Combination of new products and changes to existing products. They will be coming out with new lines in the next few years. Domestic growth will be more from new products, while international growth will be from both current and new.</td>
</tr>
<tr>
<td>7 What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td>Both markets will require hiring new people to maintain the same level of sales and services required due to new products and the accompanying growth. They are looking into possibly using Korea as a staging area for Asia, setting up a base and partnership with a distributor in Korea.</td>
</tr>
<tr>
<td>8 Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>They provide the marketing knowledge and strategies that have been successful in domestic markets. They provide samples and training to their distributors and attend tradeshows with them to demonstrate their proven sales and information techniques. While they do provide sales and marketing techniques, they agree that their international customers are the experts in marketing in their countries, and can pick and choose from the information provided that will work best in their country.</td>
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<tr>
<td><strong>9</strong> What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Basically it is just that the product works. It’s a great product with a good name. They have done a great job marketing. Answer is the same for domestic markets.</td>
</tr>
<tr>
<td><strong>10</strong> In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>There is competition from locals in each country, though no one else’s product can really do what theirs does. They have had problems domestically with copy-cats.</td>
</tr>
<tr>
<td><strong>11</strong> Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>Not really.</td>
</tr>
<tr>
<td><strong>12</strong> How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>Economic and political changes can’t really hurt the market that they are in. However, they do pay attention to money fluctuations. They recently negotiated a contract in France allowing a company to pay in Euros. This is unusual, but the company was so big (like a Pfizer) that they had to let them have their way. If the currency exchange changes too much, they will renegotiate the contract.</td>
</tr>
<tr>
<td><strong>13</strong> What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>They use a local law firm that specializes in patents and trademarks. Our distributors sign contracts that protect our intellectual property and that are enforceable in overseas courts around the world.</td>
</tr>
<tr>
<td><strong>14</strong> Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>No. They only have distributors. They would consider making their product overseas if their sales numbers get high enough. But, they would most likely just ship the formula in drums and package it there. They wouldn’t want to relinquish control. They have considered master distributors in Asia and Europe.</td>
</tr>
<tr>
<td><strong>15</strong> What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>Four logistics and sales people, dealing with logistics and registrations. They have one more person full time in their warehouse. They are in the process of hiring one more person who will handle all purchasing for the international department.</td>
</tr>
<tr>
<td><strong>16</strong> Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>They have increased the international department from two persons to five current employees and are in the process of interviewing for another.</td>
</tr>
<tr>
<td><strong>17</strong> What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Shipping regulations, labeling and packaging requirements. How to buy and sell in Euros.</td>
</tr>
<tr>
<td><strong>18</strong> How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>4 to 5 times per year. Purpose is to attend trade shows mainly to support and educate distributors, especially Latin America, Korea and Europe.</td>
</tr>
<tr>
<td>Interview Questions</td>
<td>Response</td>
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</table>
| 19 How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.? | Distributors will visit the US, especially to the large renowned health care trade shows.  
Communication is very regular - weekly and daily. |
| 20 What advice would you give to a firm entering a foreign market?                 | Use your government resources.  
Find the right distributors and do your homework on them. Make your distributors commit financially to selling your product. |
<p>| 21 What is the biggest problem in entering international markets?                  | Learning the different regulation and registration requirements in each country.               |
| 22 How long were you in business prior to your first serious attempt to export?    | 12 years.                                                                                     |
| 23 What was the first country that you entered? Second? Third?                    | Japan, Spain, UK                                                                              |
| 24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact? | Through domestic and international tradeshows or referrals. Also government programs.          |
| 25 How many distributors sell your product along with their own product line?     | All their distributors carry other products.                                                   |
| 26 Do you supplement your distributors' advertising budgets with your own funds?  | They commit to provide samples and promotional items such as wrist rests, posters, banners, t-shirts, etc. and a percentage of free product. |
| 27 Do you or your distributors require exclusivity in selling in specific markets? | Yes, they look for one distributor for each country.                                           |
| 28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined? | Yes, however they have declined. Do not wish to lose control.                                 |
| 29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where? | No, however it could be a possibility in the future.                                           |
| 30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years? | Domestic markets exceed international at this time but in the near future, we expect to see them close to equal due to the growth in the global marketplace. |
| 31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable? | One year.                                                                                    |
| 32 Are your product prices higher or lower than those of competitors for similar products? | The same or higher.                                                                           |</p>
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<tr>
<td>Do you sell your products in foreign currency or in US dollars only?</td>
<td>With one exception in Euros, all others pay in US dollars.</td>
</tr>
<tr>
<td>What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Pre pay via wire transfer.</td>
</tr>
<tr>
<td>What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>Not sure.</td>
</tr>
<tr>
<td>Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Same.</td>
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<td>Interview Questions</td>
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<tr>
<td>When did you start to export?  What prompted you to do so?</td>
<td>First worked in Egypt in the mid-80(^{\text{s}}). A business associate of his asked him to go in with him on a job in Egypt. He said ok. They went to Egypt, bid on the job, and didn’t get it. (But they did sell the equipment needed to Day &amp; Zimmerman – one of the top three companies that do this work.) While they were sitting in the hotel lobby, someone asked him was he there on the General Dynamics job. He said no…what General Dynamics job? Turned out that GD-Detroit was there to help Egypt build tanks. GD had been hired to replicate a tank factory that they operate in Marysville, Ohio. The U.S. Government gave Egypt a loan to build the factory, but they had to buy everything from the U.S. They went out to the site, saw what had to be done, bid, and got it. $16 M job, They got $3 M out of it. (They were actually collaborating with George Koch Company). Their work in Mexico was a result of their work with GE. They installed a facility in Connecticut (we are good – we are really service-oriented), then a job in Indiana, and then one in Texas. GE was going to do a job in Monterey, and asked them to bid on it. This was in 1999-2000.</td>
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<tr>
<td>What challenges did you face in becoming an exporter?</td>
<td>In Mexico, it was “manana”. I’ll do it today, and maybe they show up. They don’t understand. We were late for appointments all the time, but, then, they expect that. The Mexicans we were calling on didn’t care. Good help was hard to come by too. Mexican workers basically used only hand tools. They sent some tools down (he mentioned a portable band saw), and the Mexicans made hacksaws with the portable band saw, then tucked the band saw away in a shed. They cut everything by hand. Were letters of credit a problem? They’ve used letters of credit, but not in Mexico. They use wire transfers, checks. They have found it impossible to do business in Mexico with companies that are 100% owned/operated by Mexicans. Quality is not the same. It is terrible. Everything they do in Mexico is done for American companies, to American standards, all the NAFTA requirements.</td>
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<tr>
<td>How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>Continuing to work in Mexico. Bidding on a job for Meridien, to dismantle plant in Grand Rapids and move to Mexico. Bidding on another job for painting truck parts at a plant they put in a year ago. Now there is another contract so they need to re-do the plant. Another job from a California company – job shop for electronic components and they need a paint system. He considers himself to be in one foreign market at the moment. They lost a job to a Chinese company. He has no plans to export to China. They can’t afford to ship to China. Chinese work for 25 cents an hour. They can’t compete. They work in Mexico because they can get their equipment to Mexico. He did have a Chinese contact ask for information on their technologies. If all of the jobs we are bidding on come to fruition, would be about 30% of their profits.</td>
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<tr>
<td>How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>We are pretty small. It depends on how you judge it. There are companies that do hundreds of millions of dollars to install huge paint systems for General Motors direct, as an example. We work in the smaller general industrial market selling to the GEs and Cutler Hamms and some second-tier automotive guys, but they couldn’t compete. Their share of the general industrial market is about 5% or less.</td>
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<tr>
<td>What do you see as your percent of foreign and domestic sales in five years?</td>
<td>We hope that we would grow. But to do that, they would have to take “the next step”: more professional management, more engineers, bigger facility. They are not looking to conquer the world.</td>
</tr>
<tr>
<td>How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Our industry is pretty cut and dried. That’s one thing that is bad about their industry. If you have a two-car garage, you could do what we do. We build ovens they way they were built in the 1950(^{\text{s}}). They can buy more efficient burners and fans, but building their systems is not rocket science. There are new methods, some hi-tech and big dollar, that are coming on, and we expect to take some of that.</td>
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<td>7</td>
<td><strong>What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</strong></td>
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<tr>
<td>In previous answer, he said they would need more engineers.</td>
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<tr>
<td>8</td>
<td><strong>Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</strong></td>
</tr>
<tr>
<td>If you have a paint system and it needs to be serviced (inefficient burners, bring it up to code, move it, change it, add to it, take away, put a new conveyor in b/c you developed a new product that the old conveyor can’t handle) – they do all of this.</td>
<td></td>
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<tr>
<td>Service guys are out and on call. When a paint system goes down, quite often it will shut the whole plant down.</td>
<td></td>
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<tr>
<td>Service in Mexico is essential. They do extensive training, in English and Spanish. And go back and do it again, and then go back and do it again and again. Turnover is great in Mexico. You get one team trained, and they’ll switch jobs to increase their pay by 5 cents an hour. When you are only making $1.20/hour, the nickel is worth it.</td>
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<td>Service is where it’s at. We prides ourselves on consultative selling, maybe that’s why we’re not growing the way people think we should. We aren’t in it for the almighty dollar. We in it to get a good lifestyle, be happy at the end of the day and feel good about what you do. People enjoy working here. We get out of life what we need. Answer is the same regardless of domestic or foreign.</td>
<td></td>
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<tr>
<td>9</td>
<td><strong>What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</strong></td>
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<td>Again, service and quality of workmanship. We trade on Pennsylvania Dutch values – they have a good worth ethic. We are not always as competitive, but we have good people and we build a good product.</td>
<td></td>
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<tr>
<td>10</td>
<td><strong>In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</strong></td>
</tr>
<tr>
<td>Americans, Italians, Germans. They didn’t really have Mexican companies to compete against in Mexico. There was some lip service paid to them, but not really.</td>
<td></td>
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<tr>
<td>One of their competitors, a German company, has facilities in Mexico, and when they bid in Mexico, they build it in Mexico. We try to do that a little bit. All the critical items are built in Pennsylvania., but the big and bulky things we will build in Mexico. There’s a quality control issue for us when we do that.</td>
<td></td>
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<tr>
<td>When there is a problem building in Mexico, they will withhold payment until corrections are made. We keep someone there when they are building.</td>
<td></td>
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<tr>
<td>11</td>
<td><strong>Do you compete differently in the U.S., than in foreign markets? If so, then how?</strong></td>
</tr>
<tr>
<td>All their selling happens in the U.S., to American companies. He uses his American contacts, and if a job comes in, he’ll go with them to bid on his part of it.</td>
<td></td>
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</table>
## Global Strategy in Small Manufacturing Businesses

| Company Name: | Herr Industrial  
P.O. Box 5249, Lancaster, PA 17606 |
<table>
<thead>
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<tbody>
<tr>
<td>Interviewee:</td>
<td>Tim Herr, President</td>
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### Interview Questions

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<tr>
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| 12 How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete? | In Mexico, there is a company called “One to Mexico” and there is a contact there who has become a good friend. This person is pretty much enmeshed in what goes on in Mexico as far as things we would have to be aware of.  
Case in point: when we put a paint system together, there are exhaust stacks. In the U.S., you have to provide for someone to test the emissions. All of this happens in Mexico, too, except we got caught the first time b/c they needed a ladder, a platform up at the top, etc. Cost was about $3,000 per stack, often costing more than the stack itself.  
In the U.S., they go up on the roof, drill a hole, stick a probe in, tell you you are good to go. Our contact helped us with these discussions and these sort of problems. Nobody at our company speaks Spanish; their contact would sit in on meetings with sewer, waste treatment officials to make sure they had all the guidelines straight.  
This contact is not on the company payroll; they are allied with him when they produce something and he installs it for them. Our engineer goes and explains all the drawings and their contact does it. He is almost as expensive as someone from the company going down there themselves. And their contact is there at 8 am. |
| 13 What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets? | No difference in U.S. or out. Not rocket science. It’s big, bulky, and something that anyone could build. There is not much to protect.  
There would be no protection if they went to China. [Earlier in the interview he mentioned that someone from China had inquired about their technology and learning more about it.] He went to a seminar not too long ago and learned that if they put some fancy gizmo on their product, and because their systems are too big and bulky to ship (you would need an entire ship to get it over there), it would have to be built in China. That would mean drawings and a person to explain those drawings. Now the Chinese have a set of drawings, they know how to do it, they are doing it for 25 cents an hour. After the third set of drawings, you are done. |
| 14 Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure? | Not really. We were going to bid some work in Hungary with Case-New Holland. We do a lot of work for C-NH in US.  
We went to Slovakia and looked at some companies and found that their technology, capabilities, etc. were as good as if not better than ours. And these are low-end guys ($4.00/hour).  
We didn’t get the job, but if they went to do work in Europe, he would look for these people. |
| 15 What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.? | 2 – 5 people out of ~100 employees. |
| 16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees? | Same. |
| 17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn? | He has learned how to conduct himself in a Mexican meeting, and what not to eat. The meetings are very much like here in the US. |
# Global Strategy in Small Manufacturing Businesses

## Company Name:
Herr Industrial  
P.O. Box 5249, Lancaster, PA 17606  

#### Interviewee:
Tim Herr, President

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<td><strong>18</strong> How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>He is in Mexico probably every month and a half. He’s made day and a half sales call trips. Lots of negotiating takes place in Mexico. Quite often he will send stuff to their contact in Mexico.</td>
</tr>
<tr>
<td><strong>19</strong> How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>He keeps in touch primarily with email. Has made several stabs at business in Venezuela. He would never expect to be, but he has always been, met at the airport by someone who is expecting him and does the driving. He has not driven in Mexico (although he would). He never drove in Egypt. He frequently combines the social/business aspects.</td>
</tr>
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</table>
| **20** What advice would you give to a firm entering a foreign market? | Start with American companies who already have established business there, in his kind of second tier business.  
If you have a product, you need to get a lawyer.  
If they were going to go to Mexico by themselves (i.e., not partnered with an American company), they would have to establish a “[Company Name] Mexico”; otherwise, you can’t control the business. To partner, even if you would be 51% of the job, you would need to have someone who really understands Mexico, the language, the legal stuff.  
If they were going to start importing into Mexico, it would be quite an undertaking. He recognizes the potential hassles, even though they have had relatively few problems to date, conducting business they way they are currently. |
| **21** What is the biggest problem in entering international markets? | Understanding their regulations.  
Getting items across the border – it is no small task getting equipment across the border. Often he will say on his quote that they will get it to the border, but it’s up to Mexico to get it across. They take the harder stance because they are working with American companies that know all the brokers, the whole process, and have trucks going back and forth all the time. It is painful for them to learn it each time. He said that bribes are probably being exchanged, but he wouldn’t know who to pay!  
He does not have a Mexican lawyer. They are not writing contracts in Mexico. It is all U.S. He did have a line on a bicycle plant in Mexico that he would love to sell to, but our price is at least half again as much as a Mexican company would charge. |
<p>| <strong>22</strong> How long were you in business prior to your first serious attempt to export? | Ten years. |
| <strong>23</strong> What was the first country that you entered? Second? Third? | Egypt first, Mexico second, Mexico third…. |
| <strong>24</strong> How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact? | Distributors connections both domestically and foreign have been by word of mouth. |
| <strong>25</strong> How many distributors sell your product along with their own product line? | Two domestically, one in Mexico. |
| <strong>26</strong> Do you supplement your distributors’ advertising budgets with your own funds? | No. |</p>
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<tr>
<td>Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>Yes.</td>
</tr>
<tr>
<td>Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>From time to time. We have declined.</td>
</tr>
<tr>
<td>Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No.</td>
</tr>
<tr>
<td>Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>About equal, and about the same for the last three years.</td>
</tr>
<tr>
<td>If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>The business that we are in does not become profitable over time. Either your price is correct or not.</td>
</tr>
<tr>
<td>Are your product prices higher or lower than those of competitors for similar products?</td>
<td>We always use the analogy of automobiles – there are expensive ones and less expensive ones. The bigger companies do business with us. If they want their products to last, they come to us.</td>
</tr>
<tr>
<td>Do you sell your products in foreign currency or in US dollars only?</td>
<td>U.S. dollars only.</td>
</tr>
<tr>
<td>What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Both.</td>
</tr>
<tr>
<td>What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>We don’t have an R&amp;D department as such. Everything is so custom, nothing is the same as the last one. We are not into a high-tech market.</td>
</tr>
<tr>
<td>Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Higher, because of the travel and language problems. It takes more time. We have to pay to get manuals translated into Spanish, and we do on-site training through an interpreter.</td>
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<tr>
<td>1 When did you start to export? What prompted you to do so?</td>
<td>Exporting since 1975. We followed our OEMs overseas, starting with GE and Westinghouse (now Siemens). In many cases, our bearings were already specified in the designs so we were forced to follow our customers overseas.</td>
</tr>
<tr>
<td>2 What challenges did you face in becoming an exporter?</td>
<td>Communications. Finding appropriate people to act as sales representatives overseas.</td>
</tr>
<tr>
<td>3 How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>Growth of foreign sales: Foreign sales accounted for 20-25% of total sales for a long time. It is currently at about 30%. Number of foreign markets entered: the company is in 30 countries. We are present on every continent except Africa. Our growth areas are China, England, Northern and Southern Europe, and Japan. The company sees large growth in Eastern Europe in the future. Increasing market share in each foreign market: We are the market share leader.</td>
</tr>
<tr>
<td>4 How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>Growth in sales: There has been 18 months of stagnant growth due to poor economic conditions. There has been slower growth domestically than overseas. New markets entered: Pump industry, gas and oil industry and compressors. Market share per market: the company has the biggest share of the market (power generation) around the world, 20 – 25 %.</td>
</tr>
<tr>
<td>5 What do you see as your percent of foreign and domestic sales in five years?</td>
<td>It expects the split to be 50/50 in the next five years.</td>
</tr>
<tr>
<td>6 How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Improvements and advancements of current products are much more likely, i.e., use new types of materials. The industry doesn’t change much.</td>
</tr>
<tr>
<td>7 What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td>They will rely more on automation and computerization. They will do more with the same number of people.</td>
</tr>
<tr>
<td>8 Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Repair service mostly in the US. Freebie engineering services to customers. They are beginning to design things for customers and get paid for it. They expect this to expand. The company has significant R&amp;D and engineering departments. Their main competitors don’t have this, especially now. Many of their customers want to keep fewer suppliers. Customers prefer to have one-stop shopping and they want to provide that. That is why the company is making alliances to expand their product portfolio. Currently service is not a large part of our business in foreign markets. They would like to set up a repair service in Europe. They would like to find a company to purchase there. The answer is different for domestic; the service they provide is a huge differentiator.</td>
</tr>
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### Global Strategy in Small Manufacturing Businesses

**Company Name:** Kingsbury, Inc.  
10385 Drummond Road, Philadelphia, PA 19154  
**Interviewee:** Woods Brown, President and CEO

<table>
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<tbody>
<tr>
<td>9 What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>High quality of the products and the services they provide. The company does a lot of hand-holding of their customers. Answer is the same for domestic markets.</td>
</tr>
<tr>
<td>10 In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>American and local competition in the global market. There is especially a lot of local competition in Northern Europe.</td>
</tr>
<tr>
<td>11 Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>Does nothing different.</td>
</tr>
<tr>
<td>12 How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>Financial papers, internet, business news, manufacturing reps feed information back.</td>
</tr>
<tr>
<td>13 What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>Protecting intellectual property is more challenging in foreign markets. No drawings are handed out, even to companies with which they have an alliance.</td>
</tr>
<tr>
<td>14 Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>Yes. They have alliances with an Indian plain bearing manufacturer and an alliance with a French company.</td>
</tr>
<tr>
<td>15 What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>There is a department of three people that act as liaisons to the manufacturing reps. There are 12 manufacturing reps. Foreign sales occupy the time of 4-5 people in a part time fashion. One other person frequently makes trips all over the world as he is fluent in 5 languages.</td>
</tr>
<tr>
<td>16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>They may expand the department by one person, but no definite plans.</td>
</tr>
<tr>
<td>17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Other than language differences, everything else is very much the same. You have to be aware of cultural differences. They offer their employees a lot of training on cultural awareness.</td>
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# Global Strategy in Small Manufacturing Businesses

**Company Name:** Kingsbury, Inc.
10385 Drummond Road, Philadelphia, PA 19154  
**Interviewee:** Woods Brown, President and CEO

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</table>
| **18** How often do these employees visit the countries to which you export? What is the primary purpose of these visits? | Very often…perhaps monthly.  
They have no office in a foreign market and not really any plans to establish one.  
Primary purpose of visits is for sales calls, trade shows. Send out engineers for service calls.  
There is a lot of direct contact with customers. The company does not entirely rely on their manufacturing reps. |
| **19** How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.? | Email, phone calls, frequent visits. |
| **20** What advice would you give to a firm entering a foreign market? | Find good representation. Be careful who you are dealing with. You can’t trust everyone.  
Hire engineers that can sell your products too.  
Learn from others already doing it.  
Learn laws and paperwork requirements in each country that you are dealing with.  
Get a good international attorney |
| **21** What is the biggest problem in entering international markets? | Intellectual property rights protection.  
Developing sound legal agreements. Laws are different everywhere.  
How to export, crate and ship.  
Communication links (email, internet, telephone) |
| **22** How long were you in business prior to your first serious attempt to export? | 50 to 55 years. |
| **23** What was the first country that you entered? Second? Third? | Japan first, United Kingdom second, Italy third. |
| **24** How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact? | Initial contacts occurred originally through their customers and other personal networks.  
Customers in the U.S. licensed someone overseas to make their product. Our customers’ products had our product in it. |
<p>| <strong>25</strong> How many distributors sell your product along with their own product line? | Only one; it is a product line that they manufacture themselves. |
| <strong>26</strong> Do you supplement your distributors’ advertising budgets with your own funds? | We do not give cash to our distributors, but we supply them with a lot of advertising materials (catalogs, brochures, etc.) |
| <strong>27</strong> Do you or your distributors require exclusivity in selling in specific markets? | Yes, in all markets. |</p>
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<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>We have not been approached by distributors to manufacture; we’ve been approached by other people but not by distributors.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No.</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Domestic is more profitable and has been that way for the past three years, generally. It may change country to country, but overall, domestic.</td>
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<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>We have not had to face that. All have been profitable.</td>
</tr>
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<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>Usually higher.</td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>We sell in both; we prefer U.S. dollars.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>In Europe, we have open credit, wire transfers. In Third World countries, we use letters of credit.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>The ratio is about the same; we spend about 1% on research and development. We are in a very mature market.</td>
</tr>
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<td>36 Are your training expenses higher, lower or the same for foreign markets?</td>
<td>About the same.</td>
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## Global Strategy in Small Manufacturing Businesses

### Company Name:
Lake Shore Cryotronics, Inc.
575 McCorkle Blvd, Westerville, OH 43082

### Interviewee:
Karen Lint, COO and Brad Dodrill, VP of Sales

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<tr>
<td><strong>1</strong> When did you start to export? What prompted you to do so?</td>
<td>Our first distribution partner was CryoPhysics (Europe), and we started exporting products to Europe in 1975.</td>
</tr>
<tr>
<td><strong>2</strong> What challenges did you face in becoming an exporter?</td>
<td>The primary challenges in international business are a) establishing distribution channels, b) language barriers, c) cultural differences (i.e., understanding business and social protocol), d) product compliance issues (e.g., CE certification), e) managing product service &amp; support. I’m sure if I were asked this question in the 80’s or early 90’s I would have added communicating across varying time zones as being problematic, however the internet has basically eliminated this problem.</td>
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</table>
| **3** How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales? | 1) Exports are presently approximately 55% of total sales.  
2) Over the last 26 quarters international business has been growing, on average, at a rate of approximately > 4%/quarter.  
3) We sell our products in over 35 countries, primarily through a network of 26 representatives and/or dealer organizations. The gross margin for international and domestic sales are comparable. |
<p>| <strong>4</strong> How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits? | Over the last 26 quarters domestic business is growing, on average, at a rate of approximately 2%/quarter. |
| <strong>5</strong> What do you see as your percent of foreign and domestic sales in five years? | I would expect international business to continue to grow as the economies of certain countries continue to grow (e.g., China), and as certain economically developing countries emerge (e.g., Russia, Viet Nam, South America, etc.). |
| <strong>6</strong> How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products? | This is difficult to predict at this juncture, however historically increasing sales in both foreign and domestic markets has been a “mix” of new products, improvements to existing products, and the development of new applications (i.e., new markets) to which existing products may be applied. |
| <strong>7</strong> What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years? | N/A |
| <strong>8</strong> Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets? | Yes. Sensor calibration services, measurement services (i.e., under contract), contract services and product service. Sensor calibration services and product service are equally essential to selling our products in both foreign and domestic markets. |
| <strong>9</strong> What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets? | Our products and services primarily serve niche markets (e.g., low temperature, solid state and condensed matter physics research, magnetics research, materials research, etc.). Our products consist of sensors and instruments used to measure and control temperature and magnetic field, and systems used to measure the transport, magneto-transport and magnetic properties of materials. The qualities of these products that enable us to win in both foreign and domestic markets are established performance and product quality (reputation) in combination with distribution channel outlets that serve the aforementioned niche markets. Most of our customers are researchers in academia, national labs, or certain segments of the technology industry (e.g., aerospace, magnetics, etc.). |</p>
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<tr>
<td><strong>10</strong> In the countries to which you export, are your main competitors Americans,</td>
<td>This answer depends on the country and product in question. For example, in Japan our main systems competitors are local companies, but our main magnetic and temperature sensor and instrumentation competitors are American companies. In China, our main systems competitors are American companies, while locally manufactured products compete with our magnetic and temperature product lines.</td>
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</table>
| locals, others? If your answer varies by country, then indicate competitors in the  | In the US, our main competitors are (by product):  
| countries with your largest sales.                                                 |  
|                                                                                  | VSM* Digital Measurement Systems  
|                                                                                  | HMS** Accent Optical Technologies (BioRad)  
|                                                                                  | Gaussmeters FW Bell  
|                                                                                  | Temp. Sensors Scientific Instruments  
|                                                                                  | Temp. Instr. Cryocon and SI  
|                                                                                  | * Vibrating Sample Magneterometer  
|                                                                                  | ** Hall Effect Measurement System  
| **11** Do you compete differently in the U.S. than in foreign markets? If so,   | The technical aspects of competition are essentially the same everywhere, i.e., comparison of product specifications and capabilities of competing products. We do however tend to compete a little differently on pricing matters. This is done to respond to a) unfavorable exchange rates, b) market (price) expectations in certain countries (such price expectations may be set by local competitors, or by the international pricing strategies of domestic competitors), and c) cultures in certain countries (e.g., the Chinese ALWAYS negotiate on price!). |
| then how?                                                                         |  
| **12** How do you keep up-to-date about economic, technological and political    | Through our representatives and dealers, direct contact/interactions & collaborations with foreign customers, and trade shows and technical conferences. |
| changes in the foreign markets in which you compete?                              |  
| **13** What do you do in foreign markets to protect your intellectual property  | We patent (US) IP that we feel must be protected. In a few cases we also apply for foreign patents. |
| or ideas? Is your answer the same or different for domestic markets?               |  
| **14** Have you formed partnerships or alliances with any foreign companies? If | We have periodically partnered with foreign companies and universities to develop specific products, e.g.,  
| so, what criteria did you use to select or reject companies for such             | Univ. of Western Australia - QMSA*  
| relationships? How have these relationships contributed to market success or     | Osaka Prefecture Inst. Of Tech. (Japan) – CERNOX temperature sensors  
| failure?                                                                          | And, we’ve partnered with various US companies, universities, and national labs in a similar capacity, e.g.,  
|                                                                                  | National Institute of Standards and Technology – AC Susceptometer  
|                                                                                  | Naval Research Lab – QMSA*  
|                                                                                  | Argonne National Lab - Superconductor screening system  
|                                                                                  | Further, technically, the business relationships that we have with all of our dealers and reps as well as our major internationally-based OEMs are partnerships per se (e.g., Oxford, SAAN, Iwatani, Nagase, Bruker, etc.).  
|                                                                                  | These partnerships or alliances have contributed positively to our market success in two ways:  
|                                                                                  | 1) New products  
|                                                                                  | 2) Capture of market share through capture of distribution outlets  
|                                                                                  | * Quantitative Mobility Spectrum Analysis  

"Global Strategy in Small Manufacturing Businesses"

**Company Name:** Lake Shore Cryotronics, Inc.  
575 McCorkle Blvd, Westerville, OH 43082

**Interviewee:** Karen Lint, COO and Brad Dodrill, VP of Sales
## Global Strategy in Small Manufacturing Businesses

**Company Name:** Lake Shore Cryotronics, Inc.  
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**Interviewee:** Karen Lint, COO and Brad Dodrill, VP of Sales

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<td><strong>15</strong> What percent of your employees are currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>We do not break up our staff this way. Over 50% of our sales is international so one could deduce that over 50% of our workforce is supporting our international sales.</td>
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<tr>
<td><strong>16</strong> Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>Yes, the Vice President of Sales became very involved in foreign sales within the last 5 years and he presently spends approximately one-half of his time directly and indirectly supporting foreign sales. A deterioration in business and personal relations with our foreign reps and dealers, which in turn resulted in decreasing sales, was the “critical event” that warranted his direct involvement in foreign sales.</td>
</tr>
<tr>
<td><strong>17</strong> What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>In general, any employee who interacts with foreign customers needs to understand that most foreign business relationships are predicated on personal relationships that are based on mutual trust, respect, and cooperation. If these personal relationships are weak, the business relationship will suffer! Additionally, US companies often try to impose their customs, processes or business methodologies on foreign companies, and they often ignore protocol and cultural issues which vary from country-to-country. For US companies to be successful in foreign markets they need to be flexible, willing to adapt to cultural differences, and willing to expend the energy necessary to develop and maintain productive personal and professional relations with their foreign business partners. Failure to respect local customs and business etiquette, or apply the concept of “when in Rome…” is tantamount to failure in international business. The best way to learn is by doing (experience).</td>
</tr>
<tr>
<td><strong>18</strong> How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>Employees that regularly travel internationally are (approximate # weeks per year): VP of Sales (4+), International Sales Manager (6 to 8), Systems installation engineers (6 to 8), and various employees with technical degrees (4). Travel totals are approximately 5 to 6 months per year. Primary purpose of these visits is: sales (customer visits, rep training &amp; relations, etc.), systems installations, and technical conferences and trade exhibits.</td>
</tr>
<tr>
<td><strong>19</strong> How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>The primary mode of communication with foreign dealers, reps and customers is email, secondary is phone/fax. Communications with these foreign entities occurs on a daily basis. Travel frequency is noted in (18).</td>
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</table>
| **20** What advice would you give to a firm entering a foreign market? | The answer to this question depends upon a number of factors, e.g., a) is it a consumer or a niche product/service, b) does the company already have name-brand awareness in the foreign market (i.e., IBM, Sony, etc.), c) is it a large or a small company, etc.?  
If it is a small to medium sized company that provides niche products/services I would recommend distributing your products through a local sales agent (dealer or rep) whose organization is aligned or synergistic with your products and services as they a) understand the local language, customs, culture and import regulations, b) already call on customers who are potentially customers of your products, c) have knowledge of barriers to market penetration and local competitors, and d) understand the local pricing expectations, customer requirements, and product compliance requirements (e.g., CE). |
<p>| <strong>21</strong> What is the biggest problem in entering international markets? | The single biggest obstacle is firstly determining the best and most cost effective plan for penetrating and distributing the product/service in international markets, and secondly executing the plan. As noted in (20), the question of whether a direct or indirect (i.e., through local distribution channels) approach is best depends on a number of factors. |
| <strong>22</strong> How long were you in business prior to your first serious attempt to export? | Several years |</p>
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<tr>
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<tr>
<td>23 What was the first country that you entered? Second? Third?</td>
<td>The company started exporting in 1975. The 1st, 2nd and 3rd countries that we exported to were the UK, Germany, and Switzerland.</td>
</tr>
<tr>
<td>24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>Personal contact</td>
</tr>
<tr>
<td>25 How many distributors sell your product along with their own product line?</td>
<td>Only 1 – Japanese Dealer</td>
</tr>
<tr>
<td>26 Do you, your distributors’ advertising budgets, or your own funds?</td>
<td>In some cases we partially supplement distributors’ advertisement budgets. More often, we subsidize local trade show expenses.</td>
</tr>
<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>Yes</td>
</tr>
<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>Yes – in the process of accepting in China</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>The company does not own any facilities in foreign markets.</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>While profitability is comparable between foreign and domestic markets, international business is growing more rapidly than domestic business, i.e., &gt; 4% per quarter and 2% per quarter as noted in (3) and (4), respectively.</td>
</tr>
<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>N/A</td>
</tr>
<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>Depends on the product line:</td>
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<td></td>
<td>1) Temperature sensors and instruments – higher</td>
</tr>
<tr>
<td></td>
<td>2) Magnetic sensors and instruments – comparable</td>
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<td></td>
<td>3) Vibrating Sample Magnetometer systems – lower</td>
</tr>
<tr>
<td></td>
<td>4) Hall Effect Measurement systems - higher</td>
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<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>U.S. Dollars almost exclusively, however we have in rare instances accepted orders in Euros.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>With Dealers, we have Net 30 terms; Representatives are paid a commission when we receive payment from the customer (Net 30 terms). We prefer letter of credit.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>R&amp;D is 19% of Sales. This ratio is independent of domestic vs. foreign markets.</td>
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## Global Strategy in Small Manufacturing Businesses

**Company Name:** Lake Shore Cryotronics, Inc.  
575 McCorkle Blvd, Westerville, OH 43082  
**Interviewee:** Karen Lint, COO and Brad Dodrill, VP of Sales

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<td><strong>36</strong> Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Higher</td>
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<td><strong>37</strong> How do exports fit into your competitive strategy?</td>
<td>Our corporate strategy mandates that we will:</td>
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<td>1) Identify, create and exploit growth segments in the market.</td>
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<td></td>
<td>2) Constantly improve channel distribution issues to grow international business.</td>
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<td></td>
<td>3) Develop OEM opportunities for magnetic and temperature products on the international front.</td>
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<td></td>
<td>4) Develop and implement a Sales and Marketing program to additionally promote the company’s products and services in international markets in collaboration with our dealers and reps.</td>
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<td><strong>38</strong> What assets or capabilities were necessary for you to develop and/or acquire?</td>
<td>Since we go to market overseas through indirect channels, i.e., reps/dealers who promote, sell, market, and in some cases service our products the assets or capabilities we had to develop were: a) establish a distribution network, b) establish product compliance with local requirements, c) establish internal staffing required to manage all aspects of our international business, and d) establish logistical processes to manage financial aspects of business (e.g., L/C’s), import/export shipping methodologies, export compliance policies, etc.</td>
</tr>
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<td></td>
<td>If we were managing international sales directly through internal sales personnel the assets and capabilities required would be substantially more substantive, e.g., a large (&gt;10 person) direct sales force with multi-lingual capability, etc.</td>
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</table>
### Company Name: Markel Corporation  
435 School Lane, Plymouth Meeting, PA19462

### Interviewee: Kim Reynolds, President and CEO

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| **1** When did you start to export? What prompted you to do so? | Early 1980’s – As a side-line activity, not part of the corporate strategy. Tried to do it in as inexpensive a manner as possible until the early 1990’s. At first they used an export agency (which no longer exists). This agency acted as Markel’s “export” department (invoices, payments, quoting, etc). The export agency fell apart so the relationship ended in 1989.  
They have unique patented product (liners for cable controls in automotive applications). Their products were specified in the overseas applications. This makes it a very viable product for export. Their customers dragged them overseas with them. |
| **2** What challenges did you face in becoming an exporter? | Because they used an export agency, they felt decoupled from their customers because they didn’t deal with them directly. |
| **3** How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales? | Quite well. It’s grown by 300%+ over the past 4-5 years. Number of foreign markets entered – Predominantly to Europe, small portion to Mexico and Canada. Limited amounts to Asia. They only have 3-4 customers in each overseas country, but they are big customers.  
Increasing market share in each foreign market – yes! In the cable controls market. 75% of their sales overall is in the automotive industry, 100% of foreign sales in the automotive industry.  
Contribution to profits from foreign sales? Greater than 40% of their total sales, greater than 60% of their profitability. |
| **4** How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits? | Very well in a narrow way. They have a niche strategy. They are in the fluoropolymers, electrical insulation, material sciences.  
Total company sales: $25 million  
They are trying to develop new niche markets to get away from dependence on auto industry. They have 70% market share in the cable controls market, but that accounts for only $12 million in sales. |
| **5** What do you see as your percent of foreign and domestic sales in five years? | Depends on product line. Foreign sales growth will be greater than domestic. Everything is moving to offshore production and they follow their customers….Audi, BMW, VW, etc. especially to places like Czech Republic and Turkey.  
How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products? | Growth has to come from the development of new products. Most of their current markets will slowly disappear over time as new products are developed. They hold cross-functional meetings to identify new processes and products and to identify current process and product improvements. |
| **7** What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years? | They have 130 employees, 50/50 split between salary and hourly. 25% of the salaried personnel work in new process/product development. This is a very significant proportion. |
| **8** Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets? | Yes, especially to European customers. They try to act like they are right next door. Markel maintains warehouses in Holland, Spain and UK. This way they can conduct their operations in a JIT manner.  
How essential are these services…? | Very essential. Along with tech support services and knowledge of their customers’ business. They understand “Best Practices” of each customer very well. Is your answer the same…? |

|  | Same |
## Global Strategy in Small Manufacturing Businesses

### Company Name:
Markel Corporation  
435 School Lane, Plymouth Meeting, PA19462

### Interviewee:
Kim Reynolds, President and CEO

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| 9 What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets? | Tight tolerances, custom packaging, bar-coding, long continuous lengths. They are very adaptive.  
Is your answer the same…?  
Same |
| 10 In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales. | All local multi-nationals. Markel is the smallest competitor out there, but they are the lowest cost provider. They are also faster than their competitors because these products are all they do. |
| 11 Do you compete differently in the U.S. than in foreign markets? If so, then how? | No. Sell unique product characteristics and value first, quality second and price if all else fails but always maintain lowest cost supplier position. |
| 12 How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete? | Television, visiting the markets, basically the same way everyone else does. Foreign currency exchange rates are very important to them as they do business in the customers' currencies.  
They have learned to hedge effectively. They take foreign currency risk. |
| 13 What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets? | They have had 15 patents in 10 years. They get many patents (PETC) in Europe.  
They aren’t big enough to get into big patent fights. They are very careful about getting license agreements. |
| 14 Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure? | Minor alliances. They are Licensors to large companies. They have supply-sales agreements to offset the risk of loss of sales related to some process licenses they have granted to potential competitors. They are frequently the “overload” supplier to the big companies. With customers: joint development programs. |
| 15 What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.? | A greater amount of employee time is spent on foreign business than domestic. At least 40-50% of total employee work time spent on foreign.  
Foreign work: 10% of salaried staff – 1 Export Manager, Kim Reynolds, Operations Manager, and VP Sales are all heavily involved. |
| 16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees? | Yes, Greater market focus on fluoropolymers led to increased export opportunity. |
| 17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn? | Had to learn how to improve logistics, local stocking plans and to manage duty and freight expenses effectively. Had to implement foreign currency hedging program with assistance of international bank |
# Global Strategy in Small Manufacturing Businesses

**Company Name:** Markel Corporation  
435 School Lane, Plymouth Meeting, PA19462

**Interviewee:** Kim Reynolds, President and CEO

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| **18** How often do these employees visit the countries to which you export? What is the primary purpose of these visits? | Very often. For example, Kim Reynolds spends 3 – 4 weeks per year traveling in Europe.  
What is the primary purpose of these visits?  
They make face-to-face visits with key customers at least twice per year. Markel considers face-to-face meetings very critical to their success.  
They have a commission-based sole representative in France who covers all of Europe.  
He is supported by people in Markel’s Philly office.  
They also have Japanese and Korean export agencies to handle sales in those areas. |
| **19** How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.? | Electronic communication is most prevalent. Email and telephone daily.  
EDI has been set-up with big customers. |
| **20** What advice would you give to a firm entering a foreign market? | You have to be at the top of your game in terms of quality, service, delivery, and technology.  
You must be able to differentiate yourself from the competition. Markel’s presence in a niche market makes them successful…makes for fewer competitors.  
You have to have something that others don’t have.  
You have to be alert to new opportunities.  
You have to be low cost. |
| **21** What is the biggest problem in entering international markets? | |
| **22** How long were you in business prior to your first serious attempt to export? | Approximately 50 years. Markel founded in 1922 and began looking at modest export opportunities (outside of Canada) in early 1970’s. |
| **23** What was the first country that you entered? Second? Third? | England was first, Germany was second, France was third. |
| **24** How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact? | Contacts made initially through private export oriented agent. Later and now contact made exclusively through personal networking. |
| **25** How many distributors sell your product along with their own product line? | Two organizations outside of the U.S. represent Markel as well as their own products to key customers in Spain, Italy and Turkey. They do not act as distributors. Outside of these countries in Europe Markel supports customers directly using a dedicated manufacturer’s representative. Markel warehouses and distributes products directly to all European customers. |
| **26** Do you supplement your distributors’ advertising budgets with your own funds? | Markel uses no foreign advertising. |
| **27** Do you or your distributors require exclusivity in selling in specific markets? | We require exclusivity with our representatives. We occasionally sell to a few European distributors and in those cases do not require exclusivity. |
| **28** Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined? | No. |
# Global Strategy in Small Manufacturing Businesses

| Company Name: | Markel Corporation  
| 435 School Lane, Plymouth Meeting, PA19462 |
| Interviewee: | Kim Reynolds, President and CEO |

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<tr>
<td>Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No.</td>
</tr>
<tr>
<td>Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Foreign markets now more profitable. Yes, product lines exported are both profitable and higher volume than in the U.S. alone. Foreign currency exchange rates favor export sales since early 2003.</td>
</tr>
<tr>
<td>If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>In our core niche business (cable control liner) Markel has a dominant global market share. We are willing in certain situations to accept low margin or unprofitable business indefinitely in order to pre-empt competition and maintain share.</td>
</tr>
<tr>
<td>Are your product prices higher or lower than those of competitors for similar products?</td>
<td>Typically lower. Markel represents a lowest cost/highest value product to our export customers in most cases.</td>
</tr>
<tr>
<td>Do you sell your products in foreign currency or in US dollars only?</td>
<td>In Europe, Markel sells in local currency for the convenience of our customers (i.e.: Euro or Pounds). Elsewhere we sell only in Dollars.</td>
</tr>
<tr>
<td>What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>To all established and credit worthy customers we sell on open account with payment terms ranging from 2%, 30 days to 90 days.</td>
</tr>
<tr>
<td>What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>2 ½%. Same ratio for export and domestic.</td>
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<td>Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Training expense higher in Europe due to added travel costs.</td>
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### Global Strategy in Small Manufacturing Businesses

| Company Name: | MIOX Corporation  
5500 Midway Park Pl NE, Albuquerque, NM 87109-5800 |
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<td>Interviewee:</td>
<td>Bill Obermann, President and COO</td>
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<tr>
<td>1 When did you start to export? What prompted you to do so?</td>
<td>Some time in 1995. It was promoted by interest from overseas (people from the water industry). The technology is very applicable in the overseas market and provides exactly the same benefits as it does in the U.S. market, which includes safer disinfection, user friendly operations and the ability to remove biofilm. By MIOX Corporation’s placement of advertisements and attendance of trade shows, people overseas became familiar with the technology.</td>
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<tr>
<td>2 What challenges did you face in becoming an exporter?</td>
<td>As a U.S. company: Understanding business practices in various countries, the environment and the culture in different countries, and how business is done overseas; locating technically competent and reliable distributors who are willing to put in the required effort to learn the technology, to seek out sales, support sales efforts, and perform customer service after the system is installed; and dealing with financing challenges. To protect our interests, we had to set up some fairly tight financial requirements and had to learn about the shipping and handling documents and logistics of doing that in each country. There can be a lot of details and differences from one country to another. Another major challenge lies in doing business in Japan; most of the business there is done via relationships with major trading companies. And if you are not networked into those companies, it’s impossible to sell your products there. We just signed a 10-year distribution and manufacturing license with a company in Japan called NSP Corporation. They are going to start manufacturing in 2005 and have explicit rights for supplying equipment specifically for Japan. This is the first overseas manufacturing facility.</td>
</tr>
<tr>
<td>3 How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>Approximately 25% of our installation base is overseas, which equals about 300 installations. We have equipment in 24 countries and have sold over 1,000 units. Growth of foreign sales: Growth of foreign sales is about the same as growth of our domestic sales; total sales grow at about 25%-30% per year. We know that there are greater opportunities in the overseas market than we have been taking advantage of. We are looking to apply more resources to the overseas market and hope that the overseas market will grow more rapidly. Number of foreign markets entered: 24 countries. Our strongest market is Asia, with Japan, Korea and Hong Kong being the strongest. We are very cautiously proceeding in China. If we are not confident there is sufficient local back up or proper installation and after market service, we will not sell any equipment to that country. Increasing market share in each foreign market: Yes. We are increasing market share. We’ve been strongly increasing in those Asian countries. In Latin America, there has not been much increase because of financial limitations there. We are working on increasing our market share in European countries. Contribution to profits from foreign sales: About 25% on average. We are expecting an even higher percentage. Our revenue is not public information. Which of your products is the biggest seller? We have more of our smaller systems installed, because we have had that product line the longest. However, our mid-size equipment currently generates the most revenue domestically and is increasing in sales internationally as well.</td>
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**Global Strategy in Small Manufacturing Businesses**

| Company Name: | MIOX Corporation  
5500 Midway Park Pl NE, Albuquerque, NM 87109-5800 |
| Interviewee: | Bill Obermann, President and COO |

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| **4** How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits? | Growth in sales: 25-30% per year  
New markets entered: Both for domestic and international markets, our primary markets are drinking water markets, right now about 80% of installations are for drinking water. The second largest market is the commercial market – for swimming pools. Domestically, the pool market is a very new market for us. We have signed a distribution agreement with a distributor here in the U.S and they helped triple our pool installation in the U.S in the past year. So we foresee a great increase in market share – both domestically and internationally in the pool markets. Selling consumer purifiers to individuals is another market we want to explore. The military market both domestically and overseas is another market we are developing. The last market is the industrial market for cooling towers, process water, and food processing. We don’t see our competitors entering as many new markets as we do.  
Market share per market: We have no impact relatively speaking at this point. But our technology is cutting-edge technology.  
Contribution to profits: Domestic sales contribute 75% of the profit. |
| **5** What do you see as your percent of foreign and domestic sales in five years? | 2/3 from domestic and 1/3 from international market. |
| **6** How much of the above percent of foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products? | At least 30%. We have 2 new product lines that we are going to release. One is the large scale system and another is our AE series. We are trying to develop products for the markets where we believe we don’t currently have products that have the right capacity. And we are always trying to improve our existing products. We are trying to cut cost so that we can remain competitive. We think our new product development is a big driver of our success domestically and internationally. |
| **7** What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years? | Basically, we are going to increase human resources in all the departments. As we improve our equipment, we are seeking new development opportunities and we are trying to form new partner relationships that require more support. And our manufacturing is going to increase proportionally. We will proportionally add more staff to support additional business. |
| **8** Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets? | Yes.  
If so, what services? It’s mostly after market service for trouble shooting the equipment, replacement of parts. We have an agreement to provide maintenance to the equipment. But we usually only do so domestically because of the traveling cost internationally. In the overseas markets, our distributors will do the maintenance.  
How essential are these services….? Very essential. We actually don’t sell to other countries unless we can have an in-country distribution partner who can provide service because of the service requirement.  
Is your answer the same….? Yes. Service is also very essential in the domestic market. |
| **9** What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets? | We don’t cause any bad taste or odor in the water. And by using our product, our customers can apply less chemical and still get an even better level of purification of the water. We remove biofilm and reduce cancerous by-products formed from disinfection. We also maintain a more durable residual disinfectant to prevent recontamination of the water system.  
As far as service, we maintain a very good reputation in providing quality service. We are devoted to long term relationships. We believe that such long-run devotion contributes a lot to our success in exporting. In this industry, you must be patient. It takes time for you to find good distributors, train them and get familiar with each other, and help them to get to know your products. |
## Global Strategy in Small Manufacturing Businesses

| Company Name: | MIOX Corporation  
5500 Midway Park Pl NE, Albuquerque, NM 87109-5800 |
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<tr>
<td>10. In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>Our competition consists of other disinfection technologies. The 2 largest competitors for on-site generators are both European companies – one is a British company named SEVERN TRENT and another is a French firm named VEOLIA. We encounter the same competition domestically and internationally. In Japan, which has the biggest market potential, we don’t see any nation-wide competitors there.</td>
</tr>
<tr>
<td>11. Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>Internationally, we sell through distributors while domestically we have manufacturer rep organizations that sell our equipment and we pay the representative commission. The local distributors might have different cultures, selling practices etc. and we really rely on them to sell our products. In U.S, we do run national ads. And we attend many trade shows and we provide English literature. And in overseas, we really rely on our distributors to do all that.</td>
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<td>12. How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>We rely on our international distributors in those countries. They are much more familiar with the local markets. We request them to provide us with sales forecasting.</td>
</tr>
<tr>
<td>13. What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>We take a very active role in protecting our IP. We get patents and trademarks. In the domestic market, they are completely covered. In the overseas markets, it’s more challenging. In some countries we do get our products, new device or new ideas patented and registered our trademarks.</td>
</tr>
<tr>
<td>14. Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>Yes. We require our distributors to send their people to visit our headquarters to get trained and get to know our products. We also require them to stock some parts for maintenance and replacement of parts of the equipment. If so, what criteria did you use to select or reject companies for such relationships? They must be reputable, well established in the industry where we want to sell our products, they have to be networked as far as being able to bring us the right contacts and understand the business culture. They must agree to payment terms for our equipment. They must come to our training seminar so that they will understand how to size equipment, be aware of the sales tools and marketing literature we have available, and be able to provide customer service.</td>
</tr>
<tr>
<td>15. What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>Everyone is involved in international business to some extent. We do have one full-time employee who is dedicated to interfacing with international distributors. She supports them with shipping logistics and creating international payment procedures. And we just hired a new vice president of sales -- this person will be interacting with both international distributors and domestic sales reps. Currently, we have 30 employees as a total.</td>
</tr>
<tr>
<td>16. Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>We have not increased any dedicated employees at this point.</td>
</tr>
<tr>
<td>17. What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>For those partly involved in international business, they just need to understand their business – whatever their department does. For those involved in overseas business full time, they should learn the proper procedures for shipping documentation, transferring money and also letter of credit. They need to have broad knowledge of our products so that they can answer questions from our distributors. What is the best way for them to learn? By experience. And get trained by the old employees if we add new employees.</td>
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<tr>
<td>How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>Not on a regular basis. We usually require our distributors to visit U.S. We visit overseas market when there is a need. Take Japan as an example, we visit once or twice a year. What is the primary purpose of these visits? To respond to the request from our distributors especially who were exposed to the business for the very first time. Communication and developing personal relationships with distributors also are important reasons for us to visit our overseas distributors.</td>
</tr>
<tr>
<td>How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>Via email, some via telephone and quite a bit via fax as well. How regularly do they visit each other or communicate via email, telephone, etc.? If she doesn’t hear from distributors, she will contact them monthly to get updates on sales forecasting. Usually they communicate on a daily basis. Most of the marketing and customer service reports can be done through email or fax and probably most of the customer service support is done through phone rather than email or fax. Some of the business support could be done via a personal visit to the countries.</td>
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<tr>
<td>What advice would you give to a firm entering a foreign market?</td>
<td>Patience is essential. You have to be patient and you must be very sensitive to the market place, but foremost you have to have a strong product in order to compete in the overseas markets. Really research the people you identify to be your distributors. Don’t just find those people who expressed interest. You have to find those who have the right contacts. We required our distributor to maintain exclusivity and minimum sales numbers. We have a questionnaire when we select distributors.</td>
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<td>What is the biggest problem in entering international markets?</td>
<td>I think financing is a problem. We found that, in many foreign countries. Sometimes, there is more partnership between governments and their companies than that in U.S. At this time, we are using some aspect of government through the U.S. Department of Commerce and U.S commercial service, which is very helpful to us. But in terms of financing projects, it is a real challenge to get the money to complete international orders.</td>
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<td>How long were you in business prior to your first serious attempt to export?</td>
<td>In 1995, within the first year after incorporation. A lot of the research and development work was done in Central America, which facilitated some of our first international sales.</td>
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<td>What was the first country that you entered? Second? Third?</td>
<td>First country entered: Canada; Second: Korea; Third: New Zealand; Fourth: Poland</td>
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<tr>
<td>How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>The U.S. Commercial Service of the Department of Commerce facilitated the company’s development of an international distribution network. The Commercial Service represented the company on a number of trade missions, and we participated in several trips ourselves. Other initial contacts with distributors were initiated by the distributors themselves after learning about our technology through trade journals, advertising, and trade shows.</td>
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<td>How many distributors sell your product along with their own product line?</td>
<td>Most distributors represent a number of principals that have compatible product lines. Representation of multiple lines is an important criterion in our selection of a distributor and proves that they are established in the water treatment market and will be calling on the appropriate customers. It also ensures that they will be familiar with the technology and industry where we are trying to sell our equipment. Several have packaged our product along with other offerings in their product line or offer improvements above and beyond our standard equipment.</td>
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<td>Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>It is very rare for us to supplement our distributors’ advertising or trade show budget with our own funds. We will share the artwork and graphic files that have already been created for ads and posters in the U.S., but it is up to the distributor to take these materials to a local graphic artist, have them translated into the appropriate language, and pay for any magazine placements or prints. Many commit the resources to generate their own materials.</td>
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<td>Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>We have both exclusive and non-exclusive international distributors. In order to maintain exclusivity in a market, the distributor must meet certain minimum sales requirements, based on our analysis of the market and the potential in that market.</td>
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<td>Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>Yes, our Japanese distributor has approached us to manufacture our product. We have signed a license agreement with them to manufacture products for distribution in Japan. The agreement includes a minimum annual license royalty based on a certain level of product sales. Manufacturing in Japan should enable our sales volume and installation base to drastically increase since the distributor will be able to offer the product at a reduced cost to the customer, due to reduced shipping costs and import tariffs. The overseas manufacture will not cause any loss of jobs at our domestic headquarters. The additional royalty income will strengthen our company and allow us to expand domestically and in other countries we ship to from our U.S. manufacturing facility. We are also planning to use the Japanese manufacturing source to enter countries where we are currently not competitive due to oppressive tariffs and duties. Japan, being a trading nation, has more favorable trading relationship with many countries, as well as lower tariffs, in contrast to the U.S.</td>
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<td>Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No, do not own any sales, distribution, mfg facilities or service facilities in foreign markets.</td>
</tr>
<tr>
<td>Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Domestic sales are typically conducted via a commission to a manufacturer’s representative. International sales are typically conducted by selling directly to the distributor at a discounted price for resale to the end user. Although distributor sales are not as profitable on an immediate basis, we require our distributors to offer start-up and after-market service to the customer, which offsets the lower margin on distributor sales. From a total cost and resource allocation, both domestic and foreign sales are relatively equal. Foreign sales constitute about 25% of our total sales. Neither the sales ratio nor the profitability margins have changed in the last 3 years.</td>
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<td>If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>Since we incur no expense supporting a foreign market, that market is immediately profitable as soon as equipment is sold. We generally give distributors one year to demonstrate their efforts in a market. If they have not performed, we will take away exclusivity and give other distributors the right to sell exclusively to that market. If there is no other interest, we may permit the distributor to continue selling, but only on a non-exclusive basis. We do require that our distributors attend one of our quarterly Technical Training sessions, in order to be adequately equipped to sell our technology. If the distributor does not attend this session, we incur extra expense in supporting them because we have to take over many of the functions for which they should be responsible. We generally allow new distributors a year to attend a training session.</td>
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<td>Are your product prices higher or lower than those of competitors for similar products?</td>
<td>For our hypochlorite systems, our product prices are virtually identical to those of our competitors. However, our designs and operating efficiencies are superior. For our mixed-oxidant product line, which is our “premium” offering, our products are slightly higher-priced; however, the features and benefits of this superior technology allow us to get a premium for this equipment. The mixed-oxidant operating efficiencies are comparable to competitors’ hypochlorite equipment.</td>
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<td>Do you sell your products in foreign currency or in US dollars only?</td>
<td>We accept payment only in US dollars.</td>
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<td>What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Our preferred method of payment is prepayment. We will also accept a letter of credit drawn on an approved financial institution. With some distributors who have established a credit history with our company, we will accept net 30 days.</td>
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<td>35</td>
<td>What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
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<td>36</td>
<td>Are your training expenses higher, lower or the same for foreign markets?</td>
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<td>1 When did you start to export? What prompted you to do so?</td>
<td>1997 which is the start up of the business. In year 2000, the company was acquired by Nippon because of financial difficulties. For Nippon, they acquired us because, first, they needed more capacity, second, they wanted to tightly control the product quality. The first export is to Canadian, because of proximity. We are located next to the US. Our closest population center is the Canadian population. It’s a natural market place to go. It’s not because the domestic market is saturated. Another big reason is because the transportation cost is much less than to other states in U.S. Now a Japanese company called Nippon Flour Mill is holding 85% of the shares of our company.</td>
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<td>2 What challenges did you face in becoming an exporter?</td>
<td>It’s different for different markets. In Canada, I think filling out the paperwork is pretty challenging. However, the biggest challenges are related to a foreign country. Exporting to Japan was very challenging in terms of meeting their quality specifications. That’s the biggest challenge that we are facing in Japan.</td>
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<td>3 How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>It’s been doing very well; about 80-85% of sales is due to exporting. 60% of products go to Japan, 20-25% to Canada and the rest are domestic. Both our Japanese and Canadian markets are doing very well. Our domestic business is stagnant. Canadian market grew at 10%, Japanese market at 20% this year vs. last year and 10% in Canadian and 4-5% growth in Japan last year vs. the year before last year. Canada and Japan are the only two counties that the company enters. Our market share in both markets is growing faster than our competitors. Contribution to profits from foreign sales? The Japanese margins are much better and the Canadian margins are equivalent. The fact that the company is owned by a Japanese company contributes a lot to our success in Japanese market. It helps a lot to establish the contacts.</td>
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<td>4 How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>The domestic business is not growing as well as the international market, which is related to the food diet trend in US. Anything related to bread is on the defensive in the USA. So the US market is on the defensive in terms of market growth and margin. This is the opposite of Japan. Japan has shut off the import of beef because of mad cow disease. They eat pasta instead. Luck plays an important role sometimes.</td>
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<td>5 What do you see as your percent of foreign and domestic sales in five years?</td>
<td>The overseas market contributes around 90-95% to our business. We are an international company now.</td>
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<td>6 How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Even though our biggest business is in international markets, we are trying to get balanced and grow our domestic markets. Even if the domestic market is not contributing to our gross margin as much, from a strategic point of view, we don’t want to put all our eggs into one basket. The profitability margin we have in Japan is largely a reflection the Japanese managed marketplace (the Japanese Food Agency). Basically, the Japanese government buys all the wheat, and they sell the wheat to the flour mills at a significant markup (about 300%). They use the profitability to subsidized local rice production. Having put the flour prices up, they protect the Japanese flour milling business by putting in high tariffs on finished food, including pasta. Essentially, the government defines price and volume - a lot of control. Even after the tariff, we are still able to achieve a reasonable margin. We don’t want to be dependent solely on the Japanese market because we are not sure exactly how it is going to equate to our long term profitability. We could see the price go down, and it might go down pretty dramatically. We’d like the spread the risks evenly to Japan, the US and Canada.</td>
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# Global Strategy in Small Manufacturing Businesses

**Company Name:** Pasta Montana, LLC  
One Pasta Place, Great Falls, MT 59401

**Interviewee:** Anthony Flagg, President

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| **7** What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years? | New product development will be minimal for foreign products, but it will be significant in domestic products, specifically, low carb products. We are trying to replace the old product with new products that are low carb. It’s a non-issue in Japan, and even in Canada. R&D in this industry is less than 1%. I’d rather call it product enhancement.  
The investment in human and technical resources is all about efficiency. For human resources, it is education, to become more sophisticated in our production capabilities. Everybody out there has to be computer proficient. Also investment in this industry means that you need more efficient equipment. You need to replace most of the equipment at least once every 20 years, to stay as efficient as your competition. |
| **8** Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets? | No service. Just product. No change in the near future. |
| **9** What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets? | Our product quality is at the very top of the range, in both the Japanese and US markets. We’ve gone to zero fault packaging. We’ve developed a very high quality of pasta, a higher protein level than what is typical in the US market. We stay with very traditional, very high quality. Many domestic consumers, and big restaurants, appreciate our quality. We are going to drive the market in the high-end quality aspect of the market place. Same with the Japanese market; our product is the preferred product to use in any frozen pasta operation. We are gaining market share with quality rather than competing on price with low quality. |
| **10** In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales. | Locals. In all cases.  
And we compete against another Nippon owned subsidiary for market shares. In Japan we compete with local companies (National Flour Mills, the largest flour milling company in Japan). We also compete with Italian Imports.  
In Canada, we compete with Canadian producers. New World Pasta is an American company with Canada productions.  
In USA, you have the American and Italian Pasta Company, New World Pasta and Dakota Growers. Those are the big three. |
| **11** Do you compete differently in the U.S. than in foreign markets? If so, then how? | Both domestic and international markets are challenging. Both US & Canada are challenging in price, and the overseas market is challenging on quality.  
Breaking into a foreign market will be very difficult due to lack of the understanding of the local market, lack of local contacts. |
| **12** How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete? | Wall Street Journal. Go to Japan 2-3 times a year, visit own companies, and customers. Use a broker system in Canada, listen to them very carefully. Visit Canada once every two months.  
Use email to communicate with Japanese. In the case of the Canadian markets, we use the phone. Communication with both markets is on a daily basis. |
| **13** What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets? | We don’t have much IP in the pasta business. We have a few unique things that we do in production, but there are no patents in this business. |
# Global Strategy in Small Manufacturing Businesses

**Company Name:** Pasta Montana, LLC  
One Pasta Place, Great Falls, MT 59401  
**Interviewee:** Anthony Flagg, President

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| 14 Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure? | In Japan, we are owned by a Japanese company, and the relationship with them is more than an alliance.  
In Canada, it’s more like a supplier and distributor relationship. We do have a mid-term supplier agreement. We have a broker in Canada. They will promote our products, and get a broken trade.  
Transportation costs prevent us from entering more foreign markets. Japan is going to be our main focus. We have considered China, Taiwan, Indonesia, far-eastern Russia, but we are not competitive. |
| 15 What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.? | We have 55 employees in the US. Three are in sales and marketing; one of these is fulltime in the overseas market, and the other two work on the domestic & Canadian markets (one is in Seattle and one is in Montana). Our director of market and supply chain is dealing with both markets. He also coordinates with sales forces in Japan from Nippon. |
| 16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees? | Yes. |
| 17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn? | Culture issues are a big part. Quality is our big challenge. The other challenges are going to be culture and communication issues. Every once a while, frustration will build over different perspectives on these points or issues. This gets back to being able to develop employees so they have an appreciation and understanding of their counterpart’s perspective on different issues.  
Experience is the best way to learn. Every time you communicate, every time you have a disagreement, you learn something. Training programs won’t help too much. I get people be comfortable with each other through eye-to-eye contact, so that they understand each other’s motives and concerns, so that they have a deeper interaction. I am trying to get more Japanese to come to the US to spend 2-3 days with us, for whatever issues. I am sending the people from the US to Japan, to compare our methodology to theirs. All of that is my over-reaching goal there. Some methods have lead to fewer production mistakes. It leads to more efficiency in the long run. |
| 18 How often do these employees visit the countries to which you export? What is the primary purpose of these visits? | I will look to six key employees will go maybe once a year.  
Purpose is mostly educational, or dealing with a specific issue, resolution of an issue. The over-reaching purpose is the culture issue. I am trying to build communication between the two entities. For example, I send two people to do a benchmarking exercise with our Japanese manufacturing counterpart. They are going to sit there and talk about how you make pasta and I am sure there will be some good stuff that comes out of that meeting. But for me, the more important part is that they are communicating. |
| 19 How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.? | Emails, telephone.  
I visit Japan 2-3 times a year, and my employees email them on daily basis. Once a week there will be telephone communication. But it’s hard to communicate via phone because of the time zone. |
| 20 What advice would you give to a firm entering a foreign market? | For any meaningful advice, you need to look at the product and the market. Take the time to understand the culture, and encourage communication. Establish mutual understanding. You need to rely on somebody if you compete on an existing technology or product in that market, unless you have a technology and product that is unique. |
| 21 What is the biggest problem in entering international markets? | Do you provide value to the customer? Better quality, better price, better service bring you the business. |
**Global Strategy in Small Manufacturing Businesses**

| Company Name: | Pasta Montana, LLC  
|               | One Pasta Place, Great Falls, MT 59401 |
| Interviewee:  | Anthony Flagg, President |

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<td>22 How long were you in business prior to your first serious attempt to export?</td>
<td>Our attempt was immediate.</td>
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<td>23 What was the first country that you entered? Second? Third?</td>
<td>Canada was first, Japan was second. No third country yet.</td>
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<td>24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>The overseas owners already had a network of customers and contacts in the case of Japan. We used brokers to make contacts in Canada.</td>
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<td>25 How many distributors sell your product along with their own product line?</td>
<td>Six.</td>
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<td>26 Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>Not advertising per se, but in some cases we do contribute to their promotion funds.</td>
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<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>No.</td>
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<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>No.</td>
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<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No.</td>
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<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Foreign markets are more profitable, and this has not changed.</td>
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<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>Two years.</td>
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<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>Mixed, depending on the logistical cost to the market in question.</td>
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<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>Both, depending on the customer’s desire.</td>
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<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>10 days cash.</td>
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<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>Less than 1%; it is the same for both markets.</td>
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<td>Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Higher.</td>
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### Global Strategy in Small Manufacturing Businesses

**Company Name:** Roberts Irrigation Products, Inc.  
700 Rancheros Drive, San Marcos, CA 92069  
**Interviewee:** John C. Roberts, President

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<td><strong>1</strong> When did you start to export? What prompted you to do so?</td>
<td>In the early ‘90’s, we did some exporting to Mexico, and some international selling through a US-based distributor. However, we found that there was no way to get direct feedback from customers so we started to sell directly in 1998. We wanted to get closer to the market, get market feedback and control our own destiny. We hired sales people or independent contractors in Europe, Mexico and South America to sell directly to dealers. The dealer then sells to the customer. We needed to train distributors to sell our products. We also got on planes to meet these dealers. We now have about 10 people out in the field and another five or so internally (telephone contacts). Not a big force, but they cover a lot of territory. Some field personnel have big regions and are on planes two weeks a month at least. We concentrate on training the distributor. We provide some training and at times send them to courses. Company founders were farmers and saw a need. The market grew from regional to national to international. But the founder was not interested in direct selling. Second generation had traveled in Europe and was comfortable with the idea.</td>
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<td><strong>2</strong> What challenges did you face in becoming an exporter?</td>
<td>Internally, we did not have the knowledge or the infrastructure. How to get paid internationally, how to find good distributors, finding good talent and going out and setting up the distribution, time zones. Criteria for hiring good sales people include market knowledge (region, cultural and agricultural knowledge), language skills. They must be foreign nationals. It’s too expensive to use ex-pats.</td>
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<td><strong>3</strong> How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>Grown every year. Approximately half of sales are now international. Margins were higher initially on international sales, but they are less so now. Globalization makes mature and developing markets more alike. Even so, the cost of service is higher for new customers. As they become more sophisticated, the cost of service declines. In some cases we are increasing market share and in some cases we want to hold it where it is, within a point or two. We are the only major player that exports everything from the US. We have started to do some contract manufacturing. We had to consider more offshore manufacturing, but the weakening of the dollar has made this unnecessary for now. Manufacturing abroad adds complexity to structure that we prefer to avoid.</td>
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<td><strong>4</strong> How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>The U.S. side has grown as well, more than doubled.</td>
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<td><strong>5</strong> What do you see as your percent of foreign and domestic sales in five years?</td>
<td>Foreign sales are expected to grow faster than domestic sales in the next five years. Both will grow, foreign will outpace domestic, perhaps by 5%.</td>
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<td><strong>6</strong> How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>We sell the same product line worldwide, the mix varies a little bit. There is constant improvement in our core products, and this allows us to stay competitive and keep growing those markets. We are not in a static market at all. We expect the same product mix, but we will concentrate on improving our existing products. One of our competitors failed to keep up and was hurt as a result.</td>
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<tr>
<td>What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td>In our case, we invest primarily in human capital to get us where we want to go and then the machine capacity to support sales growth. We have to expand our sales force; we know with better coverage we are more effective in the field. In terms of technical resources, it is purchasing the capital equipment necessary to meet market demand. For the next five years, no need for dramatically different types of resources is anticipated.</td>
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<td>Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>We provide many free services to make the sale and to support customers. There are no bundled services included in the price now. We have highly technically competent people. Our customers want to talk to a technically competent person. It is quite common for our sales people to call on large customers along with the dealer sales person. There is no charge, and it is a large part of how we sell.</td>
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<tr>
<td>What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>The products and services have to have a minimum level of quality to be in the game. What helps us the most in foreign markets is how we do business. We take a very personal approach to establishing relationships. We help our customers with all the standard things, and also help them source other things in their business. We also respect our distribution agreements with them. There is more opportunity for loyalty to be a factor in foreign markets than in the U.S. U.S. markets have become very impersonal. “It doesn’t matter what you did for me yesterday, what are you going to do for me tomorrow?” In foreign markets, we spend more time in social situations to broaden and deepen the relationship than in the U.S.</td>
</tr>
<tr>
<td>In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>There are a handful of companies similar to us that we compete with pretty much in all the markets. We are the only one of the major global players who export everything, 100%, from the U.S. Our largest competitor is out of Israel. We don’t look at it as a big concentration in any country; we consider Canada and U.S. as a market, the Mediterranean as a market, Latin America is a market, and then “other” with all other international. The Canada/US and Mediterranean are pretty evenly split. We went to Europe and Latin America simultaneously. We primarily service the row crop agricultural industry.</td>
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<tr>
<td>Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>A little bit more limited distribution and a little more protection for the dealer in foreign markets. But, we don’t grant exclusivity. We are known to do it better than our competitors.</td>
</tr>
<tr>
<td>How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>We subscribe to a number of publications, we get regular reports from our people in the field, we subscribe to industry magazines, we get “The Economist”, which is a good macro read. We get Commerce reports that sometimes help. We are on the district’s export council. We keep a network of sources that together give us a decent view of what is going on. Sometimes our dealers tell us about rules and regulations or political changes; consulting firms (e.g., KPMG) provide information, as well as our law firm. They know what we care about and when notable things cross their desk, they will inform us.</td>
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<td>Interview Questions</td>
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<tr>
<td>13 What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>Patents and trademarks. We also limit the information that we share.</td>
</tr>
<tr>
<td>14 Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>Have thought about it, but have not gotten there yet. It has been proposed, but it is not the right thing to do yet.</td>
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<tr>
<td>15 What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>We actively cross-train so that any one individual can be involved in both foreign and domestic markets. We have only one or two people who are not.</td>
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<tr>
<td>16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>Yes. In 1998 we made the decision to go foreign, so as sales have increased, so have sales employees.</td>
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<td>We have many versions of our product and different regions use different versions – it is more a product mix question than the product. Our packaging is universal – documentation is in multiple languages so it can go into any market.</td>
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<td>17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Depends on where the employee is in the chain. If part of the sales chain - product, region, culture, language – they have to have all of that.</td>
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<td>Internally, we had to learn everything to do about exporting, including export documentation, currency translation skills, language, culture, different payment strategies.</td>
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<td>Legal requirements vary by country. Not just export documentation, certificates of origin, etc. What other rules must we comply with in a specific country? Where do you classify things? These are more what the customer service and accounting people need to know – tariffs, etc.</td>
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<td>We are pretty much home-grown on those things; we hired some consultants who came in and provided training. We sent people to training seminars. We’ve only hired in one person who had that knowledge prior to joining the team. Now we have enough skills in-house that we can train new people ourselves. Commerce came out and helped us in this arena.</td>
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<td>You can lean on your advisors. We had to change banks, because our original banker didn’t have the knowledge. Banker can be a trainer, attorney can be a trainer, Commerce can be a trainer. The freight-forwarders are more than happy to come in and run seminars on how to do these things if they think they are a candidate for your business.</td>
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<tr>
<td><strong>18</strong> How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>We treat every regional sales person as a district sales manager – they develop a plan at the beginning of the year as to what they are going to do from a sales volume standpoint and how they are going to get it done. This includes sales trips, marketing efforts, trade shows promotional programs we might put on. Their travel depends upon that plan. Typically it calls on them to see every customer at least a few times a year, two to three times a year. We don’t have a standard metric that says you must touch each customer above x sales volume x times a year. We examine what that customer needs and what the potential for growth is.</td>
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<td><strong>19</strong> How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>Type of contact really varies with the country. Some do not like email. It usually is going to be mobile phone first, then evenly split between fax and email. But there are many who simply don’t use email. They are not on it every day. But they get faxes every day.</td>
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<td><strong>20</strong> What advice would you give to a firm entering a foreign market?</td>
<td>Assume that you can do it. Very small companies should not be afraid to export. Travel. Go there. Pick your best market, get on a plane, plan the trip efficiently in advance (Commerce resources are great), and in one week you can get a real feel for it. There is nothing that compares with going there yourself. In that best market, hire somebody. You don’t have to hire somebody on a full-time basis when you are getting started. You can find someone to be your eyes and ears at a fairly low cost. There is some expense involved, but it is not as much as you would think if you go step-by-step. All the bankers, freight-forwarders – when you comment that you are thinking about expanding your business, people come out of the woodwork to help.</td>
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<td><strong>21</strong> What is the biggest problem in entering international markets?</td>
<td>One thing that is worth saying, the foreign competitors get more help from their governments than we do, that helps on the service side as well as other areas. When they go to develop markets, their governments have more subsidized marketing programs, resource-matching programs. Spanish and Israelis get a lot of help. The governments subsidize their export marketing efforts, dramatically. Companies get advice on how to export, and they also get state-sponsored trips into foreign markets.</td>
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<td><strong>22</strong> How long were you in business prior to your first serious attempt to export?</td>
<td>Almost thirty years.</td>
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<td><strong>23</strong> What was the first country that you entered? Second? Third?</td>
<td>Mexico first, Italy second, France third.</td>
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<td><strong>24</strong> How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>Personal networks.</td>
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<td><strong>25</strong> How many distributors sell your product along with their own product line?</td>
<td>Virtually all distributors sell multiple product lines. In terms of directly competitive lines, perhaps 30%.</td>
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<td><strong>26</strong> Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>Sometimes.</td>
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<tr>
<td><strong>27</strong> Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>We do not give contractual exclusivity but we are very respectful of territories.</td>
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Global Strategy in Small Manufacturing Businesses

| Company Name: | Roberts Irrigation Products, Inc.  
|              | 700 Rancheros Drive, San Marcos, CA 92069 |
| Interviewee: | John C. Roberts, President |

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<td><strong>28</strong> Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>Yes, we have been approached. We have declined.</td>
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<td><strong>29</strong> Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No.</td>
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<td><strong>30</strong> Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>It depends on the market and the competitors active there. Some foreign markets are more profitable, and others are lower than U.S. We may pursue some low price markets to capture scale economies and others to capture high gross margins. As global markets mature, they all move more towards common economic models.</td>
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<td><strong>31</strong> If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>One to two years.</td>
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<td><strong>32</strong> Are your product prices higher or lower than those of competitors for similar products?</td>
<td>We are similar or slightly higher.</td>
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<td><strong>33</strong> Do you sell your products in foreign currency or in US dollars only?</td>
<td>Foreign currency.</td>
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<td><strong>34</strong> What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Preferred method is wire transfer in advance.</td>
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<td><strong>35</strong> What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>We track it, but we do not carve it out specifically, foreign vs. U.S.</td>
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<td><strong>36</strong> Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Approximately the same.</td>
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# Global Strategy in Small Manufacturing Businesses

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<td><strong>1</strong> When did you start to export? What prompted you to do so?</td>
<td>The company started to export in 1996. In 1996, the company was founded as a wholly owned subsidiary of Hancor, Inc, a Findlay Ohio based manufacturer of polyethylene pipe. The current President and Chief Operating Officer, was working for Hancor, Inc. at that time. In 1997, he moved to this company when the former Hancor CEO purchased this company from its parent company. The company, in 1996, opened a warehouse facility in Nijmegen, The Netherlands. This was done, as there was a lot of demand for the company’s products from European clients at the trade-shows at which the company participated. Another reason for this location was to meet local competition. Gravograph (their biggest and primary competitor is located near in Paris, France). A US Venture Capital firm owns Gravograph.</td>
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<td><strong>2</strong> What challenges did you face in becoming an exporter?</td>
<td>Cultural differences; Time zone difficulties; Market differences – likes and dislikes (certain colors are unique to certain markets); Foreign exchange related problems; Import duties and taxes; Language by country; Business ethics – Payment was always sought in advance especially while dealing with new accounts. However, once they develop trust in their trading partner, they open up their credit policy. They do not use Letters of Credit, as fees can be excessive when compared to the size of the transaction. Their order size and volume size, according to them, are not big enough to justify using Letters of Credit. Bribery – the company does not indulge in the same. However, it should be noted that over half of the sales of the company are via distributors, and less than half of the sales are direct sales. Hence, though the company does not indulge in bribery, the local distributor may use his own discretion in whether to indulge in it or not, and that the company neither promotes such an action nor is responsible for any such act committed by its local distributor. According to the company, bribery has been a problem in countries such as India, China, Russia, and Pakistan.</td>
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<td><strong>3</strong> How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>Export business was up 18% last year. In fact, this year, it is expected to be up by another 20%. There has definitely been help from the weaker US Dollar. The weakening of the USD has contributed to almost 10-15% of the export growth. Last August, the company entered into a Joint Venture with an Austrian based company and moved its facilities from Nijmegen, The Netherlands to outside of Paris, France. It was a 50-50 Joint Venture. An entirely new company was formed. The new company is going to be involved in product development, distribution, production, etc. Hence, as a result of the start-up expense related to the moving of the facilities from The Netherlands into France and other related expenses, recent profits have been lower. For the company the most important things in joint venture relationships are not financial or managerial, they are cultural. They should be able to trust their JV partner. In fact, the company has entered into 3 JV relationships in the last 5 years. They recognize their weaknesses and seek partners that can fill in the same. They know what their core-competencies are and keep close to them. To support their relationships, they would do anything for any of their partners. But they say they are very cautious to enter into JV’s. Their JV with the Austria-based company took 18 months of courtship. Their Scandinavian distributor whom they trust very much introduced them to this Austrian company. And it took so long essentially because they wanted to do it right – they wanted to build a strong foundation to what they believe is a long-term relationship.</td>
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<td>How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>Their domestic business is doing well. The economy has now rebounded. Volumes are OK. They have tapered off over the years due to the mature nature of the market. They keep coming out with new products to stimulate activity. In fact, they currently have 3200 products on their catalog. They believe they are eating into their competitor’s market share over time. They believe and position themselves as a “solutions provider”. They produce something and then they back it up with great service and of course, integrity is right at the top for them. They believe in providing continually better service. A couple of years ago, they started providing their distributors with the facility to place orders online. Today, over 80% of all orders are placed online. This also helps, as there are lower chances of committing mistakes vis-à-vis when the orders are taken over the phone or have been faxed. Furthermore, they also provide their big distributors with the EDI system.</td>
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<td>What do you see as your percent of foreign and domestic sales in five years?</td>
<td>They have a 40% market share worldwide. Also, they have a 70% share of the domestic market. In Europe, they have a 21% market share (in terms of volume). India, China, and the Arabic countries, the Eastern Bloc – they are all growing markets. Their advantages are: They already have a network of foreign nationals in these foreign markets; They have distributorship in all the growing markets set up already; They have the advantage of location. Their European JV is just outside of Paris, France, which is the centre of the European market. Currently the revenue split is 85-15 in favor of the domestic market. In the next 5 years, they expect it to be 70-30 though still in favor of the domestic market. They do not want to make the company too big. They have 81 employees currently. And they do not want to add too many more employees for the current operation. If they have a weakness in something, they would seek a JV partner to iron that out then to hire someone and take care of it internally. They want to remain lean, which becomes a myth once the company gets too big and gets stuck in routines. The market size is $55MM worldwide. And they do less than $20MM annually. They believe they are expanding due to evolution and a continually changing product mix.</td>
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<td>How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products?</td>
<td>Their current product mix is the cash cow. But they believe they need to continually expand. They keep coming up with new products. New products would essentially be the usage of new technology. They do a needs-analysis before launching a new product. They perform market tests. If the same are positive, then they launch it and get it out into the market. They believe it is a defensive rather than an offensive strategy, as it would do them more harm if their competitor comes out with the product before they do. Though not extreme, their Gross Margins are very good. They do command a premium over other similar products in the market as they are perceived to be of a higher quality and they have a brand name. They are the market leader in pricing.</td>
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| 7 What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years? | One of the main reasons why they did the JV with the Austrian company is that outside of Paris, France, you get people who understand the accounting, legal, taxation and business issues whereas in Nijmegen, they had to hire Deloitte and Touche as their business consultant.  
They have distributors that reach as far as the Scandinavian market, also South Africa, the Middle East.  
It has most often been that their potential partners have sought them primarily because of their brand and reputation. |
| 8 Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets? | As far as the US and European markets are concerned, what they want is consistency in quality.  
In other markets, they would be willing to accept a lower quality of goods in return for a lower price. However, what the company always considers is the long-term strategic value of a business deal because if they sell for low, they are also putting their brand name at stake. |
| 9 What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets? | Please refer to the answer to Question 8 |
| 10 In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales. | Their biggest competitor is Gravograph – the French company owned by US VC’s. Also, there are 2 German, 1 Brit, 1 Australian, 1 Italian, 1 Korean, 1 Chinese and 3-4 US companies. They may not market directly though. |
| 11 Do you compete differently in the U.S. than in foreign markets? If so, then how? | They have a good handle on the US market now. However, as far as the foreign markets are concerned, they do not simply dump their goods into that market. On the contrary, they go and seek a partner in the foreign country, then understand the market and only then go and sell there.  
They believe that is the approach followed by majority of the European companies – the long-term view. However, the US companies, they believe are selling themselves short – have a short-term view as their primary goal seems to be to appease Wall Street. |
| 12 How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete? | Read publications; Web search; Other research; Via organizations, associations; Via partners; Newspapers; Even local pubs and restaurants |
| 13 What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets? | They believe they are diligent when it comes to patenting. Their work is not very brain-surgery like and hence patents are few. More important to them is Trademark. And for that they have a legal firm that handles their Trademarks and related protection.  
They also have Non-Disclosure Agreements with their partners and distributors. |
# Global Strategy in Small Manufacturing Businesses

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<td><strong>14</strong> Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>Please refer to the answer to Questions 3, 7</td>
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<td><strong>15</strong> What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>8 employees work in foreign sales and marketing (so about 10% of total employee strength). They more importantly leverage their partners’ strengths and their understanding of the foreign market. Also, only 5% of their total employees are technical in nature (polymer engineers etc.) They have tie-ups with the University of Akron and Ohio State University.</td>
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<td><strong>16</strong> Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>Yes. The increase in foreign sales prompted the involvement of more people in the same.</td>
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<td><strong>17</strong> What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Their employees do a lot of traveling. And travel is actually perceived as an incentive. You cannot learn better than in person and than actually being there is their belief. Also the exposure to new cultures serves well in understanding the foreign markets.</td>
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<td><strong>18</strong> How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>Please refer to the answer to Questions 3, 17</td>
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<td><strong>19</strong> How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>Please refer to the answer to Questions 12, 17</td>
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<td><strong>20</strong> What advice would you give to a firm entering a foreign market?</td>
<td>Please refer to the answer to Questions 7, 11, 15, 17</td>
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<td><strong>21</strong> What is the biggest problem in entering international markets?</td>
<td>Please refer to the answer to Questions 2, 7, 11, 15, 17</td>
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<td><strong>22</strong> How long were you in business prior to your first serious attempt to export?</td>
<td>A gentleman named Don Morrison originally started the company (called Rowland), in 1984, which eventually became this company when it was purchased. Mr. Morrison began exporting in the early years of the company, but there was no serious attempt until 1996 when there was a warehouse established Nijmegen, The Netherlands.</td>
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<td><strong>23</strong> What was the first country that you entered? Second? Third?</td>
<td>While neither of us were employees of the company at that time, we believe the first company was the U.K., second was Germany and the next was the Netherlands followed by France.</td>
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### Global Strategy in Small Manufacturing Businesses

**Company Name:** Rowmark, Inc.  
2040 Industrial Drive, Findlay, Ohio 45840

**Interviewee:** Duane Jebbett, President/COO and Rich Zydonik, VP Sales

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<td>24 How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>The awards engraving market is interesting. Typically in the early years, distributors were established by the mere fact that customers had sufficient business where other direct end-users would start to use them for supply of sheets so the large end-user became a distributor for the company’s product. Once there was a few distributors established and the product became well accepted, then there was a formal distribution policy set forth during the Rowland years. We would estimate the formal distribution occurred beginning in 1987.</td>
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<td>25 How many distributors sell your product along with their own product line?</td>
<td>Assuming that this question refers to a private labeled product line, there would be a total of 2 distributors that have their own specific private labeled brand. If you are referring to if there are competitive product lines that distributors sell with ours, the answer would be yes and all but a very few distributors would have a secondary competitive product line.</td>
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<td>26 Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>Yes, we offer a matching program for very specific advertising functions and media. The concept being to promote the company’s product line over all others and thereby, supporting the distributors in this effort.</td>
</tr>
<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>The company does not have exclusivity agreements; however, distributors always prefer an exclusive arrangement either by market or country. While we have some countries that there is only one distributor in, this is only because of adequate coverage by the distributor, but there is no formal exclusivity agreement with any distributor.</td>
</tr>
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<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>While we have never been approached by a distributor to actually manufacture sheet product for us, we do have one or two distributors that manufacture auxiliary products that would tie into sheet products. An example would be the magnet for the back of a name badge, which is manufactured by the distributor. He in turn sells it to us. Another example would be whereby we use a distributor to cut blanks or some other processing for us, the company does not have exclusivity agreements.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>Yes, we have a 50/50 joint venture partnership for distribution and warehousing of our products in most European markets. We mutually have a facility based in Ozoir, France which is N.E. of Paris.</td>
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<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Our domestic markets are clearly more profitable; however, this is due to the fact that we have a much stronger distribution marketing and logistical infrastructure. Our foreign markets have become more profitable in the past 3 or 4 years and this is directly related to currency issues and the expansion of our sales and marketing process within foreign countries.</td>
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<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>In general, we would prefer that after a year’s investment, that the market would be profitable. However, there are exceptions to every rule and this is largely dependent on our ability to attract the right type of distribution in a given market. It probably takes at least 2 years to really understand if you have the right distribution for profitable sales.</td>
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<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>In general, we tend to be premium priced in most markets. We definitely have competitors that are much lower than we are (10 to 15 percent). Occasionally we do have our largest competitor that will sell at higher prices, but rapidly discount if needed.</td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>We sell our products in both. Obviously, domestically it is in US Dollars and we sell our joint venture company, Tromark, in U.S. Dollars, which in turn Tromark sells into the market in Euros. Any country that we either ship directly or through our joint venture company, the respective country will be charged in Euros or Dollars, depending on if the company or the joint venture company sells the product.</td>
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<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Obviously, a letter of credit is always more desirable. However, we do establish credit lines with high quality accounts both domestic and foreign. One of the reasons we’ve established a joint venture partner is that we gain expertise by country to deal with credit issues accordingly. Hence, we feel we have a pretty good understanding of credit by country or we require a letter of credit or C.O.D. before shipment.</td>
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<td>Interview Questions</td>
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<tr>
<td><strong>35</strong> What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>This question is hard to quantify, however, in general our market is a mature market place and hence, our R&amp;D is .3 to .6% of sales. This ratio would be the same for foreign markets as the company completes all R&amp;D in the U.S. for our joint venture partner. However, the company's other company, Premier Material Concepts, which deals in industrial and commercials markets, the R&amp;D level percentage would be closer to .9 - 1.2%, due to the fact we are developing new products for markets. We expect to continue to invest at this or a higher rate to develop the market for PMC.</td>
</tr>
<tr>
<td><strong>36</strong> Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Currently, our training expenses for foreign markets are considerably higher and this is a direct result of our recent joint venture, which took place in July of 2003. As a direct result of the joint venture, it is incumbent upon the company to insure that our joint venture partner and their employees are well trained to sell our products in foreign markets. This causes considerable traveling expenses, training expenses as well as training of distribution.</td>
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## Global Strategy in Small Manufacturing Businesses

**Company Name:**  Sound Technology, Inc.  
P.O. Box 8071, State College, PA 16803

**Interviewee:**  Steve Swigart

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<tr>
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| **1**  
When did you start to export?  
What prompted you to do so? | Became an international firm in 1998. Attended a trade show in Germany and found some customers. They have 12-15 customers with one U.S. and three German customers accounting for 90% of their sales. |
| **2**  
What challenges did you face in becoming an exporter? | In going international, their biggest challenge was communication. They find it very important to clarify all those statements they make to their customers, many of whom have a limited English vocabulary. They do 80% of their communication over the Internet, 15% on the telephone, and 5% by mail.  
In trying to manage communication, many times they will write out an email and then critique it to be sure it’s clear to the receiver. |
| **3**  
How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales? | The company’s export business is doing very well with $20 million in sales, in which $12 million is export.  
In Europe, they are growing faster than in the US. Austria and Denmark are very good markets. This market is growing very rapidly, having doubled in the past year.  
Looking at the contribution to profits of foreign sales, they have a profit margin of 10%. |
| **4**  
How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits? | US business is doing reasonably well, but not growing at the rate of the international business. Looking at new markets to enter, China is seen as a growth market.  
Foreign and domestic sales are expected to grow over the next five years. They are always competing against their own customers. The customer has a choice of make or buy.  
There is always the risk that customers may go offshore to acquire a product. |
| **5**  
What do you see as your percent of foreign and domestic sales in five years? | |
| **6**  
How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products? | Change in foreign and domestic markets over five years will probably be due to the development of new technologies. There are a number of technologies that may come forward that will improve the markets. |
| **7**  
What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years? | An increase in human technologies resources that will be needed in the labor force. Their product is labor-intensive, and though they make a number of probes, they sell very few in total. They usually hire new people such as up-to-date engineers. |
| **8**  
Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets?  
Is your answer the same or different for domestic markets? | They do not provide customer service on the products. If there’s a field problem, they send it directly back to State College. Or if it’s a serious problem, then they send an engineer into the field. They do not have any add-ons, service, or have any sales organization to support them. |
### Global Strategy in Small Manufacturing Businesses

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<td><strong>9</strong> What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Qualities the product needs to have to win in foreign markets are high performance to meet specs and have a price point that is acceptable to the buyer. What usually happens is the buyer looks at making or buying the product. Then if they decide to have it sourced from the outside, they come to us and give us a set of specs and a price point they hope to buy at. Our engineers will take the product designed and make it for the customer. We operate in a niche market, where engineering performance to spec is critical, and being able to meet the price point that the customer has in mind is also important. Over time, the relationship evolves as customers will come back when they have a new quote to be made and count on our technology. The product is an engineering-intense product, and there are a limited number of companies who can operate at the high end of the market.</td>
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<tr>
<td><strong>10</strong> In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>In exploring the future, their main competitors are US companies and foreign companies. There are only five to six competitors in the market. There are other companies in Europe and Asia, but they are not technologically sophisticated to participate in the target market that we work in.</td>
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<tr>
<td><strong>11</strong> Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>No</td>
</tr>
<tr>
<td><strong>12</strong> How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>The company keeps up-to-date by attending trade shows and working with customers who bring new attributes that they want the company to engineer into the product.</td>
</tr>
<tr>
<td><strong>13</strong> What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets?</td>
<td>Protecting the intellectual property is an important issue for us. We sign confidentiality agreements with our customers and vice versa. However, over time we build up a trusting relationship with long term customers. We follow the natural growth of the market - as our customers grow, we grow. We believe that trust and confidence in our firm helps us win in the market place.</td>
</tr>
<tr>
<td><strong>14</strong> Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure?</td>
<td>The company does not have formal relationships with their customers. They have naturally developing relationships, but they are always open. The company believes that having this personal relationship – social and confidence in their product – helps them win the next job. For the customer, it is good to have a supplier with whom they can work and trust.</td>
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<tr>
<td><strong>15</strong> What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>In discussing the percentage of employees who are currently involved partially or full-time in foreign sales and marketing, it was noted that almost everybody has some contact with the customer. But basically 50% of the people carry the load of dealing internationally. The US market is not as profitable as the international market. The percentage of employees involved in the foreign market has increased over the years, simply because the foreign markets have become a bigger part of the total company sales. In going overseas, they needed to learn how to communicate. Each country has expectations about how they will work with the company. Europe works hard but only within the constraints of their holiday system and day work hours. US employees tend to work more and be more involved, and the Asian employees are the most involved in working for their company and take it very personally.</td>
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<tr>
<td>Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>In going overseas, they needed to learn how to communicate. The channel of communications is again a major problem for their employees. Many of their customers do not speak English very well, and it is a challenge to make sure everything is conveyed so that both parties understand what has happened. He believes that understanding the culture and the communication within that culture is essential for success in the foreign market. The best way they have learned about markets is visiting their customers, building a personal relationship and building rapport to help solve problems. The firm makes at least two visits per year to each customer. The purpose of these visits is to provide engineering help, and build relationships and rapport. It also helps the firm to keep up with what is happening on product design issues and new technologies.</td>
</tr>
<tr>
<td>What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Each country has expectations about how they will work with the company. Channeling expectations is again a major problem for their employees. Many of their customers do not speak English very well, and it is a challenge to make sure everything is conveyed so that both parties understand what has happened. He believes that understanding the culture and the communication within that culture is essential for success in the foreign market. The best way they have learned about markets is visiting their customers, building a personal relationship and building rapport to help solve problems. The firm makes at least two visits per year to each customer. The purpose of these visits is to provide engineering help, and build relationships and rapport. It also helps the firm to keep up with what is happening on product design issues and new technologies.</td>
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<td>How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>See answer to question 17.</td>
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<tr>
<td>How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>They do 80% of their communication over the Internet, 15% on the telephone, and 5% by mail. The president and another executive do the bulk of the travel.</td>
</tr>
<tr>
<td>What advice would you give to a firm entering a foreign market?</td>
<td>Trade shows are great place to start, where you can meet potential customers, visit and see competitors, and be able to put a face on people you may talk to through email or on the phone. In starting going international, they worked with the PA Department of Commerce in a program run by SEDA-COG. The one word of advice Steve gives us is to be patient, as nothing moves as quickly as you want in international markets. Be flexible and be understanding, is his advice to new starters in the international market.</td>
</tr>
<tr>
<td>What is the biggest problem in entering international markets?</td>
<td></td>
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<td>How long were you in business prior to your first serious attempt to export?</td>
<td>Approximately 10 years.</td>
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<td>What was the first country that you entered? Second? Third?</td>
<td>Austria and Denmark simultaneously, then South Korea.</td>
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<tr>
<td>How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact?</td>
<td>We are not working through distributors. Our customers are medical manufacturing businesses.</td>
</tr>
<tr>
<td>How many distributors sell your product along with their own product line?</td>
<td>None.</td>
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## Global Strategy in Small Manufacturing Businesses

**Company Name:** Sound Technology, Inc.  
P.O. Box 8071, State College, PA 16803

**Interviewee:** Steve Swigart

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<td>26 Do you supplement your distributors’ advertising budgets with your own funds?</td>
<td>N/A</td>
</tr>
<tr>
<td>27 Do you or your distributors require exclusivity in selling in specific markets?</td>
<td>N/A</td>
</tr>
<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>We have not been approached.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No.</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Profitability is similar between foreign and domestic markets. This has not changed over the past three years.</td>
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<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>For our type of business, this is based on our assessment that our customer has the ability to market the product to world-wide markets. If we understand why the product is not initially profitable and we believe the situation will change within the year, then we may bear the burden of lost profits for the short term.</td>
</tr>
<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>We look at our performance vs. price compared to our competitors performance vs. price. Generally, our prices are in-line and competitive with our competition.</td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>U.S. dollars only.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Net 30 days payment terms. Our customers are established manufacturing businesses, and we create strong working relationships with them through the course of product development and relationship building. We learn much about their business stability through this process.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>Unsure of R&amp;D to sales ratio; however, the ratio is the same for foreign markets.</td>
</tr>
<tr>
<td>36 Are your training expenses higher, lower or the same for foreign markets?</td>
<td>The same for foreign markets.</td>
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<td>Interview Questions</td>
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<tr>
<td>1 When did you start to export? What prompted you to do so?</td>
<td>Not taking into account Canada, we started to export our products (pet toys and beds) directly to individual stores in Denmark, Australia, and Japan in 1999. This export business, however, has been quite small. (We started exporting to Canada in 1996.) This year (2004) is the first year that we are trying to increase our exports, by beginning to use distributors. The reasons that we started exporting were: (a) our desire to increase sales and (b) our desire for greater international market diversification.</td>
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<tr>
<td>2 What challenges did you face in becoming an exporter?</td>
<td>1. Our prices are higher than our competitors’ prices. - This is because we manufacture in the US. Our primary competitors manufacture in Asia where the cost of labor is lower. 2. A challenge has been to keep the cost of freight down – we do not ship large volumes of product, and it is expensive to ship overseas in small volumes.</td>
</tr>
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</table>
| 3 How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales? | Most of our international business activity within the past year has been around signing-up national distributors to distribute our products. We have recently signed agreements with distributors in Japan and Germany; and in the next three months, I we should sign agreements with distributors in Spain, Portugal, and Scandinavia.  
Our market share in all of the countries is very small … so small that it is difficult to calculate. Moreover, we are a niche player. We have high-quality, niche products. The majority of pet toys and beds that are sold in the markets in which we compete are inexpensive products manufactured in Asia.  
Last year our foreign sales equaled around $25,000. For FY 2004, our foreign sales might be $100,000 – a four-fold increase. This $100,000 would represent five percent of our total sales. |
| 4 How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits? | Domestic growth is currently 10% per year, and we are entering one new market (ranch home and supply stores).  
Our domestic market share (of the pet toys and beds market) is roughly five percent.  
Again, that is a really tough number to calculate. There are no measures that specifically capture pet toys and beds sales (our niche). The domestic pet accessories sales per year is roughly $8 billion … and we are only about $2.5 million of that. |
| 5 What do you see as your percent of foreign and domestic sales in five years?       | 10% foreign, 90% domestic                                                                                                                                                                               |
| 6 How much of the above percent in foreign and domestic markets in five years will be due to development of new products versus sale of existing or improved products? | 75% will be due to new products (both domestically and overseas)                                                                                                                                           |
| 7 What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years? | We will need more sales staff. Currently I am handing the exports by myself. Travel expenses would go up, and costs associated with trade show attendance would go up. So our investments would be primarily in new sales staff and in marketing expenses. |
# Global Strategy in Small Manufacturing Businesses

**Company Name:** West Paw Design  
32050 East Frontage Rd  
Bozeman, Montana 59715

**Interviewee:** Spencer Williams, President

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<tr>
<td>8. Do you provide your customers with services as well as products? If so, what services? How essential are these services to selling your products in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>No</td>
</tr>
<tr>
<td>9. What qualities of your products and services help you win in foreign markets? Is your answer the same or different for domestic markets?</td>
<td>Our products are very unique compared to our competitors. This is very true in the case of our toys, and mostly true in the case of our beds. Our quality and durability is also very good compared to our competitors.</td>
</tr>
<tr>
<td>10. In the countries to which you export, are your main competitors Americans, locals, others? If your answer varies by country, then indicate competitors in the countries with your largest sales.</td>
<td>Our main competitors in all markets are Asian companies.</td>
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<tr>
<td>11. Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>In the US, we do not use distributors. We keep our costs down by selling and shipping our products directly to stores using UPS FedEx Ground. Internationally, we also began exporting by selling directly to stores. But more recently, we have begun to use distributors. We have had to lower our prices significantly to sell to distributors so that they can make a profit. We will continue to sell our products directly to stores overseas only in countries in which we do not have a distributor. These direct store sales are “nice little sales for us, and often times they will lead us to a distributor.”</td>
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<tr>
<td>12. How do you keep up-to-date about economic, technological and political changes in the foreign markets in which you compete?</td>
<td>“Weekly I read <em>The Economist</em>, and that helps a lot.” I also read <em>Pets International</em>, a pet industry magazine.</td>
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</table>
| 13. What do you do in foreign markets to protect your intellectual property or ideas? Is your answer the same or different for domestic markets? | We have only filed trademarks in the US. Hopefully, the Madrid Protocols will help us in the future. They will allow us to file a trademark once, and that trademark will be good around the world. We don’t have any patents. Our product designs are difficult to patent because they are sewn. Therefore, our designs have been copies quite a bit domestically and internationally. “Our philosophy has been to innovate rather then to rely on any one product and a patent or copyright.”  
We have had to be particularly careful about Asian companies that have wanted to copy our designs. |
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| **14** Have you formed partnerships or alliances with any foreign companies? If so, what criteria did you use to select or reject companies for such relationships? How have these relationships contributed to market success or failure? | Distributorship agreements have been our only alliances, and we have used the following criteria to select companies.  
1. Quality of the company (how they pay their bills)  
2. The type of products they carry (are the products they carry complementary to our products)  
3. Time in business (how long have they been in business as a distributor, how long have they been in the pet business) – we are looking for at least five years of business as a distributor in the pet industry  
4. What market do they cover (one nation, more than one nation, part of a nation) – currently, we prefer distributors who cover an entire nation.  
We have fired two distributors in Canada (in Ontario). One was fired because he did not pay his bills in a timely fashion, and the other distributor was fired because he was not focusing on our products. We have learned from these experiences. In particular, because the distributors were apprehensive about our training their sales staff, we are now making it a point to try to train the sales staff of the new distributors with whom we have recently and will soon sign agreements (Japan, Germany, Scandinavia, Spain, Portugal). Also, the Canadian distributors we fired were very young. That has affected our current selection criteria for new distributors (i.e., we are looking for at least five years of business as a distributor in the pet industry). |
| **15** What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.? | About 5% - I do get some help with the marketing. Regarding sales, I am the only person involved in international sales. Regarding production, the products that are destined for international and domestic markets are identical (they do not differ), and they are produced “on the same line.” |
| **16** Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees? | No. |
| **17** What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn? | N/A |
| **18** How often do these employees visit the countries to which you export? What is the primary purpose of these visits? | We travel to Europe about once per year – the purpose of these visits has been to meet with distributors. In the future … this fall, we will be going over to Europe again to help with local trade shows and train distributors’ sales staff. – I am the only employee who is traveling overseas. |
| **19** How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.? | In this order: 1. Email, 2. Phone, 3. Fax  
When “we are working on deals, it seems like we communicate about once a week. Then I anticipate that it goes down to once every 3-4 weeks.” As distributors get comfortable with the product line and how it is selling, they contact us less. This same phenomenon occurs with sales representatives. |
| **20** What advice would you give to a firm entering a foreign market? | “Go to the country and meet the people face-to-face.” “I think a lot of countries operate differently than we do here in America. I think in America we are more impulsive quick to buy. My experience has been that foreign buyers want to meet somebody face-to-face – to have an actual relationship of trust – and then you can move forward. I think that is very important” |
| **21** What is the biggest problem in entering international markets? | Price – our prices are higher than our competitors and often higher than consumers are willing to pay in many countries. Incidentally, the softening of the US dollar has helped our business overseas. |
## Global Strategy in Small Manufacturing Businesses

**Company Name:** West Paw Design  
32050 East Frontage Rd  
Bozeman, Montana 59715

**Interviewee:** Spencer Williams, President

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<tr>
<td><strong>22</strong> How long were you in business prior to your first serious attempt to export?</td>
<td>My first serious attempt to export was in 2000 when I went to an international trade show in Europe. We had been in business for four years then.</td>
</tr>
</tbody>
</table>
| **23** What was the first country that you entered? Second? Third? | Direct Sales  
1st Canada  
2nd Australia  
3rd Denmark  
Distributors  
1st Canada  
2nd Germany  
3rd Japan |
| **24** How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact? | The first contacts I had with distributors were through attending a trade show in Germany where there were mainly German distributors. It wasn’t very successful because they were busy dealing with their own customers. Then my next approach was two-fold – in Germany because I am fluent in German and lived in Germany for years – in the Spring of 2002, I went to the distributors’ facilities and met with them … and then I used Gold Key, which is through US Export Assistance Center in France and had those meetings at the Embassy with four companies they had planned with us in France.  
Also, I used the US consulate in Munich to help identify individuals in German distributors to deal with. Unfortunately, the consulate gave me the names of the three largest pet accessory distributors in Germany. I met with these folks on my trip to Germany in Spring, 2002. But I quickly saw that they would not be interested in a small company like me.  
Then, via attending trade shows again, through talking with store owners in Germany, and through conversations with other manufacturing pet accessory companies that have non-competing products, I was able to identify smaller distributors that were more appropriate for my business. |
| **25** How many distributors sell your product along with their own product line? | Our German distributor does not have their own line. In Japan … I am not sure if the distributor has their own line … I would think that they do. And, in Scandinavia, our distributor definitely has their own line … and the distributors in Spain and Portugal do not have their own lines.  
Therefore, I would guess that 30% of our distributors have their own lines. |
| **26** Do you supplement your distributors’ advertising budgets with your own funds? | We have been asked to do so … and we have not yet committed to doing so. But I think the answer is probably going to be “yes.” |
| **27** Do you or your distributors require exclusivity in selling in specific markets? | Yes – our distributors have all requested exclusivity in their country (and in the case of our Scandinavian distributor, within the region). We are happy to comply with these requests. We told one of our distributors that we had our products in the country (Japan) through another distributor that we had been testing-out and that we would allow that product to continue to remain with that other distributor for a year until our main distributor had proven they could adequately sell our product. |
| **28** Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined? | No – but vice-versa. The Scandinavian distributor would like us to manufacture a product for them … and … this is a bit of a long shot, but we have a distributor in South Africa that wants us to manufacture for them … but this is a long shot. It looks, however, like we will start manufacturing for our Scandinavian distributor.  
I am not interested in having anyone manufacture our product … because, “honestly, I like manufacturing, I like making stuff”  
We have been approached by many other companies (non-distributors, mainly from Asia) that have expressed interest in manufacturing our products for us. This spring, over the four days of the trade show in Germany, I was approached by probably representative of about 25 companies that offered to manufacture our products. |
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<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>No</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Domestic market is more profitable, and always been more profitable. The domestic market is probably a little more profitable than the foreign market because we use sales people domestically and sell directly to stores. Internationally, we sell our products a little cheaper to our distributors (we knock off a couple percentage points) to make our products sellable and profitable for them.</td>
</tr>
<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>We do not enter foreign markets unless they will be profitable. It goes back to my philosophy – “I don’t need to be the biggest, but I want to make money on everything I sell.” Therefore, I wouldn’t go into a market unless I knew it would be profitable. I can determine whether a market will be profitable based on the terms that I negotiate in my contracts with stores and distributors.</td>
</tr>
<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>Higher</td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>In US dollars only. We used to sell our products in local currency in Canada. We did that for two years there. We were really hoping that would increase our sales there … and it really didn’t … and it was a nightmare for us. So now, we sell exclusively in US dollars. – A couple years ago when we started selling in Canadian dollars to Canadian customers, not everyone had and used credit cards. This changed over time, however, and bank transfers became less expensive. And now it doesn’t seem to matter whether we sell in US or Canadian dollars.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>Wire transfers are working out far better now than LCs. LCs are more costly and you really have to nail down all the terms and all the products. We actually switched banks years ago because our former, smaller bank did not offer LCs. Therefore, we now have the option of using LCs … and I would be happy to do so if we could agree on splitting the cost of the LC. I think it is $500 to get an LC … wire transfers are about $10</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales ratio? Is this ratio higher, lower or the same for foreign markets?</td>
<td>Our average R&amp;D to sales ratio is low – maybe Half-a-percent – our products are not R&amp;D intensive.</td>
</tr>
<tr>
<td>36 Are your training expenses higher, lower or the same for foreign markets?</td>
<td>Our training expenses will be higher internationally because we will be training our distributors’ sales personnel.</td>
</tr>
<tr>
<td>Interview Questions</td>
<td>Response</td>
</tr>
<tr>
<td>---------------------</td>
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</tr>
<tr>
<td>When did you start to export? What prompted you to do so?</td>
<td>The company sells into 80 countries and has been in the market for about 20 years. But basically it was trade shows, some master distributors until the VP for Global Sales came on board. They went to Europe and attended a trade show that prompted them to become a real global company. In 1997, they were a hit and miss exporter. But in 1997 they decided to become a true international company.</td>
</tr>
<tr>
<td>What challenges did you face in becoming an exporter?</td>
<td>You have to understand the foreign market. That is the biggest challenge.</td>
</tr>
<tr>
<td>How is your export business doing currently, e.g., growth of foreign sales, number of foreign markets entered, increasing market share in each foreign market, and contribution of profits from foreign sales?</td>
<td>They have their own personnel in several countries: Germany, France, UK, Italy, Spain and also the Czech Republic and Brazil. They have four small offices in China in major cities and in Japan. Out of a workforce of about 650, they have 130 people in international. Their model is to have American leadership supported by local experts. The export business is currently doing very well. They have 40% of total sales in exports, and in 1996 they started to grow from 28% to 30%. Out of $117 million in total sales – foreign sales are about $70 million. They have 80 foreign markets they service.</td>
</tr>
<tr>
<td>How is your domestic business doing currently on similar measures, e.g., growth in sales, new markets entered, market share per market, contribution to profits?</td>
<td>In the US, their market share is about 60%, though it’s lower in Europe. Overall, international markets are 35%. China has 70% of the market and in Japan has 25% of the market. Their contribution to profits is very good from Asia and Europe. In 1996, they decided to go international and become an international company; they’ve done very well - their sales have doubled. Their new market is China, which they entered in June 2002. Sales come from Italy and Spain and the recent addition of Australia. Contribution to profits has Asia as #1, followed by the US as #2, and Europe as #3. The US, Europe and Asia are all active markets, although Asia is growing the fastest.</td>
</tr>
<tr>
<td>What do you see as your percent of foreign and domestic sales in five years?</td>
<td>Growth will be driven by new products and service. X-Rite is expected to have international sales as 50% of total sales in the next five years. Major personnel growth in the foreign markets is not expected. They follow a large customer strategy, focusing on large firms that have international operations.</td>
</tr>
<tr>
<td>What investments in human and technical resources will be required to achieve the above percent of foreign and domestic sales in five years?</td>
<td>As said previously, major personnel growth isn’t expected. They will carefully add resources as required.</td>
</tr>
</tbody>
</table>
## Global Strategy in Small Manufacturing Businesses

### Company Name
- X-Rite
- 3100 44th Street, SW, Grandville, MI 49418

### Interviewee
- Joan Andrews, Vice President, Global Sales

<table>
<thead>
<tr>
<th>Interview Questions</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you provide your customers with services as well as products? If so, what</td>
<td>The service push is authorized service centers around the world. This is a component of the their product package around the world in countries where they have locations. They offer a five- to seven-day return on products that failed in the field.</td>
</tr>
<tr>
<td>services? How essential are these services to selling your products in foreign markets?</td>
<td>They support the equipment and support some software. Service is a critical component of the selling package because the equipment must be maintained as it is because in many cases it is key process control color. It measures quality, and therefore needs to be up and running as much as possible.</td>
</tr>
<tr>
<td>Is your answer the same or different for domestic markets?</td>
<td>The service function is performed by local service people who speak the language.</td>
</tr>
<tr>
<td></td>
<td>In the US, service is tied fully to manufacturing and is integrated into their efforts.</td>
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<tr>
<td></td>
<td>They have a 70K page help site that helps people on the Internet.</td>
</tr>
<tr>
<td>What qualities of your products and services help you win in foreign markets?</td>
<td>The key to selling the product and to repeat sales is the product must be very reliable, consistent, and robust. They work in many rough environments and are part of process operations that, if they shut down, they may shut down the whole line.</td>
</tr>
<tr>
<td>Is your answer the same or different for domestic markets?</td>
<td>The same qualities of reliability, consistency and robust operations are important in the US market.</td>
</tr>
<tr>
<td></td>
<td>Many US companies are serviced that are global firms, and therefore the company can offer them standard material and equipment across all of their international operations.</td>
</tr>
<tr>
<td>In the countries to which you export, are your main competitors Americans, locals,</td>
<td>Their main competitors come from Switzerland (two competitors), Minolta in Asia and in Japan. Minolta has 50% of the market and is a formidable competitor.</td>
</tr>
<tr>
<td>others? If your answer varies by country, then indicate competitors in the countries</td>
<td></td>
</tr>
<tr>
<td>with your largest sales.</td>
<td></td>
</tr>
<tr>
<td>Do you compete differently in the U.S. than in foreign markets? If so, then how?</td>
<td>They compete differently in the foreign markets than in the US market. For example, the key attributes in China are training and education of the work force. In Europe they have very sophisticated customers, who are concerned about application knowledge. In the US, return on investment is the driver. They are willing to look at new products, but the question is, “What does it do for our bottom line?”</td>
</tr>
<tr>
<td>How do you keep up-to-date about economic, technological and political changes in the</td>
<td><em>The Economist</em> is used to keep up to date, along with travel and visits to customers in both US and China, to keep abreast of economic, technological, and political changes in the foreign markets.</td>
</tr>
<tr>
<td>foreign markets in which you compete?</td>
<td></td>
</tr>
<tr>
<td>What do you do in foreign markets to protect your intellectual property or ideas?</td>
<td>To protect their intellectual property, they make everything in the US.</td>
</tr>
<tr>
<td>Is your answer the same or different for domestic markets?</td>
<td>They guard their software and manufacturing process, as it is key to being successful.</td>
</tr>
<tr>
<td></td>
<td>There are high barriers of entry to the markets, where it really is low volume manufacturing.</td>
</tr>
<tr>
<td>Have you formed partnerships or alliances with any foreign companies? If so, what</td>
<td>They’ve made a few alliances with customers to do some joint development work and they’ve bought several small companies to round out their line.</td>
</tr>
<tr>
<td>criteria did you use to select or reject companies for such relationships? How have</td>
<td></td>
</tr>
</tbody>
</table>
# Global Strategy in Small Manufacturing Businesses

**Company Name**  
X-Rite  
3100 44th Street, SW, Grandville, MI 49418

**Interviewee**  
Joan Andrews, Vice President, Global Sales

<table>
<thead>
<tr>
<th>Interview Questions</th>
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</tr>
</thead>
<tbody>
<tr>
<td>15 What percent of your employees is currently involved partially or full-time in foreign sales and marketing, production, logistics, etc.?</td>
<td>In terms of employees working in international markets, 140 out of 650 employees work in international. But, many of the US engineers will support tech help in foreign markets.</td>
</tr>
<tr>
<td>16 Has the percent of employees involved in foreign sales increased in the last five years? If so, were any events critical to increasing their involvement in foreign sales or adding new employees?</td>
<td>The number of people involved in foreign sales has increased in the last five years.</td>
</tr>
<tr>
<td>17 What did these employees need to learn or still have to learn in order to be involved in foreign sales? What is the best way for them to learn?</td>
<td>Since primary people in the countries are nationals, the local employees need to adjust to the international market. For example, time zones are tricky for engineers. People have a habit of scheduling meetings late in the afternoon, which means people can’t sit in on them by telephone from other countries. Or if they’re doing a special new product announcement, it needs to be scheduled so that the international company people can sit in and listen. Culture change has to be pushed from the top down. They held a “China Day,” with a Chinese buffet and a discussion of what’s happening in China with their company. Their biggest problem seems to be that the local workers are not culturally sensitive. Because New York is the technical center, they receive many calls from their firms overseas. Problems of time zones get in the way of when people can call, when you can make announcements that the whole company can share in, and language problems. It is difficult to get the local workers to be more sensitive to the struggles of the international people trying to speak English and solve the technical problem. The company works very hard in trying to push a more sensitive culture down through the organization. Change in culture is proving to be difficult, as it takes a continued push from the senior executives.</td>
</tr>
<tr>
<td>18 How often do these employees visit the countries to which you export? What is the primary purpose of these visits?</td>
<td>In terms of international travel, the president and VP of Global Sales carry the bulk of the travel. The president travels about 45% of the time, and the VP travels 50% to 55% of the time. All product managers and key engineering people also travel, although they travel about half of the time that the president and VP travel.</td>
</tr>
<tr>
<td>19 How do these employees keep in touch with persons in foreign markets? How regularly do they visit each other or communicate via email, telephone, etc.?</td>
<td>They’ve been trying very hard to become an international company by changing the culture from a focus on local to a focus on the global world. They are trying to stress focus on the customer, their needs, and how we need to serve them that is culturally appropriate. To keep in touch they have heavy use of email, voice mail, video conferencing and visits.</td>
</tr>
</tbody>
</table>
# Global Strategy in Small Manufacturing Businesses

| Company Name      | X-Rite  
<table>
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<tr>
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<tbody>
<tr>
<td></td>
<td>3100 44th Street, SW, Grandville, MI 49418</td>
</tr>
</tbody>
</table>

| Interviewee       | Joan Andrews, Vice President, Global Sales |

<table>
<thead>
<tr>
<th>Interview Questions</th>
<th>Response</th>
</tr>
</thead>
</table>
| **20** What advice would you give to a firm entering a foreign market? | Do your homework. Use the basic commercial services, the Gold Key program that’s been spoken about before. Traveling to countries under the Gold Key, you get a chance to meet with bankers and legal people, and to visit some customers.  
With customers you can ask about how business is going, what issues they should be attending to, and others. This helps they company build a network of people who are international who can help them when needed.  
There are three problems in entering the international market. First is establishing a brand presence in the market. Second is just doing good marketing that is culturally sensitive to how they transact business. Third, educate the foreign market on the product and what it can do for them.  
Go in with a low risk strategy, get to know the place and the people, and don’t make too many heavy investments until you feel comfortable with the market situation.  
It is important to understand the market you’re going to enter. In the US, they have a system that matches paint to the color you want. In Europe, they have all pre-mixed colors and the salesperson helps you match up your colors so they either mix right or provide contrast.  
They had to change how it marketed in Europe because the system is not the same as the US. There are strong rewards for going international, as not everything goes bad. There are opportunities for growth, knowledge and the benefit of gaining international skills that will help with future placements in the company or in another company.  
They believe we’re in a global world and all of their customers are going international – the company needs to follow. |
<p>| <strong>21</strong> What is the biggest problem in entering international markets? | |
| <strong>22</strong> How long were you in business prior to your first serious attempt to export? | Roughly 18 years. The business was established in 1958. |
| <strong>23</strong> What was the first country that you entered? Second? Third? | Canada first, England second, Japan third. |
| <strong>24</strong> How have initial contacts with distributors typically occurred? For example, were they made through personal networks, government programs, or some other mode of contact? | Product reputation and trade shows. |
| <strong>25</strong> How many distributors sell your product along with their own product line? | Most of them sell our product along with their own line. |
| <strong>26</strong> Do you supplement your distributors’ advertising budgets with your own funds? | Generally, no. |
| <strong>27</strong> Do you or your distributors require exclusivity in selling in specific markets? | It varies from product to product. |</p>
<table>
<thead>
<tr>
<th>Interview Questions</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>28 Have you been approached by any distributor to manufacture your product? If so, have you accepted or declined?</td>
<td>We have not been approached; if we had, we would have declined.</td>
</tr>
<tr>
<td>29 Do you own (wholly or partly) any sales, manufacturing, distribution, or service facilities in foreign markets? If so, where?</td>
<td>We have wholly owned sales and service companies in Europe and Asia. The companies are German, French, Italian, UK Hong Kong, Chinese, Japanese, and Singapore corporations.</td>
</tr>
<tr>
<td>30 Are your domestic or foreign markets currently more profitable? Has this relationship between markets changed in the last three years?</td>
<td>Confidential – non-public information.</td>
</tr>
<tr>
<td>31 If a foreign market is not initially profitable, how long are you willing to wait before it becomes profitable?</td>
<td>This is not an issue for X-Rite; our product applications are global.</td>
</tr>
<tr>
<td>32 Are your product prices higher or lower than those of competitors for similar products?</td>
<td>We are competitive.</td>
</tr>
<tr>
<td>33 Do you sell your products in foreign currency or in US dollars only?</td>
<td>In Europe we generally bill in either USD, Euro or Pound Sterling. In Asia, we generally bill in either USD, Chinese Yuan, Hong Kong dollar or Japanese Yen.</td>
</tr>
<tr>
<td>34 What is your preferred method of payment, e.g., letters of credit, wire transfers, etc.?</td>
<td>For our export sales we employ prepayment, letters of credit, or, establish credit privileges similar to our domestic customers.</td>
</tr>
<tr>
<td>35 What is your average R&amp;D to sales? Is this ratio higher, lower or the same for foreign markets?</td>
<td>R&amp;D will continue at 12 to 14 percent of annual sales in color.</td>
</tr>
<tr>
<td>36 Are your training expenses higher, lower or the same for foreign markets?</td>
<td>About the same.</td>
</tr>
</tbody>
</table>
APPENDIX B

COMPANY PROFILES

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Al-jon Inc.
“Keeping it simple – Building it strong”

14599 2nd Ave.
Ottumwa, IA 52501
1-641-682-4506
Fax: 1-641-682-6294
http://www.aljon.com/

Interviewee
Kendig Kneen
President

Company Objective
Building the best landfill and recycling equipment in the industry – This is the one goal that every employee at Al-jon starting with the president, Ken Kneen, has in sight.

Company Background/History
Al-jon was founded in 1963 by Allen Sharp and Jon Kneen. The company specializes in designing and manufacturing high quality products for the scrap metal and solid waste industries with the same motto – “Keeping it simple – Building it strong”.

Facts & Figures
Company Type    Private
Founded    1963
Founded By    Allen Sharp and Jon Kneen
2003 Sales    $7.5-10 MM
2003 Employees   70-100
NAICS     333

Locations
The manufacturing facility and corporate offices are located in the heart of America in Ottumwa, Iowa.

Equipments/Products
Car Crushers
• Impact V
  Features
  o Completely Portable
  o Automatic Cycling
  o Manual or Remote Radio Control
  o One Man Operation
  o Hydraulic Landing Gear
  o Oil Recovery System
  o Overload Sensitivity
  o Quad Post System = Lower Loads

• 580
  Features
  o L Box Design
  o 540 Degrees Crane Rotation
Throttle Inside Cab
Pressure Switch (Log or Bale) Inside Cab
Fully Portable & Road Legal
Four Corner Hydraulic Outriggers for Stability
One Man Operation
High Visibility Operator’s Station
Fully Auto Cycle (Ram In & Out-Doors Open)

Landfill Compactors
  - ADV 600 Series
    Features
    - The heaviest, most powerful landfill compactor on Earth at 125,000 pounds
    - 600hp
    - Tier 2 emissions
    - Full time, all-wheel hydrostatic drive
  - ADV 525 Series
    Features
    - Powerful, reliable, cost-efficient landfill compaction
    - Operating weight – 107,000 pounds
    - 525hp
    - Tier 2 emissions compliant engine
    - Full time, all-wheel hydrostatic drive
  - ADV 500 Series
    Features
    - The heaviest, most powerful competitor in its class
    - Operating weight – 87,000 pounds
    - 425hp
    - Tier 2 emissions compliant engine
    - Full time, all-wheel hydrostatic drive

Scrap Metal Balers
  - 400 XL
    Features
    - Portable One Man Operation
    - L Box Design
    - Continuous Grapple Rotation – 540 Degrees Crane Rotation
    - Kidney Loop 5 Micron Filtration
    - High Visibility Operator’s Station
    - Four Corner Hydraulic Outriggers for Stability
    - Process loose tin & white goods into shredder acceptable Logs or bales
  - 580
    Features
    - L Box Design
    - Kidney Loop 5 Micron Filtration
    - Weight – 95,000 lbs
    - Pressure Switch (Log or Bale) Inside Cab

Car Recycling System
  - ELV System
    Features
    - One Man Operation
Environmentally-Responsible Operation
Secure, Indoor Operation Requires Limited Space
Can be placed indoors to completely eliminate storm-water run issues

Loader
- **1100 Loader**
  - **Features**
    - Designed specifically for recycling yards
    - Will run cycles around conventional loaders
    - Articulated steering
    - Lets you work in tightest spaces
    - Telescoping boom provides superior balance and reach
    - Durable hydrostatic drive

Service
- **Service Department**
  - Al-jon has strategically placed its service technicians throughout the United States.
  - Each tech is equipped with a service truck that is supplied with parts for immediate repairs.
  - Techs are there to work hand-in-hand with the local support groups.
- **Parts**
- **Service School**
  - Al-jon has hands-on training, in its classroom and in its plant.
Altronic, Inc.
712 Trumbull Ave.
Girard, Ohio 44420
Tel: 330-545-9768
Fax: 330-545-9005
http://www.altronicinc.com/

Interviewee
Bruce R. Beeghly
President

Company Highlights
- Altronic is the worldwide leader in industrial ignition systems for spark ignited, natural gas fueled engines.
- Altronic's engine controls provide air/fuel ratio control, fuel control, speed governing, and complete custom control panels to keep engines at peak efficiency, within emissions guidelines, and fully monitored and protected.
- Altronic produces a wide range of digital instruments and controllers for gas engines, compressors and other heavy-duty rotating equipment.

Company Background/History
Altronic, Inc. is a privately held manufacturer. It produces ignition systems for spark-ignited, natural gas engines, instruments and controls for heavy duty rotating equipment, and control panels used principally in the oil and gas industry.

Altronic digital and solid state ignition systems are the standard the world over. Altronic began production of the solid state Altronic I ignition system for one-cylinder oil pumpjack engines in 1966. This line was later extended to four variations covering all stationary engines from 10 to 10,000 horsepower. In the mid-1980's, Altronic introduced ignition systems based on digital circuits. These provided greater timing accuracy, the ability to change ignition timing electronically, and useful diagnostic information for the engine operator. Today, Altronic digital ignition systems are the OEM standard used by most stationary gas engine manufacturers worldwide.

Altronic also produces a line of ignition accessory items including the FLASHGUARD™ industrial spark plugs and spark plug leads, specifically designed for heavy-duty continuous operation. Altronic’s digital instrument line began in the late 1970's with the industry’s first digital annunciator, which replaced up to 32 electromechanical relays as indicators of alarms on gas compressors. This line now includes tachometers, hourmeters, pyrometers, and microprocessor-based instruments for monitoring pressures, temperatures, speed and ignition timing. In addition, engine air/fuel ratio controls are available.

Altronic's Export Business
Altronic’s products are sold throughout the world in gas compression and power and generation markets that use industrial gas engines as the prime mover. Over the past few years, Altronic has enhanced its export business by developing and managing a complex network of distributor representatives located in areas of the world where the market demand for these products is strong and offers potential growth. Establishing direct business ties to these companies represented a major strategic change by Altronic towards increasing its exporting business.
Products
Altronic produces industrial ignition systems, digital instrumentation and controls for natural gas engines, compressors and other heavy duty rotating equipment. Instrument products include annunciators, tachometers and speed switches, temperature gauges and scanners, pyrometers, pressure gauges and monitors, and engine air-fuel ratio controls.

It produces ignition systems for spark-ignited, natural gas engines, instruments and controls for heavy duty rotating equipment, and control panels used principally in the oil and gas industry.

- **July 30, 2003** – Altronic, Inc. Receives Government’s Excellence in Exporting Award.

Custom products
In addition to offering universal products targeted for the gas engine and critical equipment operating communities, Altronic is also engaged in extensive custom design work and production of instrument and control products for both OEM and private-labeled consumption.

Altronic's design experience is focused upon high quality and product reliability for natural gas-fueled engines and other critical rotating equipment. Altronic precision instrument designs feature low power consumption, extremely high reliability, and resistance to corrosive and hazardous operating environments. Familiarity with third party approval agencies and regulations, such as the Canadian Standards Association, further enhances its ability to respond to very specific environmental and operating requirements. Altronic's quality system is ISO 9001 certified.

Facts & Figures
<table>
<thead>
<tr>
<th>Company Type</th>
<th>Private</th>
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<tbody>
<tr>
<td>Founded</td>
<td>1966</td>
</tr>
<tr>
<td>2003 Sales</td>
<td>$35 MM</td>
</tr>
<tr>
<td>2003 Employees</td>
<td>153</td>
</tr>
<tr>
<td>Patents Assigned since 1976</td>
<td>8</td>
</tr>
<tr>
<td>NAICS</td>
<td>333</td>
</tr>
</tbody>
</table>

News Releases
On July 30, 2003, Altronic, Inc. was one of 28 companies recognized in Columbus by the state of Ohio for its international exporting activity with the presentation of the Governor’s Excellence in Exporting Award.

- **March 26, 2003** – Governor Bob Taft promoted his Third Frontier Project during a visit to Altronic, Inc.
  "Dynamic, high-tech companies like Altronic, Inc. are examples of the kind of businesses we need to make Ohio a leader in the Third Frontier," said Taft. "The Third Frontier Project is about positioning Ohio to compete successfully in the knowledge economy of the 21st century. Our focus is on growing more high-tech, high paying jobs for the people of Ohio."

Acquisitions in 2002
- **December 28, 2002** – Altronic, Inc. announced the acquisition of the Oil and Gas Division of Calgary, Alberta-based Exacta Controls. This acquisition includes both the Exacta Series XI and RC2000-series compressor monitoring and control products.
- **October 9, 2002** – Altronic, Inc. announced the acquisition of the GOV and AGV5 reciprocating gas engine product lines of San Diego, California-based Continental Controls Corporation (CCC).

- **July 1, 2002** – Altronic Controls, Inc. (ACI) announced the acquisition of Gas Technologies, Inc. of Weston, Florida. Gas Technologies, Inc. (GTI) is the leading supplier in the design, manufacture, and application of bi-fuel conversion systems for industrial diesel-fueled engines.

**Altronic Controls Inc.**
Altronic Controls, Inc. was established in 1988 at Garland, Texas to provide the oil and gas industry with high quality monitoring and control panel solutions. Panels ranging from simple safety shutdown to a complete engine/compressor automation package are manufactured to precise customer specifications.

Custom engineering and design service is provided by Altronic Controls’ application engineers. Designed with Altronic digital instrumentation as base products, and combined with products from other manufacturers as required, these panels are constructed with first class techniques resulting in a customized, high quality control solution.

**Gas Technologies, Inc. (GTI)**
Acquired by Altronic Controls, Inc. in 2002, Gas Technologies, Inc. (GTI) is the leading supplier in the design, manufacture, and application of bi-fuel conversion systems for industrial diesel-fueled engines. These innovative systems enable standard diesel engines to operate on a combination of diesel fuel and natural gas (up to as high as 80% natural gas content on an energy equivalent basis), typically with no change in engine power rating or efficiency. Fuel flexibility and all of the economies associated with such flexibility are the primary benefits to the customer. In most cases, natural gas is less expensive than the diesel fuel being replaced.

**Altronic Europe BV**
Altronic Europe BV was established in 1997 to address the specific needs of the European engine marketplace. Altronic ignition systems are used extensively as standard equipment by European gas engine manufacturers with thousands of systems in use. The Altronic Europe staff, based near Eindhoven, The Netherlands, provides application and technical services to both engine OEM’s and aftermarket customers.
AlturnaMats, Inc.
P.O. Box 344
Titusville, PA 16354
Toll Free: 888-544-6287
Office: 814-827-8884
Fax: 814-827-2903
http://www.alturnamats.com

Interviewees
Janet Aaron
President
&
Michael Gierlach
Executive Assistant

Company Background/History
Founded in 1993, AlturnaMats manufactures environmentally friendly ground protection mat systems made from 100% recycled high density polyethylene which is used to protect lawns and landscape areas and provide traction for vehicles operating in mud or sand. Seeking to balance seasonal slack periods, the company began an international expansion in 2000. It has since obtained a distribution agreement with a large Japanese holding company which serves construction and rental industries in the Pacific Rim. It also has an exclusive agreement with a UK distributor, obtained with the assistance of Pennsylvania’s UK office that markets to companies serving the turf industry in Western Europe.

The company’s international efforts have resulted in export sales growing by 271% in 2002 helping overall revenues increase by 110%, and employment increase from 14 to 23. AlturnaMats has moved into a larger facility, doubling its production capacity. Future plans for the company include expansion into Australia, New Zealand, South Africa, Mexico and South America.

Facts & Figures
Company Type    Private
2003 Sales    $3.74 MM
2003 Employees   21-30
NAICS     326

Key Persons
Janet Aaron    President
James Aaron    Vice President
Dan Aaron    Production Manager
Gerald Harry    Sales Manager
Michael Gierlach    Executive Assistant
Jay Valdesalice    Warehouse/Assistant Production Manager
Brooke Smith    Executive Assistant/Sales & Marketing
Desiree Smathers    International Sales
William Kingsley    International Sales
**Products**

**Ground Protection Mats**
AlturaMats produces heavy duty 1/2" thick 100% polyethylene mats which feature a slip-resistant, diamond plate cleat design on both sides. The mats are guaranteed against cracking or breaking for three full years.

**Handi-Hooks**
These are the easy way to drag AlturaMats around the work site. One can simply hook into holes in the mats and move them easily. The hooks are 3' long.

**Mat Turn-A-Links**
Easy to use links lock mats together to create roadway or working platform. They are made of 1/2" cold rolled steel.
Types of Turn-A-Links:
- Single Turn-A-Links lock mats end-to-end
- Double Turn-A-Links lock four (4) mats together

Turn-A-Links (patent pending) create an instant portable roadway or working platform for as long as one needs it. They connect easily. They are ideal when working in harsh sites or when the job requires several days to complete. They are made of rugged 1/2" cold roll steel.

**Outrigger Pads**
Benefits:
- Lightweight
- Moisture and rot proof
- Resistant to oils and chemicals
- Long life...will not delaminate
- UV Protected
Composition:
- 4-ply construction
- Bolted together—Excellent durability
- Upside—Smooth on outrigger side
- Downside—Cleats on groundside
- Integral rope handle

**Markets**
- Utilities-electric, gas, water, CATV
- Manufactured housing
- Golf course maintenance
- Cemetery crews
- Crane operator
- Drillers-water, gas, directional and environmental
- Building contractors
- Tree trimmers
- Even researchers on the ice-bound Himalayan Mountains of Tibet

**Customers**
- AT&T
- Adams Electric Power
- Allegheny Power
- Bell Atlantic
- Connecticut Electric Light & Power
- Detroit Edison
- Entergy
- Florida Power & Light
- Hamilton Hydro—Canada
- National Fuel Gas
- U.S. Department of Energy
- Guelph Hydro—Canada
- Others
Interviewee
Frank Piccolo
President

Company Background
Artcrete, Inc. is a manufacturer of supplies for Faux Brick, Stenciled Concrete, Colored Concrete, Stamped Concrete and other Decorative Concrete Systems. It is involved with retail, wholesale, private label and international sales. Faux Brick is a concrete finishing system that makes concrete look like brick, stone, slate or tile – for a fraction of the cost.

Products
Artcrete’s Signature Product
The company’s signature product is a concrete finishing system that makes concrete look like brick, stone, slate, or tile — for a fraction of the cost. The magic is in a stencil. The process goes something like this: concrete is poured and a cardboard stencil is laid on top while it’s still wet. Then a mixture of sand and pigment is tossed on top of the stencil – “just like chicken feed,” says Piccolo. The stencil keeps the pigment in place and ensures that the design looks realistic – concrete “bricks” have strips of white “mortar” in between and the striations in slate look like the real thing. It’s a product with a wide range of applications and Piccolo says he’s sometimes had more inquiries than he knew what to do with.

Innovative Roller Technology
Artcrete has developed a line of texture tools (patent pending) that use interchangeable texture sleeves. The interchangeable sleeves come in two sizes, 22-1/2 inches and 6 inches, and allow contractors to offer additional textures for minimal additional cost. The frame handle protrudes from only one end allowing the application of texture against walls.

Others
Stencils, Color Hardeners, Release Agents, Deck Coat Resurfacing System

Facts & Figures
Company Type Private
2003 Sales $2.66 MM
2003 Employees 25
NAICS 327

Frank Piccolo’s Export Success
Frank Piccolo is one small business owner who sought out opportunities in global markets. He thinks the 2008 Olympics in Beijing could mean big business for his building products company as new construction projects take off in China. These days, he’s selling not only to China, but also to buyers in Canada, Mexico, Japan, Hong Kong, France, Belgium and Saudi Arabia. But Piccolo wasn’t always so confident about doing business in tricky markets like China. Nor was he so savvy about the risks. But in the ten plus years he’s been exporting, he’s learned some tricks of
the trade. The most important being it pays to be cautious – check out your potential buyers to avoid surprises.

He says building his export business was a challenge – but one that paid off. Piccolo didn’t start out with exporting in mind. Instead, he set out with a smart goal: to diversify his customer base. In 1989, after being in business for several years and selling mostly regionally, Piccolo and his partner decided to expand their reach. The crash of the oil economy in the late 1980s meant that building in oil boom towns was slowing – a serious blow to Artcrete. Piccolo decided to raise Artcrete’s profile with a booth at a major industry trade show, World of Concrete. He’d done his research and knew that trade shows can be a good way to reach a broad audience of potential buyers at once. But what he didn’t expect was the huge interest that would result from the show – and the challenges he’d face in dealing with it.

“World of Concrete” Trade Show
And immediately thereafter…
Artcrete went to the World of Concrete trade show, where it got huge amount of attentions. Piccolo and his partner leveraged themselves heavily to make a good showing at World of Concrete. And it paid off – at first. Even before the show, an article about Artcrete in a pre-show publication prompted 40 or 50 calls a day — says Piccolo, “the phone started ringing immediately.” And after an enthusiastic reception at the show, Artcrete was “swamped.” But after shipping out responses to 600 inquiries a week, Artcrete was struggling.

Then Piccolo got an inquiry from an Australian buyer with deep pockets. In exchange for distribution rights to the entire continent, the buyer purchased a huge order of 100 rolls of stencil. Just like that, Artcrete became an exporter. When the product reached Australia, “it was like the Hula Hoop,” recalls Piccolo. Sales took off and Artcrete began to ship containers as fast as they could fill them.

But at this point, how much did these Louisiana boys know about international business? Not much, says Piccolo. “We were flying by the seat of our pants,” he recalls. And unfortunately, they were headed for a fall.

The Trouble with Success
“We were trusting souls,” says Piccolo. He and his partner conducted business over the telephone and never met the international distributors they signed. Their instincts were good, but as Piccolo now warns other small exporters, good instincts aren’t enough. He learned this the hard way when he lost serious money on a deal with a crooked buyer in Brazil.

It was then that Piccolo turned to his local Export Assistance Center in Shreveport, part of the network of the U.S. Commercial Service, a Commerce Department agency that provides international business support to small and medium-sized U.S. companies.

Export Assistance Center in Shreveport
At the Shreveport office, Piccolo met former director Norbert Gannon and current director Pat Holt – and found out he didn’t have to go it alone. Holt has colleagues in embassies around the world and with a phone call can do a background check on a foreign business. Piccolo says he’s never again done business without first checking out the potential buyer with Holt’s office.

Holt says that U.S. business owners need to carefully target the best markets for their products and then be prepared to deal with cultural differences, unfamiliar labeling standards, customs issues and a host of other challenges. “Helping navigate the exporter through the exporting
process is a big part of what I do,” says Holt. She and her colleagues have access to a vast amount of market research; if more is needed to answer highly specific questions about particular markets and products. Customized research is available from one of the Commercial Service experts around the world.

Holt says one of the things her agency excels at is bringing buyers and sellers together. Piccolo agrees, citing his experiences with the agency’s Gold Key Service, in which Commercial Service specialists overseas arrange meetings for the visiting U.S. businessperson with the best prospects in his or her market. Background checks and interpreting services are part of the package, which cuts preparation time for businesspeople like Piccolo. “All I had to do was show up,” he says. He recalls that a Gold Key Service in Shanghai consisted of 12 appointments in 2 days. For a small business owner, less time on the road means real bottom-line savings.

Piccolo now swears by the Gold Key Service, which he’s done in Mexico, Hong Kong and several other countries in between.

These days, Piccolo can stay at home and still find buyers. He says most of Artcrete’s international inquiries are generated from quarterly advertisements in Commercial News USA, a product catalog produced by the U.S. Commercial Service and provided free to international buyers.

**Lessons Learned**  
**And advice imparted…**

Despite his years of experience, Piccolo still maintains a healthy caution toward international inquiries. He advises other small businesses to be scrupulous about checking the credit and reputation of potential international buyers and encourages them to enlist the help of their local Export Assistance Center.

Piccolo also recommends common sense and basic travel safety. He reads up on State Department travel advisories before he leaves the country and always registers with the American consulate in the country he’s heading to. In addition, he remains in close contact with U.S. Commercial Service specialists before, during and after his trip.

Shreveport director Pat Holt thinks that a world of opportunity awaits Louisiana small businesses. “95 percent of the world’s consumers live outside the U.S.,” says Holt. “And because the world’s consumers know U.S. products are excellent, our companies enjoy a competitive advantage. My job is to help local companies use that advantage.”
BioPlastics
“Serving The Industry Since 1977”

34655 Mills Road
North Ridgeville, Ohio 44039
800-487-2358 toll-free
440-327-0485 local
440-327-3666 fax
http://www.bioplastics.us

Interviewee
Frank Boron
President
And
Jesse Pennington

Company Background/History
BioPlastics manufacturers BioThane® belting, a belting made of polymer coated webbing that is sold to manufacturers and converters as a raw material. BioPlastics also provides some value-added services for semi-finished production.

BioPlastics is a closely held manufacturing business and has been in existence since 1977. Export business has increased from less than five percent of total business in 1999 to a projected 10 percent or more of total revenues in 2003, and is expected to increase 20 percent or more within three years.

Primarily BioPlastics sell rolled BioThane® belting to customers who then manufacture finished goods with it. However, it also offers fabrication services such as cutting, punching, riveting, welding, printing, etc. It manufactures Beta belting. This material has a vinyl coating which compliments the company’s normal polyurethane BioThane® belting. BioPlastics does not use nylon webbing. With only one exception all rolled BioThane® belting is made using polyester webbing. (The exception is High Flex 3/4" Black 201. This product is made with nylon webbing). It has a number of domestic and international distributors who sell BioThane® belting. It is the exclusive inventor, manufacturer, and owner of all BioThane® brands and products. It can provide specific test data on a particular product. It has a modern R&D Laboratory complete with equipment to test break strength, hold strength, adhesion and abrasion resistance.

Facts & Figures
Company Type Private
Founded 1977
2003 Sales $2.5-3 MM
2003 Employees 31-40
Patents Assigned since 1976 1
NAICS 326

Products
Within its five different belting classes and 13+ thickness possibilities, chances are BioPlastics has a solution to any problem the customer is having with its current belting option.

BioThane® Coating Classes
All BioThane® products are coated with either polyurethane or vinyl. There are several performance attributes that hold true for all BioThane® coating classes.

- Abrasion & Cut Resistant
- Lightweight
- Tear & Crack Resistant
- Flexible in low temperature
- Mold & Mildew Resistant
- Easily cleaned & decontaminated
- Chemical Resistant
- Non-Absorbent

Applications

- Equine
- Outdoor
- Sports Goods
- Medical
- General Industrial
- Guitar Straps
- Others

Services

Currently their fabrication services include:

- Cut - to - length pieces
- Punched pieces
- Punched pieces with RF sealed holes and ends
- Riveting
- Snapping
- Grommeting
- Ink printing
- RF welding
- Sewing
- Embossing
- Skiving
Brown Medical Industries
“Improving Life is Our Passion”

Lake Business Park,
1300 Lundberg Drive West
Spirit Lake, Iowa 51360-7246
Toll Free 800-843-4395
Ph: 712-336-4395
Fax: 712-336-2874
http://www.brownmed.com/

Interviewee
Ivan Brown
President and CEO

Company Background
Where "Improving Life is Our Passion", Brown Medical Industries is a growing, entrepreneurial company founded in 1965 by Ivan E. Brown, MD, a family physician and surgeon in Hartley, Iowa. Following his sudden death in 1982, the company has been managed and operated by his family. Presently located in the beautiful recreational area of the Iowa Great Lakes, the company resides in a 30,000 square foot facility in the Lakes Business Park, Spirit Lake, Iowa.

With a tradition of innovation and entrepreneurship, Brown Medical Industries has evolved as a leader in the healthcare marketplace.

Company History
The company’s founder, Ivan E. Brown, a physician and surgeon in Hartley, Iowa needed better finger splints than the 1960’s marketplace provided. He experimented with various designs and materials in his basement workshop to develop and patent a new approach to splinting that provided better patient care. He named his invention the Plastalume® Finger Splint and in 1965 incorporated Brown Manufacturing to begin selling them from his home.

The company quickly expanded into a small building in his back yard and three people were employed there while Dr. Brown devoted his energy to his medical practice. After Dr. Brown died in 1982 his sons took over the business. Sales grew during the 1980’s, earning the Governor’s Export Award in 1987 and Iowa Small Business Exporter of the Year Award in 1988. The company was renamed Brown Medical Industries at that time to more clearly express the company’s work in medical device manufacturing.

The new owners developed an innovative new product of its own, the Seal-Tight® Cast and Bandage Protector, in collaboration with Dr. Jay Betz. It was also patented and sales grew dramatically. The company expanded to ten employees in a new 6,000 square foot building in 1991. Six years later, BMI outgrew that building and moved to a larger plant in Spirit Lake, Iowa. As President and C.E.O., Ivan E. Brown, Jr. built a management team there and together it focused on acceleration of company growth. The State of Iowa recognized BMI with the Governor’s Export Award again in 1997 and an outside Board of Directors was created the following year. As a more professional organization in the 1990’s, the company focused its entrepreneurial spirit on more sophisticated and diverse new products and higher technologies. Since 1992, sales have grown 525% and the company has earned ISO 9001 Certification. Employees are active in community involvement year round but have a special interest in a
company paid day to volunteer for local community organizations to celebrate Martin Luther King, Jr. Day. Corporate strategy in recent years includes attention to contract manufacturing and mergers and acquisitions. An additional office was opened in Kansas City, Missouri to develop relationships with the life sciences community and venture capitalists. In 2003 Ivan Brown was selected as a finalist for the Ernst and Young Entrepreneur of the Year award.

The company currently employs 44 people, manufactures 50 products, including the original Plastalume® Finger Splint, markets them in 70 countries, and holds 14 patents. The spirit of innovation upon which the company was founded a generation ago continues to illuminate BMI’s future.

**Facts & Figures**

- **Company Type**: Private
- **Founded**: 1986
- **Founded by**: Ivan E. Brown
- **2003 Total Sales**: $3-4 MM
- **2003 Employees**: 31-40
- **Patents**: 14
- **NAICS**: 339

**Key People**

- **President**: Ivan E. Brown Jr.

**Products**

**Categories**

**Cast & Bandage Covers**

- **Active Seal**
  Description: Active SEAL™ is a safe, economical protector for casts and bandages during recreational water activities or daily showering and bathing. Easy application eliminates the need for pumps, velcro straps and adhesive tapes that may irritate skin. Made of TPE, a high performance thermoplastic elastomer that stretches easily, Active SEAL™ maintains a waterproof seal.

- **Others**: Crazy Cast, Mid-arm Protector, SEAL-TIGHT

**Compression Supports**

- **Basic Ankle Support**
  Description: Bio-Dynamix™ knitted compression ankle support enhances proprioception with a high-quality orthopaedic design that provides greater vertical stretch with less warmth than neoprene. Features three-dimensional stretch for even compression and seamless construction for comfort. Wicks moisture from skin and allows vaporization. Use to treat ankle strains, swelling or edema, recurrent ankle pain and post-trauma discomfort.

- **Others**: Basic Elbow Support, Basic Knee, Basic Wrist 4.5, Basic Wrist 7.5, Cock-up Wrist, Double Stay Back, Double Stay Back w/ Side Pulls etc.

**Foot & Ankle**

- **Heel Hugger**
  Description: Treat heel pain! Heel Hugger™ therapeutic heel stabilizer with Sealed Ice™ provides relief to heel pain and inflammatory problems of the calcaneous. Sewn-in Sealed Ice™ gel pads located on each side of calcaneous below the level of the talo-calcaneal joint, limit lateral and medial movement of heel and provide soothing cold
therapy to reduce heel inflammation. Designed and patented by a podiatrist, the Heel Hugger™ is effective treatment for chronic heel pain, heel spurs, plantar fasciitis, narrow heels, retrocalcaneal bursitis, calcaneal apophysitis and achilles tendonitis.

- **Others**: Heel Hugger with Magnets, N’ice Stretch, Perform 8, Pro Gel Ankle Stirrups etc.

**Fracture Walker**
- **Low Top Walker**
  Description: A shorter version of comfortable, lightweight Steady Step™ Walker, the LOW TOP Walker recognizes importance of correct anatomical fit. Designed with universal adjustable arch support, this unique design features low profile rocker sole, shock absorbing foam insole and flexible locking tongue that enables stabilization of ankle and lower leg. Unique ankle stabilization system firmly supports arch, heel and malleoli, accelerating healing.
  - **Others**: Steady Step Walker

**Ice Therapy**
- **PI Replacement Pack**
  Description: Polar Ice™ replacement ice packs are available. Encapsulated ice packs are filled with purified water and USDA approved freezing agents. Maintains 33 - 38 degree Fahrenheit temperature for up to 1 1/2 hours. Use to replace the ice packs included with each Polar Ice™ unit.
  - **Others**: Polar Ice, Shin Ice

**Shoe Inserts**
- **Arch Pads**
  Description: Prefabricated viscoelastic components to be used with Bio-Dynamix™ insoles to create a shock absorbing custom orthotic. No adhesive is required. Arch pad provides support to medial arch, helping to control excessive pronation. Use to treat foot, leg and lower back fatigue, plantar fasciitis, shin splints, heel pain, interdigital neuroma and medial ankle pain.
  - **Others**: Footbed, Full Insoles, Heel Cups, Heel Cushions, Heel Lifts, Heel Pads, Heel Spur, Heel Wedges, Metatarsal Pads

**Splints**
- **Arm - Bar Colles**
  Description: Vinyl coated aluminum splint is contoured to fit hand. Utilizes lightweight cast aluminum bar to provide effective ulna support. Nonlatex, 1/4” foam padding provides patient comfort and eliminates bulky dressing. Malleable aluminum can be fitted to correct angle of flexion. Use for distal end fractures of ulna and radius.
  - **Others**: Arm - Cock-up, Arm – Colles, Arm – Forearm, Arm - Mason Allen Hand, Arm – Metacarpal, Arm - Palm Metacarpal etc.

**Wrist Supports**
- **WrisTimer**
  Description: WrisTimer® wrist support provides therapeutic treatment during the day. Finger and hand free design allows a healthy range of motion and avoids damaging wrist flexion during work or activity. Elastic wristband adjusts easily for stable and comfortable wrist compression while the finger loop adjusts for the desired range of motion. Designed by an orthopaedic surgeon, WrisTimer® is an ideal dynamic support for occupational use. WrisTimer PM® is the perfect companion support to use at night.
  - **Others**: WrisTimer PM
News

- **July 2003** – Entrepreneur of the Year® Finalist
  Ivan E. Brown, President & C.E.O. of Brown Medical Industries, was selected as a finalist for Iowa/Nebraska 2003 Ernst & Young Entrepreneur of the Year® Award.

- **March 2003** – BMI Receives CE Marking.
  As a mark of distinct recognition in the European Union, the CE Marking enables Brown Medical Industries products to be sold readily in Europe. CE Marking is a mandatory mark for most products sold in the EU marketplace, including medical devices. BMI has completed the documentation necessary to obtain the CE Marking for all BMI medical products manufactured and sold in Spirit Lake, Iowa.

- **March 2003** – BMI Achieves ISO 9001 Certification
  ISO 9001 is a worldwide mark of distinction that stands for Quality. As a manufacturer of medical devices, Brown Medical Industries earned this distinction in March after passing a rigorous audit conducted by DNV of Norway.
Diamond V Mills, Inc.
“Adding value everyday, to animal feeding around the world”

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P.O. Box 74570
Cedar Rapids, Iowa 52407-4570
Telephone 1-319-366-0745
Toll Free 1-800-373-7234
Fax 1-319-366-6333
http://www.diamondv.com/

Interviewee
Dr. Mark Kujawa
Vice President of International Business Development

Company Background
Diamond V® is recognized throughout the animal nutrition field as an innovative, scientifically-motivated feed ingredient supplier. It has been providing natural, research-proven yeast culture products for more than 60 years and is constantly looking for practical solutions to the nutritional problems encountered in modern animal agriculture.

Diamond V provides yeast culture fermentation products and high-selenium yeast to animal feed companies, dairy milk producers, beef cattle feedlots and integrated swine and poultry operations world-wide. They also market a propionate based gluconeogenic supplement for ruminants and produce high quality selenium yeast for human supplements.

Locations
- 13 Sales Managers all over US & Canada
- International Distributors:
  - Mexico, Central and South America
  - Europe
  - The Middle East
  - Asia
  - Australia and New Zealand

Facts & Figures
Company Type: Private
Founded: 1943
Founded by: C. W. Bloomhall
2003 Total Sales: $31.25 MM
2003 International Sales: $5 MM
2003 Employees: 120
Patents: Cannot be patented in US
NAICS: 311

Products
Diamond V products are feed ingredients used worldwide to improve the palatability and digestibility of feeds for all types of animals including dairy animals, swine, beef cattle, horses, poultry, pets, goats, sheep, rabbits, fish and other aquaculture species.
- **Diamond V XP™ - Yeast Culture:**
  - Feed ingredient produced by fermenting selected liquid and cereal grain raw ingredients with bakers yeast (Saccharomyces cerevisiae) and drying the entire culture-media without destroying the yeast factors, B-vitamins and other fermentation products. Used in a wide variety of animal feeds including dairy, swine, beef, horse, poultry, aquaculture and pet foods.

- **Diamond V YC™ - Yeast Culture:**
  - Feed ingredient produced by fermenting selected liquid and cereal grain raw ingredients with bakers yeast (Saccharomyces cerevisiae) and drying the entire culture-media without destroying the yeast factors, B-vitamins and other fermentation products. Used in a wide variety of animal feeds including dairy, swine, beef, horse, poultry, aquaculture and pet foods.

- **Diamond V XP™ DFM - Yeast Culture with Direct Fed Microbials:**
  - XP™ DFM delivers the recommended level of Diamond V XP™ Yeast Culture, as well as eight species of live bacteria and one fungi, plus active enzymes to aid in feed digestibility. The microbes include Propionibacterium freudenreichii, Lactobacillus acidophilus, Lactobacillus casei, Lactobacillus lactis, Pediococcus cerevisiae, Enterococcus faecium, Bacillus subtilis, Bacillus licheniformis, and Aspergillus oryzae. The active enzymes are derived from the microorganisms Aspergillus oryzae, Aspergillus niger and Trichoderma viride.

- **Diamond V SelenoSource AF™ - Selenium Yeast:**
  - SelenoSource AF is a premium source of organic selenium (Selenomethionine) backed by nearly 60 years of integrity in the feed business and in manufacturing of high quality yeast products.
  - Organic selenium is more biologically available than sodium selenite or sodium selenate, the two inorganic forms of selenium commonly used in the feed industry today.
  - Selenium is an essential trace mineral and can have profound impact on immune function, health and productivity. When fed in excess, selenium is toxic to tissue cells and becomes an environmental contaminant through fecal excretion. Therefore, the maximum levels for feeding selenium to various livestock are regulated by regulatory bodies around the world.

- **NutroCAL™ Gluconeogenic Supplement:**
  - NutroCAL™ is a dry, prilled, dust-free, free-flowing calcium propionate supplement, plus essential minerals which functions as a gluconeogenic source of energy to assist in maintaining the transition cow in excellent condition.
  - NutroCAL gluconeogenic supplement provides an excellent source of energy to be fed to dairy cows during the critical transition period of three weeks pre-calving to maximum milk production. During this period it is typical that the cow does not consume adequate energy to meet the necessary requirements for optimum milk yield.
  - NutroCAL provides the important gluconeogenic precursors that allow fat to be efficiently converted into energy, thereby meeting the cow's metabolic needs. A lack of energy can result in a variety of costly disorders.
**Latest News**

- **March 2003**: Diamond V Mills recently received **GMP+ Certification** for its ability to produce and supply yeast culture that is safe for consumers of animal products, for the animals and for the environment. Yeast culture, an internationally used feed supplement, enhances the palatability and digestibility of feed for dairy and beef cattle, swine, horses, poultry and pets.

- **April 2001**: **Kemin Americas, Inc.**, and **Diamond V Mills**, two Iowa-based life science companies serving the food-animal production industry in the Americas and worldwide, have announced the formation of a **strategic technology business alliance**. This alliance will integrate the technical knowledge and resources of the two companies for complementary research, product development and sales efforts focused on delivering high quality nutritional solutions for selected segments of the agri-food industry.

**Recognition**

- Diamond V received the prestigious **"E Star" Award** in **2000** from the U.S. Department of Commerce.
- Diamond V received the **Governor's Export Award** in **1994** from Governor Terry Branstad, State of Iowa, USA.
- Diamond V received the **President's "E" Award for Export Excellence** in **1993** from the President of the United States.
Interviewee
Hisham Fawzi
President

Biography of Hisham Fawzi
Fawzi, originally from Egypt, came to the United States as a student in 1986. He studied to attain a master's in business administration. Although he eventually decided not to pursue the degree, he said the courses helped him understand how business in the U.S. is done. His previous business background was in international trading. He wanted to pursue a business that would combine his entrepreneurial skills with his desire to do something to serve humanity.

Company Background
Excel Holdings, Inc. is a United States company based in Leesburg, Virginia, within the Washington, D.C. trade corridor. It has expertise at helping customers navigate through the many processes, agencies, and regulations that can stand in the way of trade. Founded in 1991, at the heart of its organization is a global network of representatives and relationships with individuals and affiliated organizations across the globe.

As a full-service company, it can help clear the way for successful trade arrangements and deals of all shapes and sizes. For example, it can arrange for such basic services as rigging, export packing, container loading, and shipment. It also provide all the logistical support needed to navigate the often complex range of related issues such as tax credits, customs, tariffs and duties, and provide its customers with effective solutions to their most challenging transportation, financing, insurance and logistical needs.

When Excel's management visits a country on a business development trip on behalf of its customer, it makes every effort to meet with the most influential leaders in the country's commercial, political, and financial worlds. It tailors its business strategies to the dynamics of each country's unique circumstances. On a daily basis, it monitors and evaluates the business trends and developments in each country in which it does business.

Because of its extensive network of representatives and contacts in each of these markets, as the borderless trade world continues to develop, it can help their customers penetrate markets to which Excel would otherwise be effectively closed.

Company Affiliates
In addition to its work on behalf of its customers, Excel Holding, Inc.’s family of companies also includes two cutting-edge subsidiaries that specialize in distributing a proprietary technology called Water Extraction and Purification System™ (WEPS).

One affiliate, Excel Water Technology, Inc., www.excelwatertechnology.com, distributes equipment using this revolutionary water generation technology to customers for commercial, government and military applications. The other affiliate, Excel Water Systems, Inc.,
www.excelwatersystems.com, distributes an appliance version of the technology for consumer sales and use.

**Facts & Figures**
- Company Type: Private
- Founded: 1991
- Founded By: Hisham Fawzi
- 2003 Sales: $85 MM
- 2003 Employees: 5
- Patents Assigned since 1976: 6 Pending
- NAICS: 333

**Locations**
The company has signed distributorships for 14 countries, including China, Thailand, Indonesia, Australia, Singapore, Brunei and Mexico.

**Products**

**WaterFinder & Aquasphere**
Excel's products include the smaller WaterFinder unit and the larger Aquasphere units. Both use Excel's proprietary Water Extraction and Purification System technology.

The smaller WaterFinder units operates in any enclosed structure and is used in places such as residences, hotels, yachts, commercial, government, offices, schools, hospitals and religious establishments. It is a free-standing unit that generates up to five gallons a day of drinking water from ambient air.

The larger Aquasphere units are used mainly to meet large-scale needs, such as those of military field operations, commercial and government office buildings, and relief organizations. It is a free-standing unit that generates, depending on the model, from 250 gallons up to 1,500 gallons of drinking water from ambient air.

**History of the WaterFinder**
- Hisham Fawzi sells a machine that produces water out of thin air. It sounds like science fiction, but the Water Finder is real, affordable, and quenching the thirst of customers around the world.
- Fawzi acquired the original patent from a Florida inventor who came up with the machine's basic design.
- He then worked with the University of Maryland's environmental engineering department to improve and refine the Water Finder.
- He has six pending patents and has developed a larger version, the Aquasphere, which can produce 5,000 gallons of pure drinking water a day.
- Before deciding which countries to market the product in, he had intensive marketing studies done worldwide to find out where purified water was needed most and what the customers would specifically need in a unit.
- Eventually Excel signed an original equipment manufacturer agreement with a company in the United States to produce the machines.
- The company has signed distributorships for 14 countries, including China, Thailand, Indonesia, Australia, Singapore, Brunei and Mexico.
WaterFinder – How it works

- Fawzi said the units generally work best in an environment of about 80 degrees Fahrenheit and 55 percent relative humidity.
- The products mostly would work efficiently for about seven months out of the year. In the winter months, they have a system that would work, but it costs a lot of money to do it.
- They use the condensation method to condense the water out of the air. The air passes through an air filter first, and then it goes through the process of the condensation. Water that is condensed drips through an antimicrobial water filter, designed to take off everything, making it about 99.99 percent pure. Then it is drinkable water.
- The main difference from a dehumidifier is that Excel's machines are focused on drinkable water as the product, with the byproduct being dehumidification. Dehumidifiers use a different technology that focuses on pulling humidity from the air, with water as a byproduct.

Excel’s Clients

- Excel’s clients are mainly businessmen in different countries.
- Most clients have an appliance business already existing, and their product is an addition to their line or they are businessmen who see the big, high capacity units as important to supply to the government or to the military.

News and Articles

- April 04th, 2002 – President Bush Acknowledges Excel's Efforts and Success
- April 26th, 2002 Washington Business Article – Exporting offers world of opportunities for small companies
- November 2001 – Export Achievement Award presented from the U.S. Department of Commerce by Secretary Donald Evans

Fawzi’s Quotes

- "Water was considered valuable," said Fawzi. "There is a crisis worldwide, and while it may not be hitting all the countries right now, it is hitting most of the countries."
- He said the U.S. Commerce Department was a great help to him in finding and meeting with potential distributors.
- He said being mentioned in President Bush's speech, and attending the event where he spoke, were valued rewards for the hard work he had put into his business the last five years. "I got acknowledgement from a person that I respect very, very much," he said.
- Fawzi said he loves having his business in Leesburg and Loudoun County and plans to keep it there permanently. "It's the perfect area for us, in terms of family, business and personal environment," he said. "I have had lots of encouragement from the local authorities here."
- He said he enjoys the challenge of bringing a new product to the market. Fawzi said he hopes the company's product will someday be considered a standard home appliance.
- Because Fawzi relies on his distributors not only to make sales but also to provide ongoing customer care, "It's crucial to find the right distributor. If they fail, I fail," he says. Fawzi's insistence on the most qualified and reliable distributors led him to the U.S. Commercial Service and its Northern Virginia U.S. Export Assistance Center. There he learned that trade experts both there and in the international markets he was considering could help him make the contacts his business needed.
FCX Systems, Inc.
“Leaders in 400Hz Technology Since 1987”

400 FCX Lane
Morgantown, WV 26501
Phone: (304) 983-0400
Fax: (304) 983-0270
http://www.fcxinc.com

Interviewee
Donald Gallion, Jr.
President

Company Background
FCX is an engineering company, which manufactures 50, 60, and 400 Hz solid state frequency converters and ground power systems. Applications include the military, aerospace, and commercial aviation, ground support industry.

The customer base is worldwide, including commercial aviation, private, government, corporate, and industrial lab applications. The engineering expertise coupled with marketing work has resulted in sales, not only domestically, but internationally at a high enough volume to win FCX the WV Governor's Export Award and the Federal E Award. FCX Systems has been tenacious in developing and servicing targeted niche markets abroad so as to sustain sales. It has been innovative in using the company resources and those of the U.S. Department of Commerce in expanding international sales. Its use of these resources in tandem with its own carefully crafted international marketing plan has proven to be an impressive formula for success.

Company History
FCX Systems, Inc. was founded in February 1987 to design, manufacture and sell solid-state frequency converters.

Since its inception, the company has designed and manufactured frequency conversion systems converting available utility power into power acceptable to equipment with unique power requirements. Some of this equipment includes commercial and military aircraft. Systems designed by FCX can be found powering everything from the New York Subway System to the ultra sophisticated military F22 aircraft. The customer base is worldwide, including commercial aviation, private, government, corporate, and industrial lab applications.

FCX has been closely involved in the ground power requirements and design changes occurring in the aerospace industry. As a result the company now also produces ground support air conditioning units to complement the existing line of ground support power converters. The engineering expertise coupled with marketing work has resulted in sales, not only domestically, but internationally at a high enough volume to win FCX the WV Governor's Export Award and the Federal E Award. The company currently is located just northeast of Morgantown, WV.

Products
FCX products are designed to change line power from one frequency to another. Voltage is also often changed as requested by the customer. The most common conversion in the US commercial aviation industry is from normal industrial power of: 480 VAC 3 phase 60 Hz to 200 VAC 3 phase WYE 400 Hz aircraft power.
The Solid State Frequency Converter Products include:
- Central System Power
- Multiple Output Hangar Distribution
- Point of use Aircraft Ground Power

Furthermore, FCX will provide the necessary peripherals as a complete system package to insure clean and efficient transmission of power to the point of use.
- Gate Boxes
- Line Drop Compensators
- Distribution Panels
- Remote Boxes
- Aircraft Cables
- Cable Hoists

**Facts & Figures**

- **Company Type**: Private
- **Founded**: February 1987
- **2003 Sales**: $7.99 MM
- **2003 Employees**: 63
- **NAICS**: 336

**Applications**

FCX offers frequency conversion systems to satisfy a wide range of 50Hz, 60Hz and 400Hz applications, including:
- Passenger boarding bridge mounted ground power for commercial jetliners.
- Central system ground power for multiple gate distribution at commercial airports.
- Hangar located single or multiple output power sources for commercial, private, or military aircraft.
- Avionics shop or laboratory power sources for commercial or military use.
- Fixed or portable flight line power sources for commercial or military aircraft.
- Ground based Radar power sources for military applications.
- Shipyard drydock power sources for commercial or military shipping.
- Laser and computer power sources for laboratory or office applications in the military or private industry.
- Or as an efficient, cost saving alternative to a motor-generator set in any application.

**Products Features**

- **Intelligent Integrated Inverter Section**
  - IGBT- Insulated Gate Bipolar Transistor
  - Compact Design
  - Low Thermal Impedance
  - Pressure contact technology increases power handling capability.
  - Integrated current sensors: Over current protection
  - Over temperature protection and integrated temperature sensors.
  - Low maintenance and short down times (Less than 10 minutes to replace)
  - Gate driver includes interlock dead time protection, which eliminates misfiring of transistors.
  - Power Supply protection- monitors the supply voltage and shuts down when voltage drops below a predetermined setting.
  - Short pulse suppression- this circuit suppresses On and Off pulses shorter than 750ns. Also eliminates misfiring of transistors.
- **Microprocessor Control**
  - FPGA – Field Programmable Gate Array
  - Circuit simplicity.
  - "On the fly" programming allows for instant changes without the need for physical board changes.
  - True-RMS Feedback Loop

- **Laminated Bus Bars**
  - Low Impedance (Eliminates the need for RC snubbers)
  - Simple assembly and repair.

- **LCD – Flat Keypad**
  - Allows for user-friendly controls.
  - Simple menu driven system.
  - More data can be accessed than ever before. (Voltages and Current- Input and Output), Inverter Temperature(C and F), Output Frequency, Under and Over Voltage setpoints (Password Protected), KVA per phase and total system KVA (Output).
  - Input and Output keys allows for instantaneous display of the voltage and current data.

- **Ground Power Communications Package**
  FCX offers an optional Ground Power Communications Package for the control and monitoring of single converters or complete power systems.
  - RS232 for short range control and monitoring of PFC.
  - RS485 for long range control and monitoring of PFC.
  - The software displays all gates and the status of each gate using color coded icons.
  - The software allows you to start and stop each unit, and open and close each unit's output.
  - Unit status window includes 'Power On/Off', 'Converter On/Off', 'Output 1 On/Off', 'Output 2 On/Off', Voltage alarm setpoints, fault status, and instantaneous voltage and current values of both; input and output.
  - Software based logging systems stores the last 50 faults and attaches the time and date to each fault (Day, Month, Year, Hour, Min, Sec, and AM/PM).
  - System allows the control and monitoring of up to 60 gates from 1 PC. *
  - Communications software visuals can be customized to match your facility layout.

**Key Persons**

**Sales**
Don Gallion – President and International Sales
Robert Hester – Vice President Sales & Marketing

**Engineering**
Allen Wright – Vice President Engineering
Matt Howell – Vice President & Sr Project Engineer

**Service**
Richard Vernon – Vice President Customer Service Engineering
Firm P, Inc.

**Interviewee**

Mr. C  
Vice President International Sales

**Company Background/History**

Firm P, Inc. manufactures B, a topical pain relieving gel. In 1991, Firm P, Inc. acquired the B formula. In less than 3 years, B is the #1 topical pain-reliever in the healthcare market and recommended for patient use at home.

In 1999, the company developed an international business plan to introduce B to the European Community and obtained CE Mark registration in 2000. In 2002, Firm P improved its packaging to include a safety seal which enabled B to sell in four European retail markets. The addition of the European retail product increased B sales by 93%. In 2002, the company completed product registration for B in the Middle East, Asia, and Central America. Firm P is currently expanding its facility; a project which is funded in part with revenue generated through its 2002 export sales.

**What is B?**

B is a unique, effective analgesic formulated to provide a variety of benefits for therapy, pain relief, exercise/training and overall comfort.

B contains an herbal extract from a South American holly shrub. The extract is used around the world in various health & wellness formulations. B does not use waxes, oils, aloe or petroleum. The result is a fast-acting, deep penetrating, long lasting pain reliever.

B is the first and only topical analgesic endorsed by several major professional associations that focus on sports, exercise, and physical therapy. B has proven superior to leading brands to relieve pain from arthritis, bursitis, muscle aches and joint stiffness. The B formula is registered with the Federal Drug Administration, the Health and Welfare Canada, CE Mark for the European Market, and others.

B can effectively help relieve pain from
- Sore Muscles & Muscle Sprains
- Back, Shoulder, Neck Pain
- Arthritis
- Painful Ankle, Knee, Hip & Elbow Joints
- Muscular Strains

B should be used to relieve pain prior to
- Ultrasound Treatments
- Massage Therapy
- Soft Tissue Trigger Point Therapy
- Rehabilitation Exercises
- Pre and Post Workout Stretch

**Facts & Figures**

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Herr Industrial, Inc.
“Problem Solving Experts for the Finishing, Printing and Converting Industries”

610 East Oregon Road
Lititz, PA 17543
Phone: (717) 569-6619
Fax: (717) 569-3540
http://www.herrindustrial.com/

Interviewee
Tim Herr
President

Company Background
Family owned and operated, Herr Industrial, Inc. is a full service industrial contractor that specializes in finishing systems and systems for the printing and converting industry. Herr Industrial, Inc. provides the most cost-effective solution whether you require a new system, or need to upgrade your existing process. It is Herr’s belief that quality, practicality and rugged dependability are key ingredients to the finest industrial systems and is an industry leader.

Founded in 1972 by Tim Herr, the business has grown to include his brothers Chris and Tom; each of whom brings a unique set of skills, knowledge and expertise to the table.

Facts & Figures
Company Type Private
Founded 1972
Founded By Tim Herr, President
2003 Sales $16.52 MM
2003 Employees 100
NAICS 334

Key Individuals
Tim Herr President
Tom Herr
Chris Herr

Customers

Associations
Member of Powder Coating Institute
Member of AFP/SME – Association for Finishing Processes of Society of Manufacturing Engineers
Member of Electrocoat Association

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Products and Services
Herr Industrial, Inc. is a full service industrial contractor, specializing in paint finishing, printing/converting, and industrial mechanical contracting. It has in-house capabilities for engineering, fabrication, installation and start-up.

Engineering
- Engineering provides the foundation for a finishing system. It designs the most solid and sound plans in the industry. Because every project is as unique as the customer, Herr's engineering staff is made up of experienced, innovative problem solvers who use the most advanced computer technology available to customize each system.
  - Computer Aided Design & Detailing including structural analysis program
  - Color Plotting
  - Structural Steel Design, PE Stamp Availability
  - State-of-the-art electrical controls including PLCs, touch screen & PC control
  - Field Measurement Capability
  - Engineering Audits for Complete Analysis of Existing Systems
  - Engineering Experience with Washers, Ovens, Clean Rooms, HVAC, Pump/Piping Systems, Motors, Burners, Duct, Structural Steel, Conveyors, Stacks, Tanks, Pneumatics, Fume & Dust Collection

Turnkey Finishing Systems
- Herr's reputation in the paint finishing industry is built upon providing creative, cost effective solutions to tough finishing problems. It utilizes a team approach with its customers and associated suppliers to integrate product design, production, process, and equipment to assure that the system will meet or exceed their customer's expectations for quality, performance and dependability.
  - Turnkey Powder, Liquid Spray, Electrocoat, or Dip Systems
  - Liquid to Powder Conversions; Retro-Fit & Used Equipment
  - Testing & Process Determination
  - Environmental Permit Preparation
  - Equipment Meets NFPA, NEC, OSHA, FM, IRI Requirements

Converting
- Herr provides more than just contracting services to the printing and converting industries. Full utilization of their complete line of engineering, fabrication, mechanical/electrical installation and project management capabilities enables Herr to offer single source design/build projects, undertake turn-key responsibility for a project or provide complementary services to existing projects.
  - V.O.C. Control Systems
  - Method 204 Permanent Total Enclosures
  - Press & Coater Installation
  - Process Ductwork & Dryer Re-circulation
  - L.E.L. Monitoring & Management Systems
  - Structural Platforms & Mezzanines
  - Exhaust Stacks
  - General Equipment Installation & Maintenance
  - Dryer & Oven Installation
  - Optical Alignment & Tramming Capabilities
**Specialty Industrial Contracting**

- Herr is a premier industrial mechanical contractor providing customers with diversified labor skills, appropriate equipment, and experienced project management. It continually seeks improved, more effective ways of meeting project specifications and requirements. Mechanical work to provide fully turn-key systems.
  - Skilled Crews - Millwrights, Welders, Riggers, Sheet Metal, Pipe fitters & Electricians. Fully Outfitted Welding, Piping, Utility Trucks, Forklifts, Man lifts & Cranes
  - OSHA Compliant Safety Program & Practices
  - Unlimited Travel Area, Domestic & Overseas
  - Licensed, Fully Insured, Bondable

- Herr's full-service electrical department is staffed with licensed electricians that adhere to the highest standards of workmanship, safety and quality. All of their controls and field wiring conform to NEC, NFPA, FM, IRI and OSHA requirements.
  - Electrical Power Distribution
  - Switchgear, Transformers, Distribution Panels & Buss Duct
  - Process Control Design Utilizing PLC, PC & HMI
  - Control Panel Design & Fabrication (per NEC)
  - Gas Train & Burner - Installation, Start-Up & Tuning
  - Interior & Exterior Lighting
  - HVAC - Start-Up & Balancing
  - Powder & Liquid Spray Application Equipment
  - Equipment Start-Up, Troubleshooting & Training
  - Engineering Audits
  - Service Contracts

- Herr carries out all sizes of fabrication projects from small parts production to large individual fabrications and one-of-a-kind machines. Its engineering and CAD personnel assist customers in developing their designs, or it can utilize customer-provided drawings. They have extensive fabrication facilities, wide array of equipment and experienced fabricators.
  - Computerized Plasma/Oxy Fuel Table, up to 20'x30'x6", Linear & Shapes
  - TIG, MIG Welding
  - Welding Power Sources for GMAW, GTAW and SMAW
  - Press Breaks, up to 1/2"x10', 100-400 Ton Capacities
  - Overhead Bridge Cranes, up to 30 Ton
  - Iron Workers, up to 60 Ton
  - Structural Web & Flange Punches
  - Sand Blasting
  - Paint Application
  - Machining & Milling
  - Assorted Drill Presses, Multiple Head, Single Head & Horizontal
  - Plate Shears, up to 1/4"

**Maintenance & Spare Parts**

**Service & Preventative Maintenance**

Herr has a knowledgeable Service Department that keeps your operation in check.

- Preventative Maintenance Service Agreements
- Safety Checklist & Equipment Audit
- Review of Controls for Operation
- Replacement Parts
- Clean Burners and Filters
- Employee Training and Record Keeping
- Equipment Relocation, Burner Conversions, Control Upgrades, Engineering Support, Fuel Efficiency Audit and Feasibility Studies.
- Technicians capable of working on all makes of Industrial Finishing Equipment
- Balancing Ovens, includes documentation of Oven Performance
- Replacement Operations and Maintenance Manuals
- Emergency Service
Kingsbury, Inc.
Corporate headquarters
10385 Drummond Road
Philadelphia, PA 19154
Telephone 215-824-4000
Fax 215-824-4999
http://www.kingsbury.com/

Interviewee
Woods Brown
President/CEO

Company Background
Headquartered in Philadelphia, Kingsbury designs and manufactures a wide variety of standard and custom thrust and journal bearings for rotating equipment applications, including gas and steam turbines, compressors, gearboxes, pumps, air preheaters and ship propulsion systems. It operates three plants in the United States and provides bearings to a global customer base both directly and through a network of international agents and representatives. Kingsbury supplied the first tilting-pad, fluid-film bearings for hydroelectric applications in 1912. Today, the company maintains its position as the industry leader through continuing research and development, a commitment to engineering integrity, and world-class customer service.

Company History
Dr. Albert Kingsbury is the founder of Kingsbury, Inc. Founded in 1912, the company is a world-class designer and manufacturer of bearings elements used in turbines and other power generation equipment. Kingsbury bearings were used extensively in U.S. warships during World War II and also during the subsequent reconstruction of Europe. Kingsbury originally won the Department of Defense “E” Award during WW II for creating parts for naval vessels. In the 1980s, Kingsbury began to tap European markets, slowly spreading its markets to Australia, China, and India. Between 1998 and 2001, export sales for Kingsbury rose more than 55 percent, comprising 38.5 percent of total sales in 2001.

Locations
The Northeast Philadelphia plant serves as Kingsbury international headquarters and as a manufacturing site for custom orders. The company also has a bearing repair and service plant in Horsham, Montgomery County, and a primary manufacturing facility in Oshkosh, Wisconsin. The company employs 260 employees, including 10 international sales reps stationed in 26 countries. Kingsbury reps operate on every continent except Africa because it isn’t heavily industrialized.

Holtwood Plant, PA
Holtwood Station is a hydroelectric plant on the Susquehanna River in Pennsylvania. Ball bearings inside the massive turbines at Holtwood Station were limited in the stress that they could absorb and still function effectively. Most failed within two months. This impeded the efficiency of the plant’s 10,000-kilowatt generators, which were made to handle 45 tons of force from water coursing through the turbines. In 1912, facing a financial catastrophe, the folks at Holtwood asked Kingsbury to install one of his newly invented bearings. His design was unique in that it relied on a film of oil for its fluidity, not a ball and roller as traditional bearings had done. Almost immediately, the bearing proved to be a success. It was capable of handling a much heavier load. The kicker was durability. On the 75th anniversary of its installation at Holtwood
Station, the original bearing was removed from the turbine within the generator, and engineers certified that it had endured so little wear that it could function effectively for perhaps 1,300 more years. The bearing was reinstalled and remains productive to this day.

Facts & Figures
Company Type    Private
Founded    1912
2003 Sales    $21.9 MM
2003 Employees    260
Patents Assigned since 1976    6
NAICS    332

Messinger Bearings Acquisition
Kingsbury, Inc. acquired Messinger Bearings on February 9, 2004. Messinger Bearings is a specialty manufacturer of large, heavy-load rolling element bearings. With the acquisition, Kingsbury intends to build on its expertise for developing large and custom bearing solutions, a reputation that Messinger also enjoys.

Divisions
- **Magnetic Bearings**: This division provides North and South American turbomachinery markets with magnetic bearings and high-speed motors/generators.
- **Messinger Bearings**: This division provides the best resource for top-quality, large, custom or unique bearings used in existing field devices operating in harsh environments, such as rock crushing, pulp and paper, steelmaking, beverage packaging systems, cranes and material handling equipment.
- **Repair & Service**: This division provides field service, repair and retrofits for any make and type of babbitted bearings. R & S's knowledgeable and dedicated staff provides 24-hour emergency response.

Products
- **LEG Thrust & Journal Bearings**: Kingsbury's patented Leading Edge Groove (LEG) thrust and journal bearings can significantly improve a machine's performance, reliability, and efficiency.
  - **Advantages**:
    - Oil feed tubes connecting to the shoes ensures that cool oil does not bypass the film.
    - The LEG feature is an integral part of the shoes. Large oil flow passages eliminate small-hole clogging.
    - No oil seal rings are required, lowering power loss and simplifying design and installation.
- **KingCole Thrust Bearings**: Kingsbury and Coleherne (one of Europe’s most familiar bearing service providers) have joined forces to provide the most significant advance in bearing technology in over 80 years.
  - **Advantages**:
    - KingCole incorporates Kingsbury’s efficient Leading Edge Groove (LEG) lubrication system with a bearing style familiar to all of Europe. The LEG system lowers frictional losses and lube oil requirements with accompanying reduction in oil film temperatures — features which contribute to overall installation economy.
    - Kingsbury’s 360° pad pivot arrangement as well as conservative load ratings, allow you to confidently specify the KingCole in even the toughest applications.
- **Low Profile Equalizing LEG Bearings**: LEG® SlimLine is a fully equalizing thrust bearing with all the attributes of the standard LEG product, but in a thinner profile. **Advantages:**
  - Reduce operating temperatures at the 75/75 location by 8° to 27° C, depending on shaft speed.
  - Provide a load carrying capacity increase of 15-20%, based on that temperature reduction.

- **Equalizing Thrust Bearings**: Kingsbury thrust bearings are a product of many years of design refinement and application experience. Kingsbury has used LEG lubrication in field applications since 1985. The applications and data demonstrate that LEG technology is a cost effective and reliable method of lubrication that improves efficiency, lowers capital costs, and adds value to machinery. **Advantages:**
  - Oil flow and power loss benefits are obtained by the efficient application of cool oil to the film.
  - The LEG method of lubrication also allows operation in a non-flooded environment which eliminates parasitic (non-film) losses without risk of starving the oil film.

**Latest Developments**
- **February 2004**: Kingsbury, Inc. acquired Messinger Bearings.
- **March 2003**: Kingsbury extended its product line with the creation of a new Magnetic Bearings division. The new division was formed through a strategic alliance with the French company The Société de Mécanique Magnétique (S2M) to better serve North and South American turbomachinery markets with magnetic bearings and high-speed motor/generator products.
- **June 2002**: Kingsbury, Inc. was presented the prestigious President's "E" Award by the United States Secretary of Commerce Donald L. Evans. The award is given to persons, firms, or organizations that contribute significantly in the effort to increase U.S. exports. Kingsbury was one of only 17 "E" Award recipients this year.
**Company Background/History**
Lake Shore Cryotronics, Inc. is a privately held corporation that has been an international leader in the development of innovative measurement and control technologies since 1968. The company philosophy has been to continue to reinvest itself with a research and development budget that is 100 percent above the national average for instrumentation companies.

The company's growth has been primarily achieved by supplying the needs of scientists and researchers studying the physical properties of metals and ceramics at very low temperatures. Within the past decade, Lake Shore's staff of physicists, material scientists and engineers has expanded the line of cryogenic temperature sensors and instrumentation to include instrumentation and systems for studying magnetic properties of materials. The magnetic measurement product group includes a complete line of benchtop and handheld gaussmeters and Hall probes, vibrating sample magnetometers, electromagnets, magnet power supplies, and Hall generators.

Lake Shore is constantly seeking new markets for present technology and acquiring new ideas and patents by license, purchase or informal associations. The company holds several of its own proprietary technologies. Over the years, Lake Shore has received five "IR-100" awards, demonstrating its successes as this award recognizes research and development projects that have been successfully brought to the market place. Honeywell, General Electric, Minnesota Mining and Manufacturing, and Hewlett-Packard are among the competitors for this recognition.

Today, Lake Shore's influence extends far beyond the borders of the United States. The company has been honored by Ohio with the state Excellence in Exporting Award for successfully meeting the challenges of developing overseas markets. Lake Shore has built an international distributor and representative network that extends throughout North and South America, the United Kingdom, Europe, India, Japan, China, Taiwan, and Korea.

**Products**
- **Temperature Products**
  - **Sensors** – Silicon diodes, GaAlAs diodes, Platinum RTDs, Rhodium-iron RTDs, Cernox™ RTDs, Germanium RTDs, Carbon-Glass™ RTDs, Ruthenium oxide RTDs, Thermocouples, Capacitance
  - **Controllers**
  - **Monitors**
Magnetics Products

- **Accessories** – Wire, Cable, Solder, Epoxy, Grease, Varnish, Miscellaneous Accessories
- **Current Sources**
- **Transmitters**

- **Hall Probes** – Axial Probes, Transverse Probes, Flexible Transverse Probes, Tangential Probes, Cryogenic Probes, Gamma Probes, Multi-Axis Probes, Brass Stem Probes, Extension Cables
- **Hall Sensors/ Magnetic Sensors** – Axial Hall Generators, Transverse Hall Generators, Cryogenic Hall Generators
- **Fluxmeter**
- **Coils** – Helmholtz Coils, Fluxmeter Search Coils, Fluxmeter Coils
- **ELF Meter**
- **Magnet Power Supplies** – Superconducting Magnet Power Supply
- **Electromagnets**

Systems Products

- **Hall Effect System**
- **Vibrating Sample Magnetometer**

**Facts & Figures**

- **Company Type**: Private
- **Founded**: 1968
- **2003 Sales**: $4 MM
- **2003 Employees**: 150
- **Patents Assigned since 1976**: 16
- **NAICS**: 334

**The Lake Shore Facility**

Westerville, a suburb of Columbus, Ohio, serves as headquarters for the company where it occupies 30,000 square feet of manufacturing and office space.

The mechanical and electrical engineering design staff works with three-dimensional CAD/CAM systems, allowing customized designs for nearly any application. The manufacturing facilities utilize statistical process control to insure the highest quality and product reliability. Some of Lake Shore's leading edge manufacturing facilities include complete burn-in testing, a state of the art sputtering system, wafer dicing equipment, a clean room, photolithography equipment, diffusion furnaces, ion milling equipment and evaporation equipment.

Lake Shore's Materials Requirement Planning (MRP) manufacturing, accounting and order management software system is a real-time system providing its distributors and customers with accurate stocking levels and up to date order progress information.

**Lake Shore’s Employees**

The company was founded in 1968 by the current president Dr. John M. Swartz, a former professor of electrical engineering at The Ohio State University. Like the president, nearly one half of Lake Shore's employees have technical degrees, many of these with Masters or Ph.D.'s in either engineering, physics, or material science.
Markel Corporation
435 School Lane
Plymouth Meeting, PA 19462
Telephone 610-272-8960
http://markelcorporation.com/

Interviewee
Kim Reynolds
President/CEO

Company Background
The Markel Corporation was founded in 1922. Since then it has served a wide variety of industries with custom electrical, mechanical and thermal insulation solutions. Its products are recognized worldwide for quality that completely meets the technical, ecological and economical requirements of its customers.

Markel’s Top Priorities
- Process and Product Development Capabilities
- Customer Focus
- Quality Commitment

Markel’s Locations
- Manufacturing operations in Pennsylvania and Maryland
- Warehouse in Netherlands, Europe

Facts & Figures
Company Type: Private
Founded: 1922
2003 Sales: $25 MM
2003 Employees: 130
Patents Assigned since 1976: 15
NAICS: 335

Key Individuals
Warren G. Mang: Chairman
Kim Reynolds: President/CEO
David Panish: VP, Sales

Process and Product Innovation
Markel Corporation is a leading provider of engineered fluoropolymer and other high performance plastic solutions. It has made significant contributions to the advancement of plastics processing and extrusion. Apart from having patented processes, Markel also has custom blending expertise and state-of-the-art process technology. It also has the resources to manufacture custom engineered products to comply with the specialized requirements of original equipment manufacturers (OEM’s) in the automotive, aerospace, electrical/electronic, communication and appliance industries.

At Markel, the focus is on innovation. Keeping abreast of technological advancements worldwide in PTFE paste and fluoropolymer melt extrusion, it maintains “key contact” relationships with its strategic partners/customers.
The Markel business and manufacturing systems at its facility in Plymouth Meeting, PA are registered to QS9000:1998, the internationally recognized standard of quality.

Markel products are manufactured to meet the standards governing the automotive industry, such as ASTM and SAE, as well as the individual applications of the major auto makers worldwide. In addition, it also satisfies the requirements of UL, CSA and the Military.

With the measurability of quality assurance procedures, maintained by the Process Engineering Department at Markel, it is on the way to achieving zero-defect quality for its customers.

**Markel – The Global Supplier**
- Product specifications meet specific national and international standards.
- Production capacities as well as distribution and customer service facilities are accessible to the international marketplace.
- Specific measures are taken to accommodate different cost structures and operating conditions.
- Maintains inventories to support international requirements.
- Maintains the ability to deal in appropriate foreign countries as required in competitive world markets.

**Precision Manufacturing**
Markel’s expertise in fluoropolymer formulation, blending, processing, bonding and fabrication technology forms the foundation for new product development initiatives in response to the needs of the most competitive and demanding industries:
- Markel technological advances in bonding technology developed specifically to meet the stringent requirements of the automotive industry has resulted in an ultra low permeation fuel and vapor tubing that offers four times the performance of traditional products while providing a margin of safety in meeting total vehicle emission levels.
- This same technology is being applied to other industries to contain volatile substances.
- Markel’s expertise in the custom blending of PTFE with performance enhancing additives is at the core of their AR liner products for the automotive industry.
- Cable makers worldwide use the various blends yielding light, medium and heavy-duty liners.

**Innovation**

**Automotive Industry:**
- Markel manufactures specialty wires to design and manufacture custom component assemblies.
- Fabricates a variety of cable constructions based on their capabilities to cable up to seven conductors, tin-coated, silver-plated, nickel-plated copper or others, in a variety of sizes in both single and multiple conductors in a variety of standings to meet the most demanding applications.
- Insulates conductors with a variety of fluoropolymers including PTFE, FEP, PFA and eTFE as well as a variety of high performance plastics including polyamide, polyethylene, polypropylene, polyurethane and other melt extrudable compounds.
- Markel’s high performance specialty wire products include an oxygen sensor that was developed to withstand the most extreme environmental and thermal conditions found near engine exhaust components.
Communications Industry:
- High tolerances, exacting specifications and controlled dielectric values are the hallmarks of the specialty PTFE coaxial core provided by the Markel Corporation in the communication industry. Cables made with Marlon coax are widely used in the telephone market as antenna feeder cables and the micro miniature sizes are found inside the cellular telephones themselves.

Water Purification Systems:
- Markel has also produced a performance and cost advantaged solution for manufacturers of domestic counter top water purification systems. Extruded FEP tubing is coiled to surround a tubular UV light source in place of the original fused quartz glass tube. The UV light penetrates the coil wall killing any organisms in the water without degrading the FEP coil. The coil configuration causes turbulence in the water, which improves the sterilization rate over the straight glass tube.
- Markel PTFE tubing also provides insulation for wiring in the harsh environment of hermetically sealed refrigeration motors.

Microporous PTFE Tubing – Precision Gas To Liquid Transfer
Markel Corporation has developed a precision process for the processing of polytetrafluoroethylene (PTFE), which has resulted in the ability to manufacture microporous PTFE tubing with a wide range of applications. One of these dynamic new products, Markel EXPT™ PTFE Tubing, is designed to extract gasses from liquids or to inject gasses into liquids.

Markel EXPT™ PTFE Tubing is produced by continuously stretching paste extruded polytetrafluoroethylene (PTFE) resin to create a structure of nodes and pores. This precision Markel process can be precisely controlled to impart varying degrees of microporosity, locked in during the sintering stage, so that the tubing can be custom manufactured for use with specific gases.

The products made possible through the development of this unique process are ideal for extracting hydrogen from solution or methane from animal waste. It also provides a superior alternative to porous stones or stainless steel injection nozzles typically used for ozone injection in water purification applications, providing ozone injection over a wide area eliminating the need for more costly multiple stones or injection ports. Emerging uses in aquaculture are particularly exciting, specifically the clarification of lake water and ponds for raising fish and shrimp.

Latest Developments
- **February 15, 2004**: Markel Corporation developed a precision process for the processing of polytetrafluoroethylene (PTFE), which resulted in the ability to manufacture microporous PTFE tubing with a wide range of applications. One of the dynamic new products, Markel EXPT™ PTFE Tubing, is designed to extract gasses from liquids or to inject gasses into liquids.
- **March 2002**: Markel Corporation was presented the prestigious President's "E" Award.
MIOX Corporation
Corporate headquarters
5500 Midway Park Pl Ne
Albuquerque, NM 87109-5800
Phone: 505-343-0090
http://www.miox.com

Interviewee
Bill Obermann
President & COO

Company Background/History
The company was formed in 1994 following more than ten years of research and development. The successful implementation of the technology has resulted in an industry reputation for the leading water disinfectant technology. It has installed hundreds of units worldwide as they continue with product development and excellent customer service. MIOX Corporation also benefits from its relationship with LATA, a New Mexico-based engineering and technical services company that has several decades of experience supporting clients in the Department of Energy and Department of Defense.

Facts & Figures
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Key Persons
Bill Obermann    President & COO
Rodney Herrington Vice President of Engineering, Research and Development

Products

MIOX-Series Generators
- The MIOX-25N, MIOX-50N, and MIOX-100N series generators have passivated type 304 stainless steel cabinets for a rugged industrial design.
- Cell modules can be arranged up to 4 per control cabinet.
- The system has built-in redundancy with a dedicated power supply and controller for each cell. The systems support external communications for remote display, data logger download, remote control, or interface with SCADA systems. The brine generator can be configured for bag loading or bulk delivery from trucks.

SAL Systems
- The SAL-30, SAL-40, and SAL-80 systems are automated units appropriate for smaller water supplies or well sites.
- The control panel is mounted on the wall with the electrolytic cell, water manifold, brine pump, and filter mounted below. The brine tank, oxidant tank, and water softener stand-alone and are sized based on water system requirements. Any of these units can be wired for a remote alarm and also have the capability for remote display.
P3 System
- The P3 system is a self-contained, portable package plant that provides filtration, disinfection, and monitoring for turbidity and chlorine residual, as required by the U.S. EPA Surface Water Treatment Rule.
- The unit will fit in the bed of a pickup truck and is transportable by two persons. The system can be operated off AC or solar power and can operate for 30 days without service. Data logging capability is included.
- The U.S. Forest Service has approved use of the MIOX P3 system for their campgrounds.

ECO-5 System
- The ECO-5 system is a semi-automated unit configured for permanent installation.
- The simple operation and low capital cost make it ideal for small rural and remote communities, or worker camps.
- The unit utilizes grid, solar, or generator power.

Brine Pump System (BPS)
- The BPS is a completely self-contained, non-automated system that is ideal for emergency response situations, small resorts, and point of entry. The BPS can be set up at any location to provide a fresh disinfectant solution in a manner of seconds.
- The lightweight portable case has a hard plastic cover to protect the system components. Separate containers must be used to store the brine solution, which is manually mixed to the proper consistency, and to collect the disinfecting oxidant solution as it is generated from the cell.
- The unit has a terminal plug for 110 or 220 VAC operation, and also 2 posts for connection to a 12 VDC battery. The necessary tubing is included with the unit and stores neatly in the lid.

The Process
How the MIOX Generator Works
- The MIOX cell, the heart of the technology, generates a mixed-oxidant solution electrolytically from a sodium chloride (NaCl) brine. Electrolysis of chloride solutions has been used for decades to generate chlorine (Cl2) and hypochlorite (OCl).
- The key difference is that the MIOX cell has a patented process that separates solutions generated at the anode (oxidants) and at the cathode (reductants).

Advantages of Mixed Oxidants
- Safety Advantages: Much safer operations with no hazardous chemicals used or produced
- Superior Disinfection Performance: Superior microorganism inactivation, including kill of Cryptosporidium
- Biofilm and Algae Removal: Biofilm removal and prevention of regrowth
- Lower DBP Formation: Lower trihalomethane (THM) formation than chlorine
- Chlorine Residual Maintenance: A more stable, longer-lasting chlorine residual
- Enhanced Microfloculation: A microfloculation effect similar to using ozone alone that can reduce coagulant consumption up to 40%, increase filter runs and reduce sludge handling
- Improved Taste and Odor: Mitigation of taste and odor problems no matter what the source
- Oxidation of Iron, Manganese & Hydrogen Sulfide: Oxidizes iron and manganese, leading to precipitation of a solid phase that can be removed by filtration and/or settling. Depending on the conditions at the plant, coagulation may be necessary to create large
enough particles for removal. Oxidizes sulfides without creating taste and odor and
without first having to satisfy the full background chlorine demand of the water

- Ammonia Oxidation at Sub-Breakpoint Doses: Causes denitrification in waters
containing ammonia and chloramines at doses well below those required for classical
breakpoint chlorination. Neither nitrites nor nitrates are produced by mixed-oxidant
solution; thus the losses of ammonia (including ammonia as chloramines) occur as N2
gas

MIOX Products Tested and Approved by
- US Environmental Protection Agency
- US Army
- US Forest Service
- US Centers for Disease Control (CDC)
- US Department of Agriculture
- US Department of Energy
- University of North Carolina
- University of New Mexico
- University of Arizona
- University of Arkansas
- and other Universities and third parties

Latest News
June 6, 2002: MIOX Corporation was awarded the prestigious President’s “E” Award for
Excellence in Exporting.
Feb. 8, 2002: MIOX Corporation received certification for both its mixed-oxidant and
hypochlorite on-site generators for potable water disinfection.

Major Achievements
- Approximately 8,000 MSR MIOX Purifiers have been shipped to the US Department of
Defense for delivery to various branches of the armed forces.
- MIOX Corporation and New Scientific Prevention (NSP) of Japan have signed a ten-year
exclusive distribution and manufacturing license agreement for MIOX on-site
disinfection systems in Japan.
- MIOX Corporation, partnering with Cascade Designs, Inc., has been awarded a Small
Business Innovation Research (SBIR) contract from the Marine Corps Systems
Command for an individual water hydration system.
- MIOX Corporation has partnered with Howell Laboratories in Maine to provide safe
drinking water to the U.S. Navy.
- MIOX mixed-oxidant technology for water purification has been selected to be installed
on the new Airbus A380 aircraft. This plane will be the largest commercial aircraft in
the skies and is expected to debut in 2006.
Interviewee
Anthony Flagg
President

Company Background
Situated in the heart of Montana's "Golden Triangle," Pasta Montana manufactures a line of 24 dry pastas ranging from petite shells and orzo to fettuccine. Everything from the plant’s extrusion and packaging machinery to the 30,000 square foot storage warehouse is state-of-the-art.

In the wheatland of Montana, the company uses the most advanced technology to craft the finest pasta from the purest ingredients. It pledges to put customer satisfaction above all, using superior durum and applying the latest methods to tailor each product.

Pasta Montana is the proud recipient of the American Tasting Institute's Best of Show Gold Medal as the world's finest pasta. This award was won in competition against fine pastas throughout the world. The fully automated 62,500 square foot plant has an annual capacity of 70,000,000 pounds. In August 2000, Pasta Montana built a 30,000 square foot warehouse addition that opened in February 2001.

Facts & Figures
Company Type    Private
2003 Sales    $10-15 MM
2003 Employees   51-75
NAICS     311

Pasta Montana’s Export Success
In early 1999, Nippon Flour Mills, Japan's oldest industrial flour miller and a leading producer of flour-related products for industrial, food service and consumer use in Japan and elsewhere, joined Pasta Montana's growing list of large volume export customers. Then in the spring of 2000, Nippon, recognizing Pasta Montana's high quality pasta manufacturing capabilities and its global potential - took it a step further and made the strategic decision to purchase a majority ownership in Pasta Montana. Today, Pasta Montana is continuing in the rich tradition of making the world's finest pasta products, but it now has all the technical, management and financial resources of a global corporation behind it. Pasta Montana's total export sales in 2000 were $8.5 million, with the majority of its products being exported to Canada and Japan. (It was acquired by a Japanese Corp.)

Why Montana?
The selection of Great Falls was the result of an extensive study of quality enhancing and cost reducing factors such as: "The ability to procure an optimized selection of raw materials."
  - An unusually high quality work force
  - Close proximity to a sophisticated milling facility enabling Pasta Montana to operate on a just in time basis thereby reducing inventory carrying costs and ensuring fresh semolina
that retains its color and delicious nutty flavor because it has not had an opportunity to oxidize and dry out.

- One of the highest rated educational systems in the United States.
- Montana durum is the finest in the world-pure yellow color, high protein, high gluten and delicate nutty wheat flavor.
- Close proximity to the farmer for the development of select durum varieties. Pasta Montana works with General Mills and local farmers to grow and test varieties of wheat that deliver superior pasta quality.
- Pure mountain waters. Located at the base of the Rocky Mountains, its pure, cold mountain water is superb for making pasta.
- An unspoiled, unpolluted environment. Both its wheat and pasta plants are located in the clean areas not far from Glacier National Park.

**Pasta Montana Facility Design**

Sanitation
- The entire facility is constructed of prestressed insulated concrete wall panels and double tee roof beams. The interior is entirely coated with FDA approved epoxy.
- FDA, AIB, BISC and OCIA standards are maintained throughout the building and ancillary systems.
- Metal detectors and rare earth magnets are used as needed throughout product contact systems.

**Plant Information**

Pasta Montana’s variety of dry pasta products all begin the hard amber durum produced in the Montana area. Pasta Montana’s new plant is outfitted with custom-designed equipment for efficient production to exacting specifications.

**Plant Improvements**

- New Expansion: Warehouse
  - Directly connected to Production Area
  - Including over 3500 pallet capacity on strong racks
  - Well-controlled inventory
  - Easy recognizable hold area

- Temperature and Humidity Control System in Plant
  - Automated Control System
  - Monitored by Manager's PC online
  - Increased stability in Production Area
  - Stable finished product quality

- Metal Detector and Check-Weigher Replacement
  - Increased accuracy

- New Uniforms and shoes
  - More safety (Just 1 zipper pocket on pants, no buttons)
  - Unified shoes worn only inside plant
What Makes Its Pasta Superior?

Location
Source of raw ingredients is critical. Northern Montana produces exceptionally high protein wheat. It has access to the freshest water...just miles from the snow-capped peaks of the Rocky Mountains.

Wheat
A durum mill adjacent to its plant provides it with fresh custom-selected and custom-milled semolina.

Semolina Pasta
Pasta Montana receives its semolina via a sealed pneumatic tube. Semolina stored in clean silos is consumed within a fixed period of time. Stabilized semolina maximizes gluten strength. Result – continually full flavored and high quality pasta.

Technology
Pasta Montana uses the most advanced technology to craft its superior pasta. Computerized state-of-the-art systems allow them to carefully calibrate everything from kneading and semolina-water mixtures to drying times.

Firm Texture
"Al Dente" is the texture of superior pasta. Pasta Montana produces its pasta with a "results-oriented focus" on texture. It uses a Eurogrind granulation of semolina. It sources high protein semolina. All its processes are geared to preserve the natural protein structure of the durum wheat.
Interviewee
John C. Roberts
President

Company Background/History
Roberts Irrigation Products was founded in 1968 after Jim Roberts field tested the company's first product - a nearly indestructible rotary sprinkler - on his own farm. Next came the SPOT-SPITTER®, the original patented spray stake which was Jim's answer to micro irrigation for trees and plants. Jim personally introduced and sold his inventions to local growers, and soon earned the reputation of a practical inventor and strong advocate of cost-effectiveness and reliability in irrigation product design.

By 1974, business had increased to the point it could no longer be run out of the Roberts home and farm warehouse. A new factory was designed for the specialized needs of the company and built in San Marcos, California. As sales of the SPOT-SPITTER continued to grow in the greenhouse and nursery business, the company was asked by its customers to provide hose, plastic flower pots and nursery containers. The company responded by designing and manufacturing these products, becoming a significant supplier to greenhouse and nursery growers in the Western United States.

As a farmer facing potential water shortages in San Diego County, Jim was always pursuing ideas for more efficient irrigation. One idea in particular that he wanted to develop was a drip tape concept that solved many of the drawbacks of the products of the time. In 1985 the company made a strategic decision to focus on the development and manufacture of irrigation products. Over the next two years the plastic pot and container business was sold which provided the capital to pursue commercial development of the drip tape idea. The result of that effort was its patented RO-DRIP® product, a novel and improved drip tape which today is one of the company's most successful product offerings.

The company developed during the 1970s and 1980s as a family business with a strong commitment to tradition, integrity, and innovation. Jim's wife, Betty, played an active roll in the business for over twenty years and her operational and administrative expertise contributed greatly to the company's success. Additionally, her business style carried a sense of family into the workplace, which led to the development of a company culture that values long-term employee, supplier, and customer relationships.

As sales grew the company expanded its sales internationally. Roberts Irrigation recognized that increasing global competition would require an ongoing commitment to product research and development, and new approaches to sales and customer service. In order to pursue the vision of becoming a global supplier of drip and micro irrigation products, additional employees were recruited to the Roberts team in virtually all functional areas and more dealer relationships were established.
Roberts’ engineers continue to focus on one primary design objective: improving the delivery of water and nutrients exactly when and where they're needed, using the most reliable, cost-effective technologies available. Today's grower faces not just the age-old problems of weather, labor, and pests, but must also overcome the new challenges of increasing global competition and regulatory compliance. In this increasingly challenging environment, Roberts remains committed to delivering systems and expertise that will help growers be competitive well into the future.

From an innovative irrigation idea conceived on a farm and a commitment to doing business with integrity, Roberts Irrigation Products, Inc. has become one of the world's leading producers of high performance, cost-effective micro and drip irrigation systems. Today Roberts’ products are sold in over 40 countries worldwide and the company is a recognized industry leader.

**Facts & Figures**

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**Equipments/Products**

Roberts Irrigation specializes in manufacturing high performance plastic micro and drip irrigation products for the agricultural, nursery and greenhouse markets. All of its products are designed to be easy to use, energy efficient, versatile, durable and competitively priced. Many of its products are proprietary and have been patented. Its product line includes: RO-DRIP® and RO-DRIP® XL drip tape, AboveGround SPOT-SPITTER® mini-sprayers and SPOT-SPITTER® Top & Stake Combinations, premium grade polyethylene Hose and Tubing, 435/436 Sprinklers, SPOT-SPINNER® micro sprinklers, and the DROP-IN BUBBLER for nursery containers. It also sells complementary accessory products such as fittings, pressure regulators and filters for use in systems with its other products.

**RO-DRIP®**

RO-DRIP® provides solutions for all the sub-surface and above ground drip irrigation needs. RO-DRIP is the only drip tape specifically engineered to deliver uniform flow rates while addressing the most difficult maintenance issue faced by drip growers today: blockage during high-contaminant conditions.

**RO-DRIP® XL drip tape**

RO-DRIP® XL provides solutions for all the long-run sub-surface and above ground drip irrigation needs—even runs that exceed a quarter mile. RO-DRIP XL is the only large-diameter drip tape specifically engineered to deliver uniform flow rates while addressing the most difficult maintenance issue faced by drip growers today: blockage during high-contaminant conditions.

**AboveGround SPOT-SPITTER® mini-sprayers**

AboveGround SPOT-SPITTER® is a favorite among greenhouse and nursery growers worldwide. Its features include simplicity in design and easy installation, which in turn mean lower labor and material costs.
**SPOT-SPITTER® Top & Stake Combinations**
The engineers at Roberts Irrigation designed the SPOT-SPITTER® Top & Stake combination to be the most cost-effective and versatile solution for a wide range of mini-spray needs. Applications include orchards/groves, landscapes, or wherever one needs to wet soil surfaces under tree or shrub canopies.

**435/436 Sprinklers**
The 435/436 Sprinkler is designed to serve a wide range of applications. Changeable nozzles combined with unique design make it flexible enough to create fine mists or large droplets, at any angle one chooses.

**SPOT-SPINNER® micro sprinklers**
Precision engineering allows the SPOT-SPINNER to sustain uniform water distribution patterns at a variety of flow rates, so one can get water and liquid nutrients where and when they're needed. The result is improved penetration and minimal run-off, for better crop quality and lower nutrient and water costs.

**DROP-IN BUBBLER for nursery containers**
Since spray emitters wet foliage as well as soil, they can be damaging to many hanging plants; and most dripper systems use narrow tubing that makes them especially susceptible to particulate blockage. That's why Roberts Irrigation developed the DROP-IN BUBBLER for hanging baskets and flowerpots.
**Interviewee**
Duane Jebbett  
President/COO  
&  
Rich Zydonik  
VP Sales

**Company Background**
Rowmark is the industry's leading manufacturer of plastic sheet materials ready to engrave or laser and also a complete source for sublimation products.

Rowmark developed its roots in the domestic marketplace as a manufacturer of engravable plastic sheet material, but has realized the potential that stretches beyond its domestic borders. Through the employees’ determined efforts, the company has reached for new markets around the globe and grown to be the industry’s leading manufacturer of signage and engraving materials and also a source for sublimation products. Rowmark products are sold exclusively through its distributors.

**Company History**
- In 1995, Rowmark was founded as a wholly-owned subsidiary of Hancor, inc. Hancor, headquartered in Findlay, Ohio, is a manufacturer of high-density polyethylene drainage products.
- In 1997, former Hancor CEO Fred Kremer purchased Rowmark from its parent company. A new state-of-the-art manufacturing facility was built to house Rowmark’s manufacturing and administrative offices in Findlay, Ohio’s Tall Timbers Industrial Park.
- As construction was nearly complete on Rowmark’s new facility, Fred Kremer died tragically in December 1997 in an aviation accident. Fred Kremer’s vision for Rowmark continues today through the work of the company’s dedicated employees, under the direction of Rowmark President Duane Jebbett.
- In 2003, Rowmark announced the creation of a new custom products division, Premier Material Concepts (PMC). The new division specializes in the manufacturing of customized plastic sheet and roll stock for a wide variety of market applications.

**Facts & Figures**

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**Products**
- Sheet Material
- Sublimation
- Badge Holders
- Engraving Table Mat
- Sign Kits
- Custom Extrusion

**New Products**

**MATES**
Rowmark introduced sublimatable coasters and mousepads: mugMATES and mouseMATES. Made with an attractive high gloss finish on a flexible rubber backing, mugMATES and mouseMATES give you the ability to reproduce your favorite images with brilliant color and clarity. The durable, washable surface of these new MATES allows you to enjoy your full color images for years to come. MugMATES measure 3.75" x 3.75" and mouseMATES are 7.75" x 9.75". Perfect in the home or office, mugMATES and mouseMATES make for a special and unique gift.

**ColorCast Acrylics**
ColorCast Acrylics are the new cell-cast acrylic sheet material from Rowmark. ColorCast Acrylics are harder and have greater optical clarity than traditional extruded acrylics, making them great for any type of signage. ColorCast Acrylics are laserable and UV stable, making them perfect for both indoor and outdoor applications. Available in both matte and gloss finish, ColorCast Acrylics are also great for point-of-purchase displays or as trophy components.

**Heavy Weights**
This heavy-gauge 3-ply polymer sheet is perfect for exterior signage where weather is a factor. Available in a variety of colors, Heavy Weights are an ideal product for sign making and will be right at home in the marina or on the playground.

**Earhtones**
Earhtones are ideal for any type of indoor signage that needs to invoke a feeling of nature. The rich, muted tones of this line are perfect for architectural applications. Earhtones bring a natural feel and classic style to any type of signage. Earhtones are rotary engravable and feature a matte non-glare finish and are ADA compliant. Earhtones are available in 1/16", 1/8" and 1/4" thicknesses.

**Product Sign Kits**
A sign kit is now available for each Rowmark product line. Incorporating various themes, each kit features practical uses for each product. Most kits feature beautiful JRS frames of various colors and finishes. Other kits (such as Textures, FlexiBrass/FlexiColor, LaserLIGHTS, LASERmag, and sublimation) offer practical applications without JRS frames.

**Engraving Table Mat**
The Fat-Mat secures materials to an engraving table without the need for tape, clamps or vacuum systems. Offering the ability to secure flat, non-porous materials such as plastic, brass, acrylic, marble and aluminum, The Fat-Mat adds valuable stability to the engraving and lasering processes.
Granites Deluxe product line
The Granites Deluxe line has been designed to provide a cost effective solution for engravers and sign makers who currently use other solid surface materials for signage. Most solid surface materials used in sign making require a secondary paint filling operation. This extra process adds labor, lengthens delivery times, and often requires a clean up. Rowmark has solved this problem by producing a 2-ply product that can be engraved or routed in one step with no secondary operation required. Very few 2-ply products exist that offer this unique appearance and ease of use. Offering the prestigious appearance of true granite, this exciting new engravable/routable product line features 15 classic color combinations available in a polished or matte finish. With its overall thickness of 1/8” (3 mm) and its acrylic construction, Granites Deluxe is ideal for rigid sign making.

Premier Material Concepts (PMC)
Rowmark, Inc. recently announced the creation of a new custom products division, Premier Material Concepts (PMC). The new division specializes in the manufacturing of customized plastic sheet and roll stock for a wide variety of market applications.

PMC offers an extensive range of capabilities including the extrusion of a broad range of materials (such as ABS, Acrylic, HIPS, TPE, TPO, PP, PE & Specialty Compounds), custom thicknesses, co-extrusion abilities, roll winding, surface texturing, custom color matching, fabrication and on-line hot stamping. As a standard component to any project, PMC offers engineering research and development, which includes testing and sampling services.

“Our company has a proven history as a quality supplier to its existing markets,” commented Rowmark President Duane Jebbett. “We are now excited to move in new directions and put our manufacturing expertise to work for custom projects. This extension will help to bring innovative materials and fresh product applications to Rowmark’s present product lines as well as propel the company in a totally new direction.”
Interviewee
Steve Swigart

Company Background/History
Sound Technology, Inc. (STI) was founded in 1987 to provide innovative and high quality transducer and probe products for the medical ultrasound industry. Located in State College, Pennsylvania, its company’s success and growth can be directly attributed to their employee and customer commitment as well as its dedication to the design, manufacture, and on-time delivery of its products and services. As a subsidiary of Analogic Corporation, STI is interested in developing and expanding strategic supplier relationships with “Original Equipment Manufacturers” (OEMs) of medical ultrasound equipment.

STI’s state of the art design and manufacturing processes, allow it to offer a complete portfolio of diagnostic medical ultrasound probes for a broad range of clinical applications including microconvex arrays, linear arrays, curved linear arrays, phased arrays, Doppler probes and single element transducers. These products cover a broad range of clinical applications including those used in radiology, cardiology, obstetrics, gynecology, surgery, ophthalmology and veterinary medicine.

Throughout its 17 year company history, STI has consistently provided its customers with technically superior transducer and probe products for demanding OEM custom requirements. During this time, they have also pioneered methods to successfully address the compromises between acoustic performance, manufacturability, and overall costs. This dedication has resulted in its respected reputation among the world’s major manufacturers of medical ultrasound systems.

STI’s Export Success
Sound Technology Inc. shipped over 8,000 units internationally in 2000, representing 42 percent of its total shipments. Its international business has grown steadily over the past few years, with an increase of 122 percent in 2000 over 1999. The company continued to expand its overseas operations by the introduction of five new products to international customers in 2000, resulting in revenues exceeding $1.9 million. New markets entered by the business in the past year include Japan and the company forecasts a projected revenue growth by year-end of 239 percent from this market.

Key Person
Bill Guzik – President

Facts & Figures
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</tr>
</tbody>
</table>
STI’s Capabilities

- Conventional piezo-electric material selection and composite fabrication
- Acoustic and electrical performance analysis
- Complete mechanical and electrical CAD capabilities including SolidWorks®, AutoCAD® and Pro/Engineer®
- Systems interface engineering to ensure optimization of transducer performance with front end system electronics
- Automated manufacturing and testing equipment
- Dedicated in-house machine shop with four axis CNC capabilities
- Environmental testing of transducers and probes for design validation
- In-house plastic parts design and molding capabilities using soft cast resin manufacturing techniques

STI’s Quality Management System has demonstrated compliance with the requirements of ISO 9001, ISO 13485 and EN 46001 and has been certified and registered with TÜV Product Services.

Products
Cardiac Array
Cardiac Doppler
Abdominal
Vascular-Small Parts
Endo-Cavity
Endo-Cavity Biplane
Endo-Vaginal
Small Parts
Surgical
Other Requested Probes

Sound Technology’s Encapsulated Probe Architecture
The Technology Behind Sound Technology
Sound Technology, Inc. advances the state of the art for medical ultrasound transducers. Advanced acoustic designs guarantee cost effective and superior performance providing outstanding results across a complete range of clinical applications.

Sound Technology, Inc. introduced its new Encapsulated Probe Architecture. This new architecture combines leading edge acoustic performance with enhanced mechanical properties that will provide improved image quality and probe durability in the clinical environment.

Acoustic Performance
The new STI architecture provides higher sensitivity, wider bandwidth probes, for demanding applications. This performance is accomplished by the combination of a new acoustic stack design and an exceptional acoustic window material.

- Bandwidth
  - The new architecture demonstrates an increase in bandwidth and an improvement in sensitivity over STI’s current transducer architecture. For example, an 8 MHz encapsulated probe has a bandwidth of 75%, while a standard STI probe has a bandwidth of 70%. The low attenuation of the acoustic window material is a strong contributor to this performance improvement. The attenuation is 10% of
RTV and 50% of polyurethane. This decreases the loss at higher frequencies and, thus, provides for higher bandwidth.

- **Sensitivity**
  - The new architecture also improves sensitivity. This can be seen in both the time waveform and frequency spectrum. This increase in sensitivity is a real plus for high frequency probes.

- **Harmonic Imaging**
  - The increased sensitivity and wide bandwidth make this probe architecture an ideal candidate for harmonic imaging. The smooth spectrum makes implementing harmonic imaging straightforward.

- **Near Field Imaging**
  - The acoustic impedance of the thermoplastic window material matches extremely well to skin. This characteristic reduces interface echoes and provides improved near field performance.

**Mechanical Performance**
The thermoplastic shell material provides complete protection by encapsulating the acoustic stack. This will provide a longer life for the probe as it endures every day uses and abuses. The key to the improved performance of this new headshell is the mechanical and acoustic characteristics of the material. This allows it to be used as a tough acoustic window material and as the case. This eliminates any seam lines between the window region and the case.

- **Chemical Resistance**
  - The thermoplastic shell provides excellent resistance to chemicals. It has shown exceptional performance when tested against typical chemicals and gases used in sterilization and disinfecting processes.

- **Dielectric Breakdown**
  - The dielectric breakdown voltage of the shell material provides reliable hipot performance. In addition, the lack of a seam line prevents any safety concerns due to delamination in that region.

- **Physical Durability**
  - The integrated lens and case provide a durable protective shell around the acoustic stack. This will provide a more reliable and longer lasting probe for all clinical applications.

- **Biocompatibility**
  - The shell material is approved for external and internal scanning applications.
Interviewee
Spencer Williams
President

Company Background
By aligning with quality and service oriented distributors internationally, West Paw Design is filling the current void in high quality fabric toys and bedding. It has teamed up with Romac Export Management Company to provide distribution in many foreign countries. Sales have expanded beyond North American borders into Japan, Canada, and Europe. Despite huge competition in Asia, West Paw Design is moving forward with overseas marketing efforts, establishing itself as a leader and is gearing up for continued growth and success within the pet industry in the future.

Facts & Figures
<table>
<thead>
<tr>
<th>Company Type</th>
<th>Private</th>
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<tbody>
<tr>
<td>2003 Domestic Sales</td>
<td>$2.5 MM</td>
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<tr>
<td>US (Domestic) Market Size</td>
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<tr>
<td>2003 Foreign Sales</td>
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<tr>
<td>2003 Employees</td>
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<td>NAICS</td>
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Products

Pet Pals™
This handcrafted line of colorful dog and cat toys is made in Montana and offers high quality, nontoxic materials and specially developed durable fabrics.

Four Collections are available:
- Wilderness Collection
- Favorites Collection
- Grandma Adams Collection
- Pebble Pals Collection

EnduroPlay™ is a line of interactive dog toys.

This is a line of quality dog and cat bedding.

Zogoflex™
It is a new indestructible dog toy from West Paw. The company guarantees it against dog destruction.
**Key Features of West Paw Design Products**

- Pet Pals and Bed of My Own products are handcrafted in the U.S.A.

- Innovative, fresh product lines and collections boasting creative, fun designs
- Custom designed fabrics for maximum durability
- Only non-toxic materials are used in West Paw Design’s products
- Plush, affordable dog and cat mats and pads are color-fast dyed to stand up to repeated machine washing and drying
- Mat sizes compatible with most kennel sizes
- Tough durable toys and bedding are sewn with double-duty thread and hand closed with nylon thread
- Premium catnip in all cat toys is grown certified free of pesticides
- Bells and Squeakers safely sewn inside to prevent accidental injury or ingestion
- EnduroPlay products withstand intense interactive play—and they fly and float!
Interviewee
Joan Mariani Andrew
Vice President, Global Sales

Company Background
X-Rite helps companies grow more profitable by providing hardware, software and support solutions that ensure color accuracy and data communication when color output is critical to business. Its worldwide customer base crosses a variety of markets such as: Graphic Arts, Printing, Packaging, Digital and On-Demand Printing, Manufacturing, Retail Color Matching. X-Rite’s history of innovation has provided a variety of products that measure and track color data; leading customers to more efficient and profitable solutions in managing their businesses and markets. Founded in 1958, X-Rite’s products and services generated $117 million in revenue in fiscal 2003.

Products
500&939 Series
Rugged and reliable hand-held instruments with a variety of features and levels to best fit clients’ needs. The 500 and 939 Series instruments capture spectrophotometric data and provide consistent color measurement within multiple locations and facilities.

AcuGloss Series
AcuGloss products have leading gloss evaluation technology and advanced features that provide highly accuracy measurement. Its fast and true gloss measurements minimize problems associated with inconsistent coating applications.

Auto Scanning Series
These products tighten quality parameters while reducing make-ready time. They establish precise targets and tolerances based on client samples, previous run data, or shop standards, saving them for quick and accurate set-up prior to reprints. They provide real-time color-quality control data during press runs. Easy-to-read graphical interfaces alert operators whenever color quality strays outside pre-set tolerances.

Benchtop Series
X-Rites’ 8000 Series instruments are high performance benchtop spectrophotometers. These transmission and reflectance instruments combine top and front loading features with horizontal and vertical positioning capabilities for precision color measurement. The built-in image capture technology ensures accurate sample positioning. Compact countertop spectrophotometers are designed to make color quality control fast, easy and accurate.
**Color Management DTP Series**
These instruments integrate with Monaco Series software or stand alone to simplify the process of measuring, managing, analyzing, and communicating color data in both local and remote locations.

**Color Management Ensembles**
X-RiteColor Ensembles package instruments with software to provide complete digital color management for digital cameras, scanners, inkjet printers, and other devices. Comprised of spectrophotometers, monitor optimizers, and Monaco Series software, X-RiteColor Ensembles create ICC profiles quickly, easily and reduce the number of re-dos and reprints.

**Color Management Monaco Series**
This is an award winning software to build ICC monitor, scanner, and printer profiles that bring accurate and consistent color across devices and paper types. Get ultimate control in creating high quality ICC profiles with an innovative, quick and easy wizard-like interface. Put an end to trial and error color corrections and wasted ink and paper by ensuring that devices deliver the color you want.

**MatchRite**
MatchRite® color measurement solutions bring new benefits to home décor departments by enabling store staff to quickly and accurately select and create paint while cross-selling items from prep materials to sundries. Customer-oriented features of ColorDesigner® help customers with on-screen visualization of a finished room, quickly solve project problems, record paint purchase preferences and prepare for future projects.

**Medical 300 Series**
Sensitometers and densitometers for process or quality control in laboratories and other medical facilities

**Multi-Angle Series**
Portable multi-angle spectrophotometers measure metallic, pearlescent, and special effect colors on curved surfaces. Measurements taken remotely can be uploaded to a PC. It includes 5 angles of measurement: 15°, 25°, 45°, 75° and 110°.

**Photo Series**
These are transmission/reflection color densitometers for photographic process control in professional color labs, mini-labs and commercial photographic applications.

**Prepress 300 Series**
These are prepress transmission densitometers for desktop publishers, service bureaus, trade shops, and printers.

**ShadeVision**
The cordless, handheld ShadeVision System uses advanced colorimeter technology to determine the hue, value, and chroma of teeth. With proprietary software, shades are assigned based on the most popular shade guides. It provides a simple, reliable shade-measurement diagnosis to ensure that each dental restoration matches the tooth it replaces and the teeth surrounding it.

**Silver Recovery**
Silver recovery units and accessories.
SP Series
The SP Series, the ultimate portable sphere spectrophotometers. Designed to give fast, precise and accurate color measurement on materials ranging from paper and paint to plastics and textiles.

TeleFlash
TeleFlash non-contact spectrophotometers provide automatic, online color measurement and evaluation of color deviation on running production lines. Adapted for various applications where on-line non-contact measurement is required. TeleFlash instruments provide long-term storage of sample measurements and objective and comprehensive color quality evaluation in accordance with international standards.

VeriColor
VeriColor is the first industrial-grade color verification and identification system to bring a spectrophotometric level of color resolution to production environments. VeriColor eliminates color-based errors, speeds production and sorting operations while increasing quality throughput.

X-Ray Tape
Designed for physicians, dentists, and veterinarians, the X-Ray Marking Tape system permanently affixes patient and provider information to x-rays. The lead-free tape is affixed to a holder blocker (available in four densities for various exposure levels), and exposed with the film. The gray marking area enhances readability.

X-RiteColor Master Software
This is a state of the art formulation and quality assurance software in one simple and easy-to-use package. Accurate, flexible, and fast access to color control data. The new version 6.0 offers more tools to manage color standards, evaluate reports and take control of your color data. X-RiteColor Master Web Edition adds network connectivity to ensure your global supply chain stays connected.

X-RiteDot
X-RiteDot is a line of portable dot-analysis instruments that provide digital screen ruling assessment, on-board video dot magnification, and dot shape analysis on almost any media. X-RiteDot provides operators with the most accurate solution for evaluating dot percent, resulting in quality and consistency in the imaging workflow.

Facts & Figures
<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
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<td>Company Type</td>
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<td>Patents Assigned since 1976</td>
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<tr>
<td>NAICS</td>
<td>334</td>
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</table>

Key Persons
- Michael C. Ferrara    | CEO/President |
- Joan Mariani Andrew   | Vice President Global Sales |
- Bernard J. Berg        | Senior Vice President Engineering |
- Mary E. Chowning       | Vice President, CFO, Corporate Secretary |
- Jeffrey L. Smolinski   | Vice President Operations |
- James M. Weaver        | Vice President of Marketing and Product Development |
Locations
X-Rite has offices in the China, the Czech Republic, France, Germany, Hong Kong, Italy, Japan, the Netherlands, the UK, and the US.

Key Statistics

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<thead>
<tr>
<th>2003 Sales by Market</th>
<th>$ MM</th>
<th>% of total</th>
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<tr>
<td>Graphic Arts</td>
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<td>Industrial</td>
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<td>Retail</td>
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<td>Light</td>
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<td>Other</td>
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<td>Total</td>
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Historical Data

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<td>2003</td>
<td>117.1</td>
<td>98.5</td>
<td>91.7</td>
<td>103.4</td>
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Competitors

Top Competitors
- Datacolor International
- HunterLab
- Xerox

Others
BYK-Gardner USA, EFI, Excel Technology, Fuji Photo, GretagMacBeth

Latest News
June 2, 2004 – X-Rite Inc. (XRIT) acquired Moniga Gremmo S.r.l., an industrial and ink formulation software company based in Milan, Italy.

Labsphere

Company Overview and Products
Labsphere, Inc., a subsidiary of X-Rite Incorporated, is the most experienced supplier of light measurement technology in the world, producing best-in-class systems for the measurement of light sources, calibration of cameras and sensors, and optical characterization of materials. Labsphere specializes in the design and manufacture of integrating spheres, photometers, spectrometers, radiometers, spectrophotometers, colorimeters, light sources, detectors, reflectance coatings and materials, and reflectance standards.
Sources of Company Profile Information

For all companies:
- Individual Company Websites
- Hoovers’ Online

Company specific:
- Individual Company Websites
- Telephone and/or e-mail