

INDUSTRIAL MARKET

Market Environment/Description

XYZ Corp's presence in the industrial market is limited to piezoelectric-based accelerometers and can be broadly defined by two market segments: Machine Condition/Health Monitoring; and Nuclear Loose Parts Monitoring. In recent years, the industry has seen substantial growth in the Machine Condition Monitoring market, while Nuclear Loose Parts Monitoring has reduced sharply. In fact, many of the system suppliers to the nuclear market segment a decade ago have now disappeared or evolved more directly toward the Machine Condition Monitoring market.

While the product application for the two market segments is very similar, the customers and products for these two markets are vastly different.

Parameter	Machine Condition Monitoring	Nuclear Loose Parts Monitoring
Typical Price	\$150- \$300	\$2,000- \$5,000
Max. Operating Temp	125-150 C	400-500 C
Sensor Type	Low Impedance PE	High Impedance PE
End User	Paper and Pulp Mfrs, Petrochemical, Milling, Mining, Forestry, Food Processing	Nuclear Reactors

Because of the significant slowdown in the development and construction of new nuclear sites, XYZ Corp has developed a strategy of simply maintaining the support structure to sustain the existing residual business level now experienced. Instead our proactive efforts have turned toward the development of sales in the Machine Condition Monitoring market segment. It is this market segment that will be outlined and addressed in the remainder of this strategic plan.

Machine Condition/Health Monitoring

In late 1997, XYZ Corp successfully negotiated a Strategic Partnership Agreement with SKF Condition Monitoring, a leading supplier of machine condition monitoring equipment. This agreement offered XYZ Corp the opportunity to capture as much as \$1,000,000 in sensor business within this very competitive market segment for 1998. Unfortunately, the effects of a delay in the product approval and introduction, combined with an approximate 20% decrease in system sales for this market, resulted in achieving only 50% of that sales potential, or roughly \$500,000 in 1998. Much of the market shortfall was due to economic uncertainty in much of the international community, with Asia contributing significantly to the poor results for SKF.

Because of the shortfall in unit sales volume with SKF, XYZ Corp was able to renegotiate a unit price increase and more favorable terms with respect to sales restrictions with SKF competitors. This should allow XYZ Corp to further develop other program opportunities that will add to our sales volume in 1999 and beyond.

In addition to SKF, XYZ Corp has also developed a close working relationship with ABC Corp, a relatively new start-up venture that differentiates its technology by using acoustic stress wave measurement as the source data collection and analysis. XYZ Corp has supported ABC Corp with product development efforts and we have received indications that the technology is being well received by the engineering community. This account could develop into another substantial account, with potential sales in excess of \$1,000,000 annually.

Market Size

In the 1996/97 timeframe, it was estimated that sales of all related products to the Machine Conditioning Monitoring market totaled \$450 million. This total was broken down as follows:

On-Line (permanent) Systems:	\$230 Million
Off-Line (portable) Systems:	\$120 Million
Service Support Contracts:	\$100 Million

Of the \$350 million total for permanent and portable systems, it was estimated that sensors and cables made up approximately \$15 million, split roughly 65% sensors and 35% cables. At roughly \$500,000 sales in 1998, it is estimated that XYZ Corp held 5% of the total industrial sensor market revenues (exclusive of cable sales).

Market Structure

The Machine Condition Monitoring market has three basic levels within the supply chain. The first level is the component supplier, the second is the system supplier and the third is the end-user. A further explanation and description for each of these is provided below.

Component Supplier- Supplies components (e.g. sensors, cables, computers, alarms, etc.) as an individual stand-alone item. The component supplier's customer may be either the system supplier or end-user, or both. XYZ Corp falls into this first category of suppliers by providing only sensors and with the intent of including cables in the 1999 time frame.

System Supplier- Procures or manufactures components and then packages them as a system, typically composed of sensors, cables, signal conditioning, computer/software and other peripheral support components. The system supplier often performs or oversees the system installation at the end-user's facility. SKF and ABC Corp fall into this category.

End User- The end-user is the ultimate customer whose equipment is to be monitored. The end-user often solicits support from both the system supplier and component supplier for repair and spares business.

Marketing Strategies

As a component supplier, XYZ Corp's strategy has shifted somewhat, from being an "exclusive supplier" to that of a "favored supplier" among major system suppliers. To the extent that this can be done without a direct competitive situation between these system suppliers, the easier it will be for XYZ Corp to become more successful. Such is the case with SKF and ABC Corp, where ABC Corp is viewed as an insignificant player that does not even show up on the radar screen of SKF.

The combined opportunities with SKF and ABC Corp serve to offer cumulative sales in excess of \$10 million over the next 5 years, which far exceeds the revenues that could be generated via a non-restricted direct sales effort on the part of XYZ Corp. Successes at SKF and ABC Corp could likely result in revenue growth from the current level of \$500,000/year to \$2,000,000/yr in the 3-5 year time frame.

Competitive Environment

The Machine Condition Monitoring market, as it relates to vibration monitoring using accelerometers, is served by the following system suppliers.

Company Name	Est. Market Share	Primary Sensor Supplier
CSI	30%	PCB- IMI Division
Entek/IRD	25%	BCD Corp
SKF	15%	XYZ Corp/BCD Corp
Vibro-Meter	5%	AAA XYZ Corp

Predict/DLI	5%	Unknown
Others	10%	AAA, BBB, CCC

It is estimated that 70,000 sensors were sold in 1998 within the Machine Condition Monitoring market, to both system suppliers and end-users. The following is a breakdown of competitors for vibration transducers in this market segment.

<u>Company Name</u>	<u>Unit Volume Mkt Share</u>	<u>Est. 1998 Quantity</u>	<u>1998 Sales (\$)¹</u>
BCD	35%	25,000	\$6.0 M
CDE	30%	21,000	\$4.2 M
EFG	10%	7,000	\$1.9 M
HIJ	7%	5,000	\$0.6 M
KLM	7%	5,000	\$0.5 M
Others	<u>11%</u>	<u>7,000</u>	<u>\$1.8 M</u>
Totals	100%	70,000	\$15.0 M

(1) 1998 sales figures include estimate of cables sold with sensors.

The above data shows that BCD Corp and PCB dominate the Machine Condition Monitoring market for vibration transducers and cables. Because of name brand awareness and a broad product line offering, BCD Corp receives a higher average per unit sales figure, estimated at roughly \$240 per unit, when considering cabling and specials. PCB, who competes primarily on price, has an average per unit sales price of \$200. This difference in unit price is primarily due to the fact that BCD Corp has become the established leader in industrial accelerometers and, as such, has a higher volume of sales direct to the end-user than does PCB. Sales to end-users allow for a substantially higher price to be realized than do sales to system suppliers, who generally purchase at a price that is 35-50% below the end-user prices. Both BCD Corp and PCB have attained their respective positions by maintaining focused marketing strategies, cost effective products, a reputation for quality and reliability, and a strong sales support organization.

A new entry in 1999 has been Connector Technologies Corporation (CTC), who threatens to further increase an already very price competitive environment. CTC just launched a major promotional campaign aimed at the end-user, with unit pricing as low as \$85 in relatively low quantities. This price represents a price drop of between 15-40% from the present end-user prices now offered. This is a campaign aimed squarely at PCB's IMI Division, who has previously promoted their six-pack of sensors for \$595, or \$99 each. The concern is that this new price will become the bench-mark from which end-users will negotiate with long-standing and established component and system suppliers, thereby further degrading profit margins for sensor manufacturers as a whole. To address this threat, XYZ Corp must focus on cost cutting opportunities in production.

SWOT Analysis

Below is a discussion of XYZ Corp's strengths and weaknesses, as they relate to the industrial market.

Strengths

- Agreement with SKF gives XYZ Corp a significant production baseline which can be leveraged into other products for other customers at attractive prices. It also gives XYZ Corp foot-hold in the industrial market that would otherwise be very difficult to achieve.
- XYZ Corp incurs minimal selling and marketing expenses associated with the sale and promotion of the product line.
- The XYZ Corp product offers value-added performance advantages not offered by competitive products.

Weaknesses

- As an OEM supplier to SKF, XYZ Corp receives no name recognition among end-users.
- Success of XYZ Corp in this market is incumbent upon the success of SKF and ABC Corp. Failure to execute to the intent of the agreement, or failure on the part of either of these system suppliers to gain market share, will translate directly to XYZ Corp's revenue.
- The OEM Strategic Alliance Agreement with SKF requires selling at a negotiated price which is 35-50% below normal end-user prices. This is profit potential that XYZ Corp is sacrificing and cannot capture.
- The dependence on a single (or few) large customer(s) leaves XYZ Corp very vulnerable to large revenue drops in this market segment.

Opportunities

- Low cost manufacturing techniques developed and perfected for the industrial product line can carry over into a number of RDT&E and Helicopter products, thereby offering opportunities for improved profit margins on these higher priced, lower volume products.
- Recent re-negotiation of the exclusivity clause in the SKF Agreement will allow XYZ Corp to solicit new business at the system supplier and end-user levels.

Threats

- The recent entry by CTC at below market prices could serve to further depress pricing at the component level.
- BCD Corp continues to knock on SKF's door and SKF continues to remain dependent on BCD Corp cables and for lower volume transducers not currently offered by XYZ Corp.
- XYZ Corp has experienced performance anomalies in at least three installations, that could not be confirmed through subsequent testing. These are abnormalities in the sensor output levels that were not experienced with a BCD Corp sensor. Failure to understand and resolve these anomalies may entice SKF to re-develop the relationship with BCD Corp.
- To date, SKF has not achieved the sensor volumes from which negotiations were completed. The result is lower than expected production and higher manufacturing costs. We must focus on ways to boost our production levels, while being careful to remain within the spirit of the existing agreement.