



**Paul Steiner, President, Kapro Industries Ltd.**

**(State of the Industry Address, STAFDA, San Francisco, November 2004)**

Thank you Craig, and good morning everyone.

It is an honor, to be the first overseas Associate to give this state of the industry address, and I thank you, and the STAFDA management for the privilege. It is also tremendously exciting for me to be here less than 2 weeks after the Presidential election, and after the American people have spoken. I hope that next year, when someone else is giving this address, STAFDA members and associates will be pleased with the choice the electorate made on November 2.

By way of background, let me tell you a little about my company. Kapro is a manufacturer of measuring, layout and marking tools for the building industry. We have 2 modern manufacturing plants, one just above the Sea of Galilee in Israel, and a second one, opened in January this year, in Ningbo, China. Our products are sold in 59 countries world wide, and are recognized for their outstanding quality, their 'stand-out' red color, and above all, their innovative features. Kapro is a recognized innovation leader in our category, and innovation has driven our rapid and steady growth over the past decade. We have embraced innovation as our growth strategy, employing a methodology called 'Systematic Inventive Thinking', and amongst other things, I am going to focus on that in my talk today.

Last year's Associate address was given by Kim Reynolds of the M.K. Morse company. Kim spoke about the threat that Chinese factories pose to American manufacturing industry. Indeed, U.S. manufacturers are under threat. A U.S. Department of Commerce report from this January, titled "Manufacturing in America", shows that employment in the manufacturing sector fell by 2.6 million jobs from the fourth quarter of 2000 through the third quarter of 2003, accounting for all of the economy's net job losses in that period. One might suspect that we are hearing "the giant sucking sound" immortalized by Ross Perot, only with jobs going to China instead of the Mexico he so feared.

It is my contention, however, that the threat to American industry is not in fact from China, but from complacency. The threat from China is not greater than that posed to American industry by Japanese manufacturing in the 1980's – a threat that was possibly the major catalyst for an American productivity gain trend that has continued for most of those two decades.

The threats from low cost manufacturers are clear and present, but what about the opportunities facing U.S. industry?

SWOT analysis – a comparison of the strengths, weaknesses, opportunities and threats facing the US manufacturing sector, points to a Genie in a bottle. An awesome power, looking to be unleashed. The unrealized potential of U.S. manufacturing has kept American manufacturers fearing their foreign counterparts, instead of what appears far more logical – the other way around.



Economic growth in the economies of Asia, Eastern Europe and South America have created new markets that were unimaginable in their scope and buying power a decade ago. These markets have already caught the eye of those U.S. manufacturers that hold competitive advantages.

Last year, U.S. Secretary of Commerce Donald Evans, launched "The Manufacturing Initiative", to understand how government policy needs to evolve, to maximize the potential of the sector. The Department of Commerce held over 20 round table events with manufacturers and manufacturer groups to hear their views on that question. The clearest message to come through, was the need for government policy to promote free trade, and open up foreign markets to U.S. goods. The elimination of tariff barriers must of course be reciprocal, and yet is widely supported by manufacturers. - Indicating that the perceived opportunities by far outweigh the perceived threats.

What about strengths?

Let's start with size – "the U.S. is the world's leading producer of manufactured goods. Standing alone, the U.S. manufacturing sector would represent the fifth largest economy in the world" – a size advantage bestowing significant structural benefits.

The efficiency of U.S. manufacturing, and the productivity of its workers increased more rapidly in the past 5 years than the average economy in either Europe or Asia.

In contrast, Chinese manufacturing is suffering productivity erosion caused by structural deficiencies such as chronic power shortages, and is facing sharply rising costs for skilled workers. Moreover, it is widely assumed that the Chinese currency, the RMB, kept at an artificially low rate against a basket of currencies, must be readjusted to a much higher level. This could increase the cost of Chinese goods by up to 30% in foreign markets, overnight.

And yet, even if that happened tomorrow, most Chinese products would still be less than half the price of American made goods. And were some unforeseen event to cause Chinese goods to be more expensive than American goods, there are still over 100 countries world wide, with lower labor costs than the U.S. and even China. Therefore, a manufacturer trying to compete on price is "barking up the wrong tree". As opposed to selling on quality, or features, there is no 'range of prices' that allows you to compete on price. You simply have to be the cheapest. In an open market based on principles of free international trade, American companies will never be the cheapest, because of their labor costs. Therefore, those U.S. companies whose only survival strategy in an increasingly competitive marketplace, is to 'downsize', to compete on price, will keep downsizing until they disappear.

And yet no one should fear competition. It is free and fair competition in global markets, that provides new opportunities for the strongest and most agile of the herd of American manufacturers. It is the most natural principle of human survival. It underlies the capitalist system, and all of our economic freedoms.

In our commercial environment, there is no industry, or sector that is not fiercely competitive, and increasingly so every day. Only the best companies can be

confident of their survival and their place in the sun, perhaps only the top two or three companies in some markets. There is no point being in business, if you're not aiming to be the best in your industry. Unfortunately, that's exactly what everyone else is doing.

It used to be enough to be smart, and honest, and to give your customers great quality at fair prices. It's right to get nostalgic, because they were great days. But in the 21<sup>st</sup> century, a company with only that as its business philosophy won't make the cut. The quality demands for every product, mean that professional and certified Quality Assurance management is a given for any modern business. Prices in real terms, for most important consumer goods have been declining for a decade. Stable or reducing prices are simply expected by buyers and Purchasing Managers. In the 21<sup>st</sup> century, if you're still in business, you already guarantee good quality of products or services, and you are competitive on price. But past success guarantees nothing for the future. And the challenge is not just to still be in business in the second decade of the century. You want to thrive in it. So, "what to do?" you may ask. "Get an edge", answer the experts. "Do something different, unique, innovate."

So you, and your competitors, begin to innovate. INNOVATION has become the most repetitive and annoying catchword used by business gurus and marketing consultants. It has reached the point where there is nothing new about being innovative, but that has not made the need to be innovative less essential – only a little more predictable. Companies organize brainstorming sessions and their product development teams try and solve the problem that exists in the market – the one that none of the existing products solve. It is not unusual for several companies in a given field to bring to market similar but competing, groundbreaking products, at the same time. And those who do bring to market a WOW product (on par with 'the paper clip' or 'the can opener') are almost immediately faced with the question – "what's next?" In a context where you need to innovate just to stand still, to thrive you need not only to innovate. You need to innovate constantly. You need to make innovation part of the corporate culture. That can be extremely exhausting.

The handling of our company's finances would also be extremely exhausting if we didn't manage it, and put systems in place to ensure that we were under control, and meeting our goals.

Similarly, innovation needs to be managed. If we want innovation to be part of our corporate culture, we need to manage it with the sense of purpose with which we manage other areas of our business, from finance to marketing. Global corporations allocate huge budgets to managing innovation. But what about small companies? How can a small or medium size business, compete in this hostile world that demands we constantly rejuvenate, even as we get older? I would like to relate to that, in the remainder of my talk here today.

Kapro has for the past 6 years, employed a methodology called SYSTEMATIC INVENTIVE THINKING (S.I.T. for short). I want to emphasize that S.I.T. is not only applicable to manufacturing, but to virtually any business. It can help with developing inventiveness in



any product or service, including distribution. The methodology has been employed by banks, and hotel chains, as well as manufacturers like Kodak, Rubbermaid, the Ford Motor Co., and of course, Kapro. The real virtue of S.I.T. is that like its name suggests, it is a system, and when you can do new product development systematically, you can make it a guaranteed part of your management plan, and of your corporate culture. I have become a firm believer in the need to manage innovation systematically. I am sure that there are other good methodologies and approaches to this issue, but I will talk only from my own personal experience.

S.I.T. was first conceived by a Russian engineer, Genrich Altshuller, and then later expanded and enhanced by a group of Israeli academics. Today, the methodology is implemented in many leading corporations around the world. The key differentiator between S.I.T. and other product development techniques is that S.I.T. doesn't even look at the market. It focuses on the product.

Rather than ask, "what problem exists in the market that needs to be solved?" S.I.T. asks, "How can this product evolve that hasn't been thought of?" The assumption is that like people, and animals, products are constantly evolving. No product is the same as it was 50 or 100 years ago. They evolve because of technological change, because of cultural change, or because of structural societal change.

The developers of S.I.T. analyzed a long list of WOW products. Products that at the time of their introduction, were considered products of a generation. They then looked at the same products that had preceded those products evolutionally. They wanted to understand what thought processes were at play, that led to the evolutionary advance. They then narrowed down that analysis to a set of definable 'logics'. A set of thought processes, that if you applied all of them to any given product, or service, you would systematically cover all of the ways that product might be innovated in the foreseeable future.

This is a powerful notion, because it enables you to develop inventions in your products or services that come from within the existing product. The advantage is that very often, great new inventions require almost no investment. **A pertinent example of this is a gradient level developed at Kapro, known as Top-Grade®. By applying one of the S.I.T. logics, known as "multiplication" we added a number of horizontal vials to a conventional level. By calibrating them to varying gradients, we created a tool that performs the leveling of slopes for plumbing, drainage, etc. at very high accuracy, and for very low cost. The product is of course patented, and no tooling costs were involved in its development.** An attribute of many of the ideas that emerge through this methodology is their seeming obviousness, and yet their novelty is the proof of their non-obviousness.

Another important advantage is that not only do you gain insight into new products or services that you might develop, but also those you choose not to. More importantly still, those that your competitors might develop. So is this just fantasy? My definitive answer based on Kapro's experience is **no**.



Six years ago, I was sitting in my office throwing out junk mail, and I came across a flyer for a seminar in Systematic Inventive Thinking, and I decided to go. After two hours of this stuff, I was in awe. For days, I was heady, and I knew this was something huge that would change our company forever. We signed up to do the first 4-day session, and paid a fair sum of money. I quickly realized that the real cost of this process would be to get all the key people in the organization to dedicate their time and themselves to the process. To take the 8 or 10 most important people in your organization, and stop everything they do for 4 whole days, isn't easy, and that's just to get started.

Each of the five S.I.T. logics is applied to the product, in turn. Some of the emerging ideas are seemingly ridiculous but filtering, sorting and ranking are built into the process. The output of our first 4-day process, was a list of 74 ideas, we thought were potentially valuable, and inventive in our field. To date, Kapro has implemented 10. The top 3 are still in process. We now have at our disposal, an idea bank that will feed our new product introduction cycle for a considerable time. We now use the SIT methodology in a more focused way, once a quarter. We deal with one product at a time, and the workshops are completed within a single day. These sessions continue to yield startling results.

Since Kapro began using S.I.T., our field has become very dynamic, and our competitors have also begun to innovate aggressively, yet I can say with total honesty, that a competitor has not once surprised us in the past 6 years. Every new innovation introduced by a competitor since we first began using S.I.T. was anticipated by us.

In Israel, Kapro's successful implementation of the methodology over many years, has gained a lot of publicity. I am invited to speak to industry groups and manufacturer forums about S.I.T., and have been swamped with phone calls from curious companies wanting to know if it really works. Whenever a Product Development Manager calls me, I ask them how involved the company President is in the process. I sometimes get told "the President will get involved at a later stage". I always suggest that we postpone the conversation to that later stage. No corporate culture of innovation can emerge, if this is not a priority emanating from the very top of the organization.

It is important for the whole organization to know what is expected of it. Goals that will drive the process need to be set. At Kapro, our Board set us the goal of 20% of our revenue stream every year, in products less than 2 years old. We have met and exceeded our Board's target for 6 consecutive years. To manage this process, we appointed a dedicated Innovation Manager, with a position on the company's Executive Committee. We know that no single innovation can deliver lasting advantages. We aim to innovate and invent both our products, and our business processes, systematically and continually.

Our confidence in our ability to continually deliver constant innovation is reflected in our approach to the market. We promise our customers an advantage over their



competitors by creating added value in our products, and by defending our Intellectual property whenever and wherever it is attacked or challenged.

Several years ago, a European customer told us that if we didn't cut in half the cost of our cast aluminum level, he would have to buy the yellow product of a competitor, which weighed half as much, and cost half as much as our product, too. We committed to delivering a new level within 6 months, and set about designing the replacement – the only pre-determined element being its weight. Throughout the design process we repeatedly questioned whether or not to include certain features that had been proposed in an S.I.T. session we had conducted on cast levels. At every juncture, we hesitantly chose added value over lower cost – **the result being a new product that weighed half as much, and cost exactly the same as the old product. The European customer was delighted with the outcome, and many other customers, who never bought the old product, because it was too expensive, began to buy the new product at the same or higher prices. Customers are prepared to pay for the extra value you put in a product, if they can see it, and believe their customers will be prepared to pay for it, in turn.**

We have changed the flight path of our business, and put it on another trajectory. There is nothing particularly clever about anyone at Kapro. We just understood a long time ago, that we are under threat from our complacency, and we need to guarantee our survival. We then turned our survival mechanism into our growth strategy.

A systematic methodology for innovation, together with a serious management approach, can help you ensure that your business will be thriving in the next decade. American manufacturing industry should fear no one. It should seek to take control of its future by competing on added value instead of lower prices.

American manufacturers should welcome competition and be excited about the opportunities that free trade agreements present for the best in the industry. When a company can focus on its strengths, and the opportunities presented, without losing sight of the potential threats, and its own weaknesses, it takes control of its future. Some of the companies with brainstorming teams will get lucky. We all need luck sometimes, but we don't have the luxury of relying on luck for our business success. With proper planning, you can make your own luck.

American manufacturers are lucky. You have the world's most sophisticated technology, and a well-educated workforce. You have a fiercely competitive domestic market, and a government that promotes competition and free trade, and actively strives to open up new potential markets for you. My prognosis of the state of the industry is that it is healthy, and getting healthier.

It has been a real honor for me to be here today, and I want to thank you for listening. I hope that my subject material interested most of you, and might perhaps have a real impact on some of you. May you all embrace and thrive on competition for many decades to come. Thank you.