

# David Goodfellow of American Pfauter, L.P.

*Gear Technology speaks with David Goodfellow, president of American Pfauter, L.P., and Pfauter-Maag Cutting Tools, L.P., to get his impressions about the state of the gear industry and its prospects for the future.*

**GT: Let's talk first about international markets. How important are they to the gear industry in general and to American Pfauter in particular? Which emerging markets are you concentrating on?**

**DG:** I think it is necessary for companies to deal globally today. You can't afford to do business only in North America. I say North America because we all too often forget that Canada and Mexico are very important trading partners. To us at American Pfauter, export means anything off the North American shoreline.

Probably the most important international market today is Asia, the Pacific Rim—Japan, Korea, Taiwan and Malaysia. Everybody gets very excited about China, but I think we are just on the verge of learning how to do business with China. There are a lot of risks, but it is necessary to start becoming active there. And India will have a billion people in the next couple of years.

The biggest potential for us right now, though, especially here in America, is in Japan, Korea and Taiwan. Now we are seeing a lot of activity coming out of Taiwan because of their growth, especially in the moped/motorcycle market. A lot of that product is going from Taiwan into mainland China, so we are getting to China indirectly through Korea or Taiwan and sometimes Japan.

But the overwhelming reason to think



*David Goodfellow, president, American Pfauter*

about export markets is to allocate very high costs over a lot of products. When we think about the cost of developing our products today, how much time and energy are required for new product innovations, software, control systems and things like that, we no longer can allocate those costs only to America, North America or to Europe.

The Pfauter Group needs to expand three ways: a strong base in our North American market; a strong presence in Europe; and some kind of cooperation with Asian countries. In the long term you can't just export; you have to have some kind of value added, maybe in the form of joint ventures, technology transfers or mergers and acquisitions, because globally, marketing just doesn't mean import/export. Global markets mean you have to have presence. If you want to just distribute, your business will go up and down with the exchange rates. Pfauter's long-term goal is to have European operations to satisfy the European market, North

American operations to satisfy the North American market and Asian operations for that market.

**GT: What about South America? Do you see that as an emerging market?**

**DG:** The automotive business in Brazil and Argentina is growing, and as a result, especially with the relationships at Ford, Volkswagen and Mercedes-Benz, all mainstay customers of ours, we see significant improvement. I think this will be a very strong market eventually, but again you have risk of exchange and political problems. But I don't think you'll see the same kind of long-term, stable growth you'll see in places like India, Korea, Japan and Taiwan.

**GT: What about the pitfalls of doing business globally?**

**DG:** Well, of course, one of the biggest downsides, if you don't have manufacturing facilities or value added in those places, is exchange rates, but maybe the most significant one is the language and cultural differences. In other countries, everything you see on a quotation request or in a written spec is really only the beginning. You can't just deliver a product according to a written specification as we do here. Asian customers want different kinds of care and help than our domestic customers do.

**GT: Such as?**

**DG:** Things like continued support for service and maybe even free service. We have a perceived need difference. People in Asia especially have been used to having very close contact with their suppliers and getting very good care from them. Since we're the outsiders, we have

to learn more about that culture and can't just deliver a product that's acceptable to the U.S. or to Germany or to Italy. We're too used to saying, "But it worked fine here, or Ford was happy with it. Why isn't Toyota happy?"

Maybe the biggest difference is the length of time that Asian companies and customers take to get to know their suppliers. They want to know who you are and what their future is with you. That's

why very often it takes months and years to develop a trusting relationship. They want to see what your endurance is. Are you going to be there in good times and bad times? What we can't do is treat export markets as, "Oh, by the way, business is bad in the U.S., so let's ship our products to Asia," and when business gets busy in the U.S., you turn the faucet off on them. That's what they're afraid of.

**GT: Talking about domestic customers, have you seen a change in their demands in recent years?**

**DG:** Worldwide, but especially lately in North America, our customers are demanding higher quality, faster cycle times, better maintenance and support and lower prices. That means, if you have the lowest price machine with the highest quality and the shortest delivery time, you have a very good chance of getting the order because the differences in high-quality manufacturers are not that great. The difference between us is know-how. Support of your product means service and maintenance reliability. Customers want 98 to 99% uptime. So, we're looking to have products that take less floor space, have higher output per unit and full statistical runoff and acceptance.

I think the biggest thing today is to have a system. We don't just deliver a machine, we deliver a unit, a system that is capable of producing a part statistically to a customer's requirements. Ten or fifteen years ago the large companies bought a gear cutting machine from one place, cutting tools from another and automation from a third supplier, and they put it together on the floor. Today, they don't have the people or time to do all of that work themselves, so they are putting all that burden on the supplier.

What that means for us as suppliers is that we have to provide all of the things necessary to supply the complete system. You can't just build a gear-cutting machine any more; you have to build the tool that goes with it. We make our own tooling, we make our own automation, we make our own software. The whole idea is to be self-sustaining, vertically integrated within our process capability so we can deliver a complete package to our customer.

The situation is not unique to North America. It's the same all over the world. There's a definite reduction in our customer base of specific know-how. They don't want to have all these specialists sitting around. What they are saying is, okay suppliers, you have to do that for us.

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**GT: It's expected?**

**DG:** It's demanded. But this systems approach is so expensive that smaller companies can no longer afford to invent or innovate. They either have to copy or wait for somebody else to do it and have a look-alike unit or go out of business, merge, acquire or be acquired. The best solution is to be in control.

**GT: How do you stay in control with such a diverse customer base?**

**DG:** We used to think there were only a very small number of real customers. But do you know what we found out when we bought Barber Colman? There are almost 4,000 companies making gears in North America. There are something like 15 to 20,000 companies making gears worldwide. Now, not all of them are going to buy \$500,000 hobbing machines or million dollar gear grinders, but all of them buy tools. What we found out is that this customer base is far more vast than we ever imagined and that we better learn how to get into it and understand it.

How do you get to these 15,000 to 20,000 customers? Small niche companies have to create synergy through acquisition, merger or joint ventures. Companies will get acquired, merge or simply go out of business. There's also the issue of absolute cost. If you can amortize the cost of buying hundreds of control packages, then you have a better bargaining position than a guy who buys 20 controls. He has more software development to spread over that cost. I think there will be shrinkage in the gear market both from our customer base and our supplier base.

Also, tool, machine and productivity technology all say we will make more pieces with fewer units of equipment. We will make more pieces with fewer tools. The tool may be more expensive, but there are going to be fewer units, so the market shrinks again. It gets smaller and harder to divide that up.

**GT: Is the machine or the tool driving technology and productivity today?**

**DG:** In this technology chase, it's very difficult to say which is leading right

now. More changes have taken place, especially in gear manufacturing technology, in the last five to ten years than took place in the last fifty years. We saw machines at IMTS cutting without coolant. We and some of our competitors had machines cutting with carbides, cermets, and titanium carbonitrides. At the Milan Tool Show in Europe, we saw machines with no gears and extremely high speeds—6,000, 7,000 rpms.

Machine and related tool technology is changing so rapidly today that it scares people. It's like the computer industry. When do you buy the new laptop? Do you wait for the technology to get there? Because if you wait, you'll never buy it because a week after you buy one, it will be obsolete.

On the other hand, all these technological things are great in laboratories, but if you can't use them in a day-to-day

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operation in an industrial environment, they are no good. If you can't bring them in at a cost per piece that is attractive to the customer, they are also no good. We can generate the most fantastic workpiece with the highest productivity and quality available, but it might be at a cost that is not acceptable.

We need to work more closely with our customers than ever before to find out what technology to bring them that they are willing to pay for. We used to say, "Here is a new process," and customers bought it. But today they are looking very closely at cost per piece of the tool, cost per piece of the machine, the life and amortization forces—they want to know life cycles. Years ago nobody cared about this.

**GT: What do you think about the common suggestion that the American gear industry is in decline?**

**DG:** I don't think the American gear industry is in decline. I think it is in consolidation. The American gear industry is just now coming to grips with the fact that it can't be only the American gear industry. It has to be an international, global player producing gear products for the world market. There will be fewer, but more capable companies who are global players.

There is a tremendous future for American gear manufacturers. We can produce high volumes of high-quality gears in small, efficient factories with a lot less equipment and far fewer people.

We have one advantage here in the U.S. right now in that we have a workforce very sympathetic to the necessity of improving our competitive capabilities worldwide. We have a workforce today that is the most productive in the world. Our tool factory here at Pfauter-Maag runs 24 hours a day, seven days a week. From a competitive viewpoint, I think we're poised to really take advantage of some things that we have that other companies friends don't have.

**GT: What's the next step in gear manufacturing?**

I think the next step will be small diameter—10" and under—hobbers,

shapers and grinders. These machines will be gearless. That means no index drives, no change gears, but they will have direct-driven spindles and high-speed capabilities. They will have a lot of flexibility. They will be easier and take less time to build. They will probably have more purchased parts. The whole manufacturing technology will change. You buy more and you assem-

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ble more. I think the whole life of the machine tools will change. If you go to the machine tool show today, it's hard to tell the difference between machines because they are all starting to look the same. So, I think smaller, gearless machines are going to be the biggest introduction of new technology, but they are the result of CNC controls and high-frequency spindle drives. ⚙

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