

Interview with Kurt Swogger

Vice President (retired) Dow Chemical Company



Kurt held a variety of positions across many Dow businesses, with a focus on Research and Development and New Business Development. He is best known for his fifteen years as the R&D leader of the Dow Polyethylene business, which evolved into the Plastics Business. He was instrumental in transforming the Polyethylene business from a money losing business with no competitive advantage, to the most valuable franchise in Dow, now comprising about one-half of the company. The Product Development Management Association awarded Dow Plastics its Corporate Innovator of the Year award.

Kurt is now starting up a technology company to exploit an interesting discovery in the energy field. He is a consultant and a speaker. Kurt can be reached at kkswoqger@yahoo.com

Interview conducted by Doug Berger, Managing Director, INNOVATE. doug@innovate1st.com

Doug: Why don't you start us off with some background on what you inherited when you took over your division of Dow?

Kurt: I'll start by talking about a span of 15 years, from 1991 until 2006, when we developed some tremendous value and a different way to think. I started on April fool's Day, 1991 as the leader of the USA R&D group. I was told that our polyethylene business for Dow was going to be merged with Enichem, an Italian based producer who had a new technology that was supposed to have competitive advantages. Our business had lost its competitive edge, we were losing a lot of money, and we were going to continue to lose a lot of money. In May, the merger discussions ended. So there I am in June of 1991, with a division of Dow that executives wanted to unload. Fortunately, I was working with a business partner who was innovative and willing to take a risk. He and I had started a business joint venture called Zip Pac for resealable bags, and knew we could innovate.

Our corporate labs had recently invented a new catalyst later called Insite Technology, which made polymers with some interesting properties, but it was years from commercialization. Between the pair of us, we persuaded Dow management to give us a year to develop this and see if we could change the polyethylene business. All we had to do was compress Dow's typical launch time of 7 to 15 years, down to less than two years, and then go from zero to a billion lbs. of new product in seven years. Nothing to it, right? We talked Dow into the plan.

Typically, you do commercialization in sequential stages: chemical research in the lab, to the mini-pilot plant, to the pilot plant working with customers, to the production plant at

scale, and on and on. We said we would do everything at once, and on paper this would tremendously decrease the cycle time. We had to rethink the rules of our chemistry and the rules of our chemical business, all at the same time.

We hand picked a small team of folks who had done many new projects. We got people doing the chemistry. We got people modifying our mini-plant, our pilot plant, and our production plant, all at the same time. We actually got the plants to turn on in the right sequence within two weeks of each other. About 11 months after we officially started the project, we had made pounds in the production plant and sold some to 2 customers. One was an automotive customer making floor mats, and another was in food packaging. The customers were pleased with the products and it was obvious to some of us that we had a winner.

Twenty-two months after starting the new business, we commercially launched Affinity resins, and in 24 months, we launched Engage resins. We had tremendously compressed the timetable and at the same time, we had rewritten and owned a new set of rules on polyethylene, which enabled us to address product requirements not previously done with polyethylene.

With these new tools, we could design new properties in about 6 minutes and pilot in about 1 week, versus the industry standard of 6-24 months. Our success rate on new chemistry jumped from 35% to over 90%. And we could manufacture at production scale. The technology is called Insight Technology. Our method was called Speed-based.

Doug: What is your fundamental thinking behind Speed-based?

Kurt: Let me over simplify it. Speed based is **getting the right people, in the right roles, on the right projects, with the right information, and doing it right.** It's a philosophy not a process. We are keyed on people and then we get out of their way and let them do the job.

The first question is "What type of people do I want?" This started from a personal 'Ah-ha' that people think differently. My 'Ah-ha' was that while I had recognized this in the people whom I hired, I never explicitly thought about it when we did a project. For example, let's say that I have one business that has been around forever. It makes good money. There's not a lot of flexibility needed in product design. I want to optimize the process to squeeze out every penny. If you think about 3 billion lbs. when you make a penny, it's real money. I want to take what I already know and just keep improving. I have a second business that has lost its competitive edge. I need a breakthrough. I need people who will rewrite the rules. If I take the people who were very successful in the first business and assign them to the second, I get myself into trouble. They are going to take what exists and keep improving on that. That is not the role I need them to play in the second business.

In Speed-based, we think of some people as talented **improvers** who thrive in taking what exists and making it better. Then there are people who will look at the set of rules and promptly throw them out. These people take an idea from one place, an idea from another place and combine them to get something different. I refer to them as **starters**. I include myself on this list.

If I had followed all of the rules for process development, at the end of 15 years instead of being a 20 billion lbs. business, and our best franchise in Dow that creates an incredible amount of cash, we would have just been launching a product. In an organization that's 100 years old like Dow, change agents are chained and hidden away

because big organizations write a lot of rules in order to avoid failure. All of those rules keep you bound to exactly where you are.

What we had to do was unchain those people.

I'm an unusual starter because I know how to survive in a mature company, and by the time I got to my job I had been fortunate enough to get to know the people who were running the company. I could say "I'm going to do something different. I'm going to unchain some of those change agents and have them work with the people who like the rules. I am going to keep them in balance. Here's the way I'm going to play the game. I have a vision to have a billion lbs. in sales by the year 2000 using this technology. Here are the reasons we think it will work and play in these markets. I'm going to bring in the starters and tell them that we're going to put this new material into markets and applications not done with polyolefins. For markets that have been done with polyolefins, our products are better and are going to get a premium. "

Now, let's say it's two to three years later and I have a dozen applications. I need to bring in the improvement guys. If I don't, then my starters will just keep inventing new applications, but nobody will bother to take the application to the second and third customer, which is where you build volume and make money. My starters will create opportunity and my improvers will make the money. Bringing this back to our Speed-based philosophy, you have the opportunity people and the money people, and you keep them in balance. It turns out that about 15% of people are starters and 85% are improvers. Then, I need the leaders to keep the peace and maintain a balanced environment and move towards the objectives. So, getting the right people in the right role means matching starters with roles that need rule breakers, and improvers with optimizing roles. If you mismatch them you'll get what you deserve.

Now, everybody has to be trying to meet their specific objectives to get to your vision. This requires putting in discipline through work processes and project management in order to assure that they're working on the things that you need for your vision. You take that vision and break it into objectives headed by the right people. They will organize the project in the right way.

At this point you can give them the tools of Six Sigma, IT, scientific methods, etc, but you leave it up to the person running each project to figure out which tools are best to use. There is no rigid process. Every project's different. We depended on people using their judgment. Starters would use their judgment on doing brand new things. Improvers would use their judgment in improving things.

Doug: You have talked about rewriting the rules as well as doing projects in parallel, rather than sequentially. In those first 11 months, how did your starters conceive the rule-breaking approaches that would enable them to meet your breakthrough milestones?

Kurt: It gets back to people. I picked people for whom it was natural to do things in parallel. These people have the natural ability to be very flexible. They had the internal fortitude to make leaps and assumptions. They knew they could be wrong, but they also had the confidence and skill to adjust in a hurry.

There was no orderly process. I had a scientist partner and he would get the key technical people together once a week and say, "Where are we? What do we need to adjust? What have we learned that can affect our goals and how can we adapt". We would have somebody literally building the modifications to the plant saying, "I'm assuming this. Does anybody have a problem with it?" Or, when we ran into a problem

and it affected our schedule, we looked at how do we modify around it? We had a similar team worried about the market side and the two teams talked all the time.

You're depending on people who have the confidence, the experience, and the guts to be willing to go do things. Too many people in the normal process are oriented around "I can't do anything until I have the exact number." Starters are not.

Doug: You're really driving home the point that you cannot substitute process for a person's natural way of thinking and working. You're painting a picture of the inner workings - of choosing people who are fundamentally rule breakers, fundamentally creative, fundamentally inventive. As an executive, you bore the risk of this way of working. You bore the risk of the entire investment and the entire venture. How did you and the other executives who were governing the entire new business view risk?

Kurt: Well, the nice thing is that when you're totally desperate you are left alone. What have we got to lose? We can't get any worse. Even if everything fails, what are we risking? From a money point of view, we're losing money and we had expensive, idle capacity. At the same time that we were doing this project we cut 200 out of 500 people. So from the CEO's perspective, he's saying, "Kurt is promising all of this new business and he's doing what he needs to do to reduce costs." I call this game "feed the tiger." The raw meat that I threw in the cage was the Promised Land, at exactly the same time that I'm cutting costs.

Doug: We discussed the project level risk and investor level risk. How did you manage business model risk?

Kurt: This is one of your principles - we call it **make your commitments** . . . your commitments to your customers, investors and other members of the new business. We would sit back and say "What could go wrong?" Any place that we saw there was a lot more risk, we would have back up plans. Sometimes they would cost us effort. If you didn't need it, it was insurance. If you went through three backup plans and finally got one that was right and worked, you didn't have to tell anybody about the ones that didn't work. Our motto was, "We will make mistakes. Let's make new mistakes and avoid all of the old ones." When it was critical, we'd be running Plan A and Plan B at the same time. If plan B looked promising, we'd keep exploring it. If plan A worked, then we dropped plan B, and again, we didn't have to tell everybody everything.

Doug: You have an implicit and intuitive understanding of what it was that was absolutely critical and essential.

Kurt: Yes. That's why it's so hard for me to explain - it's so obvious to me. I had been leaving leadership out of my discussions of Speed-based. I just assumed it. If you don't have leadership who knows what innovation is or how to build a new business, you aren't going to get anywhere. It was also obvious to me that it was necessary to pick people who were expert and capable in their role so that they also had all of this implicit knowledge. I coupled this with people who had the starter mentality.

So you're right, there are a couple of levels. I could tell a starter, "I want you to put together a pilot plant." He would look at it and say, "Oh, it's got to look like this." He went ahead and assumed this and that, and then when he got the actual data, he promptly made some adjustments. You don't pick an improver to head a pilot plant - not unless you want a mess, right? Over time, however, I did have to deal with that - when I ran out of people whom I knew and with whom I had worked. The opportunities grew exponentially and the people grew incrementally, so after a couple of years, that got to be a problem.

Yet, I couldn't afford to make a mistake. I had to come up with a methodology, which was the whole point of the different roles. Sometimes I would guess about a person who looked and felt like a starter. I'd put him in a starter role and watch like a hawk. In six months, I would know. Either he was doing great or he was frustrated because he didn't know what to do. Occasionally I would make a mistake and put a starter in a finisher role. That always spelled disaster.

Doug: Where have you found that you've been consistently misunderstood by people attempting to translate your ideas?

Kurt: We have discussed getting the right people in the right role. Everybody "knows" you ought to be innovative. It says so in all the books. However, it is not true. Either innovation is in your genes or it is not. If you're a starter, you can get finishers. However, most people have a tough time getting out of their comfort zone. If you get a good manager and he's an improver, he'll go get some starters and grit his teeth. As a manager, you can get people around you to offset whatever you are not.

Doug: Are there any concluding comments that you would like to make?

Kurt: The Speed Based Development Philosophy is what senior management needs and wants but unfortunately it is not a cookie cutter approach. Product or business innovation is about leadership commitment and involvement. It does not happen by assigning it to managers who use a "silver bullet" work process. It is hard work. It is done with more difficult and less reverent people. It is unpredictable and more risky. It is exciting to some and scary to others, and it can be very successful and rewarding using the right approach. Executive management knows that innovation is key to their enterprise's growth and success, but it can be messy and difficult. So too often they delegate it and hope for a miracle. This approach generally is not successful; success only comes from active and knowledgeable leadership.

