MIDSUMMER THOUGHTS ON MICROWAVE AND RF MARKET OPPORTUNITIES

Today much of our industry is suffering through a severe business downturn. While we worry about how long it will last and how to get through it, we need also to think about the next phase in our industry's evolution, the kind of business environment we will be experiencing as we come out of the present slump and the implications for how microwave companies will be conceptualized, organized and financed. Certainly, other technology sectors have preceded ours down this evolutionary path (the computer equipment food chain comes to mind, as does the automotive supply industry) and our own business models may come to resemble those more than one might care to imagine.

Our industry was established during a long period of high demand for complex military and aerospace systems, many of which relied on the performance of new microwave and RF components requiring ingenuity and arcane arts, which resulted in an industry with a chronic shortage of qualified suppliers. Once, all it took to start up a business and achieve a modicum of financial success was an individual's competence at designing and building modest quantities of such products that worked (more or less, sometimes) to specifications. The successful microwave entrepreneur needed not much more business acumen than reasonable prudence with cash. A moneymaking company typically had little in the way of strategic planning, operations management, back-office structure, or professional sales and marketing. Small, privately owned companies proliferated, many run idiosyncratically by clever engineers. Some of the more successful eventually went public and then suffered through wrenching evolution to a form that could survive at larger scale, or collapsed in the attempt.

Half a generation ago this era waned as commercial applications began driving the industry. Ironically, along with these applications have come much greater demands on cost, performance and quality. No longer could you (and your customer) hide behind mil specs; instead, the goal has become real customer satisfaction no matter what the paperwork may say. As equipment product life cycles shorten from decades to months, customer responsiveness has taken on a whole new mean-

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ing. Along with continued technology changes has come real requirements for orderly business structure and processes and, above all, strategic thinking, the essence of which is to contemplate the world as it will most likely be, and how to succeed in it.

Watching and waiting: that seems to be the mood of most microwave and RF executives. When will this downturn touch bottom, and for that matter, what will the bottom be? Most established businesses in the microwave and RF food chain have seen several abrupt fall-offs in net new orders. For some, the first was late in the December 2000 quarter; for others it was last February/March. Further hits were reported by many at the end of spring and again in July. For some, the drops in order input were so severe as to stretch credulity; it seemed that everybody building telecom equipment conspired to kill new orders, and cancel and stretch out existing orders all at once.

Like earthquakes and aftershocks, we can pinpoint the epicenter and deduce the underlying mechanisms. Telecommunications (which practically everybody feeds) and semiconductors (which feeds telecom and information technology, which in turn is fed by instrumentation and other capital equipment) were the epicenters. The precipitating forces were primarily the collapse of the telecom operators' capital spending binge, and secondarily the saturation of certain information technology (IT) markets. Inventory build-ups and double-ordering provided the unstable terrain. Business sectors far removed from these events, such as aerospace and medical, remain healthy.

Looking ahead in telecom, only a wishful thinker would expect boom times and heady business valuations to return within any real-world planning horizon. Industry observers realize (belatedly, after the recent round of capacity expansions) that the surge of sales into the telecom infrastructure a year or two ago was paid for not with operating cash flow, but mostly with borrowed money and equity infusions at inflated prices, supported by ruinous vendor financing; an essentially unsustainable situation.

With lenders and investors tapped out, the game must now be played with table stakes, and goods stalled in the pipeline must be cleared before stability is reached again. Yet the secular rise of telecom usage and revenues will continue. Chastened, carriers may cut capital expenditures 10 or even 20 percent from the calendar year 2000 levels of $US 265 billion globally, but that's no small change. Neither is 95 million mobile handset shipments globally per quarter, albeit down from a peak of 120 million in the fourth quarter of 2000. In short, this looks nothing like the long-term defense slowdown that crippled the microwave industry half a generation ago.

Give a healthy business any reasonable sales scenario to plan for, and it can right-size to survive. But what is that scenario? Inventory issues have obscured the forward view, especially with respect to finished goods at the equipment level, but the fog will clear later this year. When growth does resume, probably early next year, things will be different, not only in modest growth rates but also in the nature of the business.

The balance of unit capacity and demand (number of suppliers and customers) will have swung back strongly in favor of the buyer. Mature standardized/commodity products will experience severe price erosion once demand picks up, and buyers, no longer preoccupied with cancellations and push-outs, feel their power — many already sense this coming. These trends will play to the strength of offshore (Asian) suppliers, who will grow stronger every year.

The pressure for price/performance improvement will escalate at all supply chain levels, providing continued opportunity for major innovations and disruptive technology. But at the same time, not as many new product developments will be financially justifiable in a maturing market with limited ability to absorb them. This will be especially true for products that are "me-too" or represent only incremental improvements. Therefore, companies may find robust growth not sustainable from internal development entirely.

Another round of industry consolidation is imminent, just waiting for things to stabilize enough to give a little confidence to business valuations. This will be fueled by:

- Reduction in the number of customers at the top of the food chain as they merge, outsource and consolidate vendor bases, leaving less competitive space for lower-tier vendors
- Decimation of "second-lowest-price" companies by foreign competition
- Increased integration of products, requiring broader technical and manufacturing capabilities
- Increasing use of acquisitions as a growth strategy by the stronger companies
- Public companies' desire to show top line stability, helped by new accounting rules for goodwill

Unlike recent times, mergers and acquisitions will not be supported by irrationally cheap public equity money, so tomorrow's successful M&A deals will have to be crafted carefully to provide fair value and reasonable opportunity for return on investment.

Quality companies with a proprietary edge and strong market presence will find the next upturn to be a major opportunity for those that start to get ready now. Acquisitions are in the wind, and the best timing to be acquired will be in the vanguard of the next upturn cycle for those that are financially strong enough to weather today's depressed market and savvy enough to understand critical mass in an industry that requires ever greater performance from limited resources. Companies that want to remain focused on a very, very small niche, with products and services that are sufficiently unique, may plan to stay small but they are essentially betting that their niche survives the coming industry turmoil.

In summary, companies wishing to build shareholder value should consider the following three strategic alternatives:

1. Companies that compete more on price and service than on technology should move soon to combine forces with a larger company, being realistic about relative value. In a depressed industry share-for-share exchanges make better sense than cash. Those who wake up later will find the better industry partners have already been taken.
2. Companies that compete more on technology should select new-product targets carefully, since the day of "build it and they will come" is surely

over. Keep spending to stay in front, and selectively take in equity to keep on the fast track. If your dream end-game is an IPO, give it up if you cannot realistically see a market capitalization of at least $100 million at the time of the offering. Focus instead of building enterprise value now and plan for a strategic merger when business pricing recovers. And companies that really can't afford to keep ahead technologically should look again at #1.

3. Publicly held "microcap" companies with a good cash reserve and the management team to oversee a larger business should be proactive about acquisitions now. If management would like not to disappoint shareholders, they would do well not to rely on internal growth exclusively in the coming market.

As in the past, the future can be bright for leaders who contemplate the future with realism and courage. While risk-taking is often unavoidable, one thing is certain: in an evolving industry, the meek do not inherit the earth. ■

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