

[Back to issue home page](#)

March 1, 2005

Competitive "Leaning"

By [David A. Fox](#)

Ever since U.S. car makers decided in a panic 25 years ago to import some of the efficiency practices of their Japanese rivals, so-called “lean manufacturing” has crept through American industry. In Tennessee, our robust automobile and automotive supplies industries are leading the way in the “leaning” of the American car market. Now, those techniques are finding their way into the services industries, where inefficiencies are legendary for their stubbornness. Business Tennessee pulled together three of the state’s top experts in lean manufacturing in the auto sector to learn what they are doing new and how their experiences might bring greater efficiency—and hence growth—to the rest of the economy. Our experts:

- **Tom Greenwood**

President of Lean Works, a Knoxville-based lean enterprise consultant, and executive in residence at U.T.’s Greenwood Lean Enterprise Center

- **Kent Rubach**

Director of manufacturing engineering for Siegel-Robert Inc., a St. Louis company that operates automobile parts plants in Newbern and Ripley, Tenn., where he is responsible for lean manufacturing

- **Rupy Sawhney**

Associate professor in U.T.-Knoxville’s department of industrial and information engineering, director of U.T.’s Center for Productivity Innovation, and a Tennessee Manufacturing Extension Program fellow

Business Tennessee: Tom, what’s meant by “lean manufacturing?”

Tom Greenwood: It’s the ability to design, produce and deliver the right products at the right time for the customer in order to provide build-to-order capability with extremely short delivery cycles and very high quality. It provides a competitive advantage for the companies that use it. I think it’s been shown, historically, that they’ve been able to increase

productivity and output while growing their business.

BTN: What's your sense of how widely adopted this practice is among U.S. manufacturers?

Greenwood: About 25% of the manufacturing base may not have ever heard of it or have any familiarity with it. About 50% clearly say they're doing it, in one form or another—often what they're doing are events, specific tools at the process level that they've started. Then there's another 20% that have really taken it to heart, linking events and projects along value streams. In other words, they actually tackle product lines and have made some significant gains in cycle time and inventory and those activities along product value streams. Now, we find there's a very small group, probably less than 5%, that is actually tackling the enterprise level view of lean. Many people use the term "lean enterprise," but the majority of it is within the manufacturing four walls.

BTN: Rupy, how does one go about managing lean and its impact on employees?

Rupy Sawhney: One of the weaknesses that always existed in my mind was everybody knows the tools, and everybody knows the processes, but does anybody really understand what is really required to manage. An example: we think that selling an idea is not part of a strategy that someone should have. It's just intuitive. We're just going to go out and tell everybody that we're going to make a change. Well, you can't do that because lean impacts different people differently within an organization, so you must have a strategy on simple things like selling the idea. So basically, when you're looking at it, one of the areas that I consider a weakness is not actually at the implementation level, and not even at the conceptual level, but somewhere in-between. Lean has been implemented to make things efficient, but the manner in which we implement lean, itself, is not efficient.

Greenwood: We're finding when we work with companies that what they're learning is process-level tools, taking more of a programmatic view, and that in and of itself leads to some pitfalls. The really successful companies understand this is not a program run by the Office of Continuous Improvement within operations, but rather it's a business strategy for growth, rather than cost reduction, and those companies that treat it as a growth strategy develop business cases and they vest the operational managers with the responsibility. As opposed to some of the companies that treat it as more of a continuous improvement, what we find there is they try to train experts who then make change, but the operational managers are a little bit on the outside looking in.

Kent Rubach: When I first joined Siegel-Robert, some people thought

we could go in and do some special events, and make the bottom line better. I came back from my first tour of the operations and said, “You know, if we tried that, it would kind of be a waste of time because there’s no culture there to sustain it.” So we backed up and spent about four or five months putting together a pretty detailed strategy and some good initial planning that would include clearly laying out some expectations from the top down of how we were going to try to reinvent the culture of the company. And we put heavy emphasis on education and training. We have our own internal curriculum for lean manufacturing training that we’re rolling out, and it’s a year-to-year activity. We have six operations—three are in Tennessee. We have operations score cards that measure all plants to the same metrics, with similar targets, and again, to make the month-to-month measures, we have tied incentives to meeting objectives on our scorecard. In addition, we have devised a lean assessment where we come out into each factory, each department manager level, and walk through the department. We kind of defined it with 10 initiatives, the tactics really of how we’re going to deploy it. Each one of those initiatives gets assessed in the departments, and they get scored for it as well. So, at the end of the month, we have an incentive compensation that rewards both the results on the scorecard and the process we’ve used to get the results, which is the lean assessment. We realized early on, and I’ve experienced it, that people can get good results doing the wrong things. So we wanted to make sure that people were doing the right things and getting the right results. We knew it wouldn’t be overnight, or even in a week or a month. We’ve been at it now for about three years, and it still is getting better. And it does show up on the bottom line, very dramatically.

BTN: How did employees react to it in your early stages?

Rubach: Initially, it was probably like anyplace else, a flavor-of-the-month kind of thing. But we packaged it much differently, to where it was really coming out of the culture of the company. We laid it all out, and it was pretty massive. We said, “This is going to take a couple of years to do.” And you know, the objectives did not change for us. It was pretty overwhelming in the beginning, but we stayed the course. We’re just trying to get better at what we defined three years ago. The people saw it was not going away and saw the benefit of it—their work environment improved for safety and for productivity. They were rewarded for their contributions. We did a lot with visual management so they could understand how their day-to-day activity rolled up into the plant’s performance, and eventually into the whole division’s performance. There was a strong connection between “What do I do?” and “How is it recognized?” Right now, it’s strong enough to where it

would be almost impossible to go back to where we were.

BTN: Tom, coming back to something you said a little earlier, how does lean work as a growth strategy?

Greenwood: The companies that are truly successful with lean have grown their business. Instead of viewing it as a cost center, they viewed it as a profit center. They said, “What things can we do with our product delivery system to create a competitive advantage?” If you look at it from that perspective, it’s more than just reducing costs, which anybody can do to some degree. Rather, it’s saying, “What things can we do that can’t be replicated by others because it’s unique to our product delivery system?” An example of that would be how Dell has grown from having a new, different product delivery system with a build-to-order capability and short cycle. It’s a perspective that says “Let’s not just engage the people in operations, let’s talk about how can we sell this and how can we leverage it to our advantage in the marketplace.” In the ’80s, the biggest idea was to reduce variation and increase quality. Now that we’ve achieved that, we’re raising the bar and saying, “Okay, now we want to do it by offering the customer, the end user, the capability to specify the options on how a product is configured.”

BTN: Kent, how informed are customers today about developing a relationship with a company such as yours that follows lean?

Rubach: Since we’re primarily an automotive supplier, which is where lean kind of came to life in America—the Nissans, Hondas, Fords, Toyotas, Chryslers—they pretty much know what we should be doing. For some time, they’ve actually come in and done process audits with many of the lean concepts in mind, to make sure that their suppliers are doing the lean thing as they define it. Our customers really expect it.

BTN: Is this a difference from, say, five or ten years ago, as far as what their expectations are?

Rubach: Yes, a very big difference. Before, it was more focused on pure quality of the product. Now the focus is on how do you make a good quality of product.

Greenwood: When you step out of the automotive industry and into other industries, one of the challenges for a lean company is to train customers for what they can expect. It’s a little bit different in other areas. In my experiences working with the automotive companies—going back 10, 15 years ago—they were primarily interested in cost reduction from productivity improvements, looking at such things as hours-per-vehicle between Japanese versus U.S. automotive plants. We’re finding today that it’s gone beyond a program

or noticing something to improve quality or efficiency. It's become a way of doing business for the automotive companies, so they're getting higher productivity and less inventory and some of those advantages.

BTN: Rupy, given your position at U.T. and your consulting work at the Tennessee Manufacturing Extension Program, what's going on in lean manufacturing in Tennessee?

Sawhney: Much of Tennessee industry is still at the first or second phase of lean, where they're looking at it in terms of "What changes do I need to make, how do I need to make the changes and what tools do I have available to me?" But one of the changes I'm seeing now, versus maybe five years ago, is where everybody was focusing on lean, and lean alone, now you have to put lean and possibly Six Sigma together. Another trend is that we have not only used it in the manufacturing environment, but we are actually now implementing some of these ideas in service industries, such as hospitals. For example, we try to use lean and Six Sigma concepts with medication in pharmacies. And in baggage management in the travel industry. The principles actually apply. For example, when you break lead-time down, the biggest component of the time that a product sits in a facility is actually waiting in a facility. It's not being processed, it's not being moved, there's no set-up associated with it—it's simply sitting there. The last time you went down to an emergency room, notice what happens. You go there because there's a critical need for you to see somebody. You spend two, three, six hours there. Of the six hours spent there, you probably spend only 20 minutes with the physician or the nurse. What happens to the rest of the time? You are being moved from one area, and you are simply waiting. So the concept applies; just the application and implementation is different because of the criticality in an emergency room situation as compared to a manufacturing facility.

BTN: And specifically, are you aware of efforts to apply it in the hospital setting?

Sawhney: Yes. We are involved in one that is not complete at this moment. We've been asked to look at another hospital, also in Tennessee. And we actually have one in which the results have come out, titled "The Implementation of Lean to Pharmacies."

Greenwood: Most recently, we redesigned about a 100-person engineering support company. We've also worked extensively in the transportation industry. Right now, we're doing some training with banks. Even hotel chains, Ritz-Carlton and others, have had some discussion in this area. That's a very large area of opportunity right now.

BTN: Very interesting comments. Thanks guys.